

# O'Day Park – O'Fallon, Missouri

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## Stormwater Management Report

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August 2017

H&S Project No. 1701400

Prepared by



For

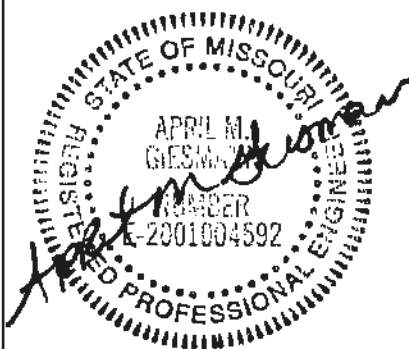


**Table of Contents**

Introduction..... 1  
 Project Description ..... 1  
 Existing Condition..... 2  
 Proposed Condition..... 2  
 Hydraulic Analysis ..... 3  
 Results ..... 5  
 Conclusion ..... 5

**Appendices**

- A. 2-Yr Existing Hydraulic Runoff Calculations
- B. 15-Yr Existing Hydraulic Runoff Calculations
- C. 25-Yr Existing Hydraulic Runoff Calculations
- D. 100-Yr Existing Hydraulic Runoff Calculations
- E. 2-Yr Proposed Hydraulic Runoff Calculations
- F. 15-Yr Proposed Hydraulic Runoff Calculations
- G. 25-Yr Proposed Hydraulic Runoff Calculations
- H. 100-Yr Proposed Hydraulic Runoff Calculations
- I. SCS Soil Report
- J. Drainage Area Maps

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|  | <p><b>Horner &amp; Shifrin, Inc.</b><br/>                 401 S. 18<sup>th</sup> St.<br/>                 Suite 400<br/>                 St. Louis, MO 63103<br/>                 314-531-4321<br/>                 Certificate of Authority #000159<br/>                 Expiration Date: December 31, 2016</p> |
| <p>Date: 8/17/17</p>  |  |

### Introduction

The City of O'Fallon, Missouri is developing a new park on property located south of I-64 on the north side of Highway DD at 8963 Highway DD. A hydraulic analysis was completed in accordance with the requirements of the City of O'Fallon Zoning Code to provide assurance that stormwater runoff from the new development will not increase flow downstream of the subject property.



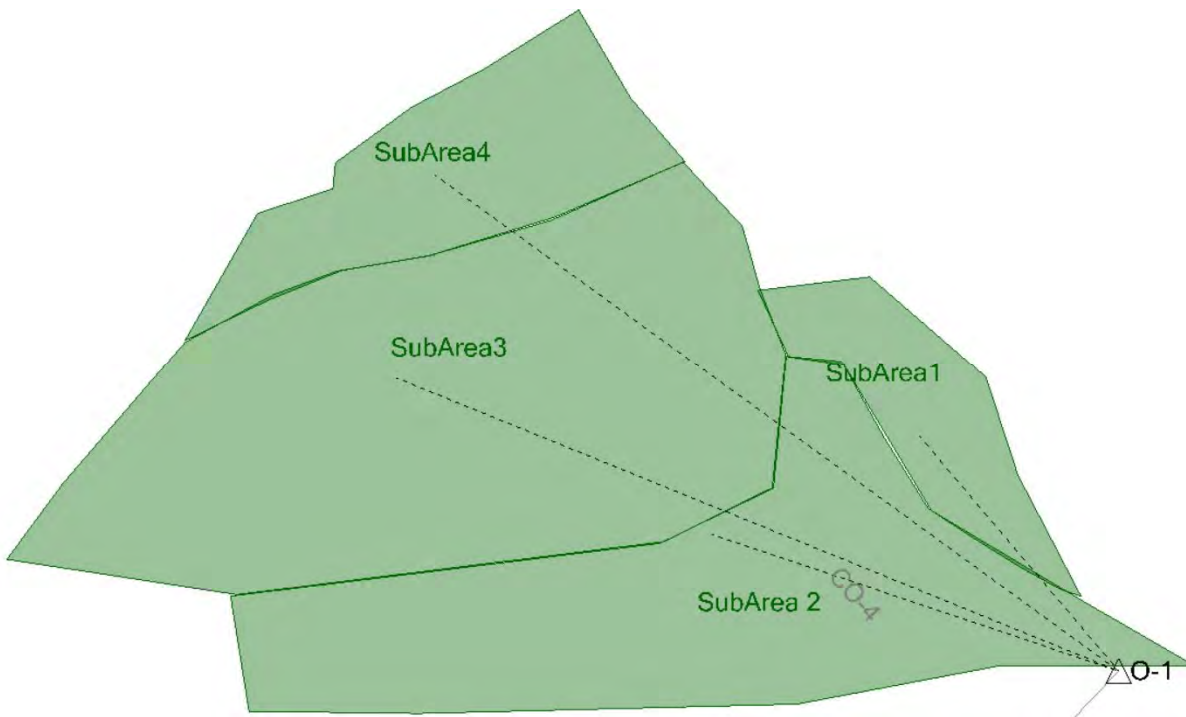
Figure 1 – Location Map

### Project Description

The development at O'Day Park will include a new activity center, amphitheater, group camping area, playground, pavilions, picnic shelters, maintenance building, salt storage facility, and associated drives and parking areas. The existing site is 57.46 acres, and approximately 18.23 acres will be disturbed during construction. The property discharges to O'Day Creek along the eastern property line. A point at the most downstream end of the project site within O'Day Creek (referred to as Outfall 1, or O-1) was used to compare both the existing and proposed stormwater runoff. Runoff from all project construction will flow through this point.

## Existing Condition

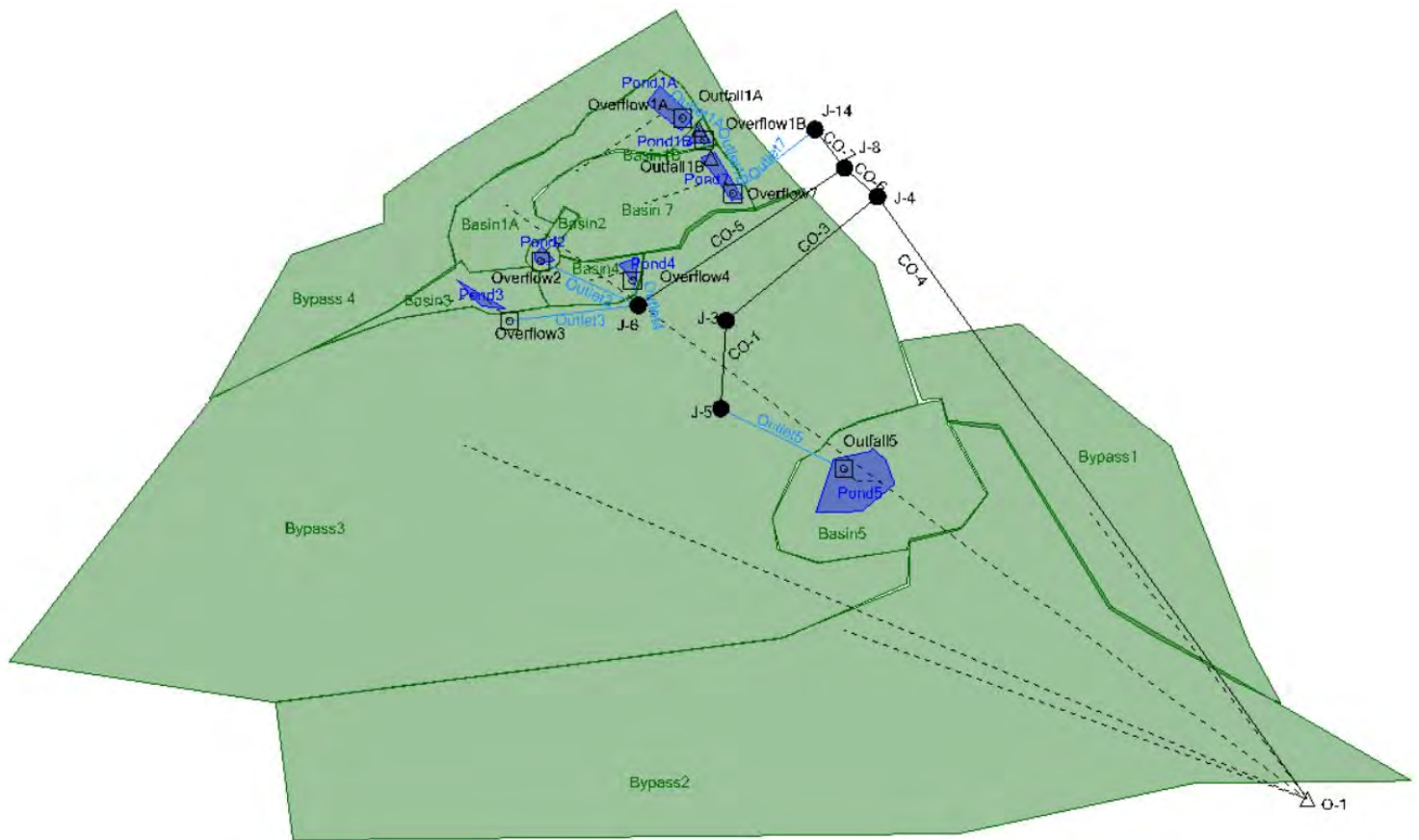
The existing site is mostly wooded and adjacent to residential properties. Total drainage areas to the offsite drainage point total 82.21 acres, consisting of woods, woods/grass combination, and existing impervious surfaces such as houses and driveways. The property is mostly within SCS Soil Group C and D, with the majority of development occurring in the area of Soil Group D. For simplicity, the most conservative of the two groups was used in all project calculations, Soil Group D. The combined drainage area is broken into four “subareas” for drainage modeling, all draining to the downstream offsite drainage point O-1.



**Figure 2 – Existing drainage and connectivity to point O-1**

## Proposed Condition

The improvements taking place within the project include an activity center with adjacent parking; an amphitheater with grass lawn for seating; a group camping area with minor site and utility improvements; an extensive playground with water feature, climbing elements, comfort station, elevated overlook structures, and parking lot; maintenance facility with salt storage building and parking; and roadways with trails and adjacent picnic shelters. The improvements will generally follow the existing drainage patterns, with detention basins scattered throughout the site to collect as much stormwater as possible. Areas not draining to detention basins are now considered “bypass” areas, numbered according to their existing condition subarea.



**Figure 3 – Proposed drainage and connectivity to point O-1**

### Hydraulic Analysis

Onsite stormwater drainage and proposed detention facilities were designed per O'Fallon, Missouri Zoning Code Section 405.240 "Stormwater Detention." Detention of differential runoff for the 2-, 15-, 25-, and 100-year events have been evaluated. Models were created using Bentley PondPack V8i, copyright 2010, using the TR-55 "Urban Hydrology for Small Watersheds" methods.

Four (4) existing drainage areas were used to model the existing site conditions. Time of concentration and travel time calculations provide the stormwater drainage to the same reference point (O-1) before the stormwater leaves the project site. Existing drainage calculations, including Curve Number (CN), Time of Concentration (T<sub>c</sub>), and flow rates, can be found in the Appendices.

Stormwater detention is provided in seven (7) dry basins. Proposed condition drainage areas were routed through the basins and outflow structures were designed using O'Fallon's Zoning Code, including freeboard requirements.

- Basin 1A is designed essentially as a forebay for Basin 1B, providing water quality volume requirements for the large parking area west of the new activity center. As Basin 1A overflows, it discharges into Basin 1B. As Basin 1B collects stormwater, a low-flow pipe allows small discharges through the earthen berm into Basin 7. As the water surface increases in Basin 1B, the larger storm events overflow the earthen weir into Basin 7. An area inlet outflow structure in Basin 7 will discharge into O'Day Creek. If this outflow structure becomes clogged, the overflow will discharge over the basin berm into O'Day Creek at a lower elevation than the amphitheater restroom finished floor.
- Basin 2 collects stormwater from the activity center roof near the main entrance of the building. A small standpipe allows stormwater to discharge to manhole 12.2 and then enter a tributary to O'Day Creek west of the parking lot. If this outflow structure becomes blocked, stormwater will escape overland through the drive entrance to the southeast, at a lower elevation than the activity center finished floor.
- Basin 3 collects stormwater from the southern portion of the parking lot at the activity center. A 15-inch standpipe allows stormwater to discharge to manhole 12.2 and then enter a tributary to O'Day Creek west of the parking lot. If this outflow structure becomes blocked, stormwater will escape across the entrance roadway to the east and into the same tributary to O'Day Creek.
- Basin 4 collects stormwater from the parking lot east of the main entrance drive at the activity center. The outflow structure is an area inlet with a low-flow pipe, which connects to manhole 12.2, discharging into a tributary to O'Day Creek. If this overflow structure becomes blocked, the stormwater will overtop the berm and discharge into the same tributary.
- Basin 5 is within the island of the parking lot of the playground area of the park, and collects a majority of the stormwater from the parking lot. Four (4) levels of 9-inch deep water will pool, similar to one basin of combined size. An area inlet at the lowest pool level will overflow to a ditch on the north side of the drive entrance into the parking lot, which discharges to O'Day Creek through a larger existing ditch. If this outflow structure were to clog, the flow path would be overland to the same ditch.
- Through the design process, Basin 6 was deemed unnecessary and removed from the project. In order to keep the previous submittals consistent, the basins were not renamed.

The detention basins were all modeled with travel times from the basin outfalls to the same outflow point, O-1, at the downstream end of the project site. Proposed drainage calculations, including Curve Number (CN) calculations, Time of Concentration (Tc), elevation-area-capacity curves for

detention facilities, inflow hydrographs, stage-discharge rating curves for overflow structures, and routing curves, can be found in the Appendices.

## Results

The hydraulic model used as part of the detention study provided a combined hydrograph at the most downstream point of the project drainage area, O-1. Below are the results of the four storms required by the City for evaluation:

| Condition | 2-yr Q<br>(cfs) | 15-yr Q<br>(cfs) | 25-yr Q<br>(cfs) | 100-yr Q<br>(cfs) |
|-----------|-----------------|------------------|------------------|-------------------|
| Existing  | 145.57          | 284.59           | 298.75           | 405.36            |
| Proposed  | 137.70          | 267.81           | 281.12           | 382.83            |

**Table 1 - Comparison of flow rates at downstream drainage point O-1.**

Specific results for each storm event for both existing and proposed conditions can be found in the Appendices.

## Conclusion

The detention basins designed for the O'Day Park improvements provide adequate detention for the 2-, 15-, 25-, and 100-year storm event such that the downstream runoff does not exceed existing conditions, with a minimum of 1 foot of freeboard in all basins. The flow rates for the proposed condition are less than existing flow rates at the common downstream discharge point, O-1, for all required storm events.

## **Appendix A**

### **2-Yr Existing Hydraulic Runoff Calculations**



Subsection: Master Network Summary

**Catchments Summary**

| Label     | Scenario               | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| SubArea 2 | Pre-Development 2 year | 2                    | 4.064                     | 12.150               | 45.59                          |
| SubArea1  | Pre-Development 2 year | 2                    | 0.757                     | 12.000               | 12.18                          |
| SubArea3  | Pre-Development 2 year | 2                    | 6.001                     | 12.100               | 69.73                          |
| SubArea4  | Pre-Development 2 year | 2                    | 1.872                     | 12.100               | 22.43                          |

**Node Summary**

| Label | Scenario               | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-------|------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| O-1   | Pre-Development 2 year | 2                    | 12.694                    | 12.100               | 145.57                         |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve  
 Label: Time-Depth - 1

Return Event: 2 years  
 Storm Event: 2 year

| Time-Depth Curve: 2 year |              |
|--------------------------|--------------|
| Label                    | 2 year       |
| Start Time               | 0.000 hours  |
| Increment                | 0.100 hours  |
| End Time                 | 24.000 hours |
| Return Event             | 2 years      |

**CUMULATIVE RAINFALL (in)**  
**Output Time Increment = 0.100 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Depth (in) | Depth (in) | Depth (in) | Depth (in) | Depth (in) |
|--------------|------------|------------|------------|------------|------------|
| 0.000        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 0.500        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 1.000        | 0.0        | 0.0        | 0.0        | 0.0        | 0.1        |
| 1.500        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 2.000        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 2.500        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 3.000        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 3.500        | 0.1        | 0.1        | 0.2        | 0.2        | 0.2        |
| 4.000        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 4.500        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 5.000        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 5.500        | 0.2        | 0.3        | 0.3        | 0.3        | 0.3        |
| 6.000        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3        |
| 6.500        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3        |
| 7.000        | 0.3        | 0.4        | 0.4        | 0.4        | 0.4        |
| 7.500        | 0.4        | 0.4        | 0.4        | 0.4        | 0.4        |
| 8.000        | 0.4        | 0.4        | 0.4        | 0.4        | 0.5        |
| 8.500        | 0.5        | 0.5        | 0.5        | 0.5        | 0.5        |
| 9.000        | 0.5        | 0.5        | 0.5        | 0.5        | 0.6        |
| 9.500        | 0.6        | 0.6        | 0.6        | 0.6        | 0.6        |
| 10.000       | 0.6        | 0.6        | 0.7        | 0.7        | 0.7        |
| 10.500       | 0.7        | 0.7        | 0.8        | 0.8        | 0.8        |
| 11.000       | 0.8        | 0.8        | 0.9        | 0.9        | 1.0        |
| 11.500       | 1.0        | 1.1        | 1.2        | 1.5        | 2.0        |
| 12.000       | 2.3        | 2.4        | 2.4        | 2.5        | 2.5        |
| 12.500       | 2.6        | 2.6        | 2.6        | 2.7        | 2.7        |
| 13.000       | 2.7        | 2.7        | 2.7        | 2.8        | 2.8        |
| 13.500       | 2.8        | 2.8        | 2.8        | 2.8        | 2.9        |
| 14.000       | 2.9        | 2.9        | 2.9        | 2.9        | 2.9        |
| 14.500       | 2.9        | 2.9        | 3.0        | 3.0        | 3.0        |
| 15.000       | 3.0        | 3.0        | 3.0        | 3.0        | 3.0        |
| 15.500       | 3.0        | 3.0        | 3.1        | 3.1        | 3.1        |
| 16.000       | 3.1        | 3.1        | 3.1        | 3.1        | 3.1        |
| 16.500       | 3.1        | 3.1        | 3.1        | 3.1        | 3.1        |
| 17.000       | 3.2        | 3.2        | 3.2        | 3.2        | 3.2        |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Return Event: 2 years

Label: Time-Depth - 1

Storm Event: 2 year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           |
| 18.000          | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           |
| 18.500          | 3.3           | 3.3           | 3.3           | 3.3           | 3.3           |
| 19.000          | 3.3           | 3.3           | 3.3           | 3.3           | 3.3           |
| 19.500          | 3.3           | 3.3           | 3.3           | 3.3           | 3.3           |
| 20.000          | 3.3           | 3.3           | 3.3           | 3.3           | 3.4           |
| 20.500          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 21.000          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 21.500          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 22.000          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 22.500          | 3.4           | 3.4           | 3.4           | 3.5           | 3.5           |
| 23.000          | 3.5           | 3.5           | 3.5           | 3.5           | 3.5           |
| 23.500          | 3.5           | 3.5           | 3.5           | 3.5           | 3.5           |
| 24.000          | 3.5           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea1

Return Event: 2 years  
 Storm Event: 2 year

## Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 232.00 ft            |
| Manning's n                                 | 0.080                |
| Slope                                       | 0.211 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.89 ft/s            |
| Segment Time of Concentration               | 0.072 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 110.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.073 ft/ft          |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.007 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 1,611.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.103 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.182 hours          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea 2

Return Event: 2 years  
 Storm Event: 2 year

## Time of Concentration Results

| Segment #1: TR-55 Sheet Flow      |                      |
|-----------------------------------|----------------------|
| Hydraulic Length                  | 287.00 ft            |
| Manning's n                       | 0.150                |
| Slope                             | 0.063 ft/ft          |
| 2 Year 24 Hour Depth              | 3.5 in               |
| Average Velocity                  | 0.35 ft/s            |
| Segment Time of Concentration     | 0.230 hours          |
| Segment #2: TR-55 Channel Flow    |                      |
| Flow Area                         | 7.5 ft <sup>2</sup>  |
| Hydraulic Length                  | 1,044.00 ft          |
| Manning's n                       | 0.030                |
| Slope                             | 0.013 ft/ft          |
| Wetted Perimeter                  | 15.13 ft             |
| Average Velocity                  | 3.60 ft/s            |
| Segment Time of Concentration     | 0.081 hours          |
| Segment #3: TR-55 Channel Flow    |                      |
| Flow Area                         | 60.0 ft <sup>2</sup> |
| Hydraulic Length                  | 1,010.00 ft          |
| Manning's n                       | 0.100                |
| Slope                             | 0.049 ft/ft          |
| Wetted Perimeter                  | 60.13 ft             |
| Average Velocity                  | 3.28 ft/s            |
| Segment Time of Concentration     | 0.086 hours          |
| Segment #4: TR-55 Channel Flow    |                      |
| Flow Area                         | 36.0 ft <sup>2</sup> |
| Hydraulic Length                  | 745.00 ft            |
| Manning's n                       | 0.045                |
| Slope                             | 0.020 ft/ft          |
| Wetted Perimeter                  | 19.70 ft             |
| Average Velocity                  | 7.02 ft/s            |
| Segment Time of Concentration     | 0.029 hours          |
| Time of Concentration (Composite) |                      |
| Time of Concentration (Composite) | 0.425 hours          |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea3

Return Event: 2 years  
 Storm Event: 2 year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 300.00 ft            |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.041 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.85 ft/s            |
| Segment Time of Concentration               | 0.098 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 418.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.041 ft/ft          |
| Average Velocity                            | 3.27 ft/s            |
| Segment Time of Concentration               | 0.036 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 32.0 ft <sup>2</sup> |
| Hydraulic Length                            | 1,783.00 ft          |
| Manning's n                                 | 0.080                |
| Slope                                       | 0.030 ft/ft          |
| Wetted Perimeter                            | 17.89 ft             |
| Average Velocity                            | 4.75 ft/s            |
| Segment Time of Concentration               | 0.104 hours          |
| Segment #4: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 2,454.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.157 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.394 hours          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: SubArea4

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

### Segment #1: TR-55 Sheet Flow

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

### Segment #2: TR-55 Shallow Concentrated Flow

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.56 ft/s   |
| Segment Time of Concentration | 0.076 hours |

### Segment #3: TR-55 Channel Flow

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.35 ft/s            |
| Segment Time of Concentration | 0.206 hours          |

### Time of Concentration (Composite)

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.373 hours |
|-----------------------------------|-------------|

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea1

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - fair - Soil D   | 79.000 | 4.850        | 0.0   | 0.0    | 79.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.480        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.330        | (N/A) | (N/A)  | 80.711      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea 2

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 24.640          | 0.0      | 0.0       | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.760           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.400          | (N/A)    | (N/A)     | 83.067      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea3

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 36.730       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.200        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 38.930       | (N/A) | (N/A)  | 82.904      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea4

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 11.380       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 12.150       | (N/A) | (N/A)  | 83.014      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea1

Return Event: 2 years  
 Storm Event: 2 year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 2 year       |
| Return Event                      | 2 years      |
| Duration                          | 24.000 hours |
| Depth                             | 3.5 in       |
| Time of Concentration (Composite) | 0.182 hours  |
| Area (User Defined)               | 5.330 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.024 hours              |
| Time to Peak (Computed)                 | 12.006 hours             |
| Flow (Peak, Computed)                   | 12.23 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated Output)         | 12.18 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 81.000      |
| Area (User Defined)                      | 5.330 acres |
| Maximum Retention (Pervious)             | 2.3 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 1.7 in      |
| Runoff Volume (Pervious)           | 0.759 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.757 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.182 hours              |
| Computational Time Increment          | 0.024 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 33.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea1

Return Event: 2 years

Storm Event: 2 year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.121 hours |
| Unit receding limb, $T_r$      | 0.485 hours |
| Total unit time, $T_b$         | 0.606 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.182 hours  |
| Area (User Defined)                  | 5.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 8.900           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 9.150           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 9.650           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.07                         |
| 9.900           | 0.07                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 10.150          | 0.10                         | 0.10                         | 0.11                         | 0.12                         | 0.13                         |
| 10.400          | 0.13                         | 0.14                         | 0.15                         | 0.16                         | 0.17                         |
| 10.650          | 0.18                         | 0.19                         | 0.20                         | 0.22                         | 0.23                         |
| 10.900          | 0.25                         | 0.26                         | 0.28                         | 0.30                         | 0.32                         |
| 11.150          | 0.34                         | 0.37                         | 0.41                         | 0.44                         | 0.48                         |
| 11.400          | 0.52                         | 0.56                         | 0.61                         | 0.71                         | 0.95                         |
| 11.650          | 1.35                         | 2.02                         | 2.93                         | 4.17                         | 5.92                         |
| 11.900          | 8.57                         | 11.12                        | 12.18                        | 11.52                        | 9.08                         |
| 12.150          | 6.25                         | 4.30                         | 3.27                         | 2.66                         | 2.29                         |
| 12.400          | 2.02                         | 1.81                         | 1.63                         | 1.48                         | 1.35                         |
| 12.650          | 1.26                         | 1.18                         | 1.13                         | 1.09                         | 1.05                         |
| 12.900          | 1.01                         | 0.98                         | 0.95                         | 0.91                         | 0.88                         |
| 13.150          | 0.86                         | 0.83                         | 0.81                         | 0.79                         | 0.77                         |
| 13.400          | 0.75                         | 0.73                         | 0.72                         | 0.70                         | 0.68                         |
| 13.650          | 0.66                         | 0.65                         | 0.63                         | 0.62                         | 0.61                         |
| 13.900          | 0.59                         | 0.58                         | 0.57                         | 0.55                         | 0.54                         |
| 14.150          | 0.53                         | 0.52                         | 0.52                         | 0.51                         | 0.51                         |
| 14.400          | 0.50                         | 0.50                         | 0.49                         | 0.49                         | 0.48                         |
| 14.650          | 0.48                         | 0.47                         | 0.47                         | 0.47                         | 0.46                         |
| 14.900          | 0.46                         | 0.45                         | 0.45                         | 0.44                         | 0.44                         |
| 15.150          | 0.43                         | 0.43                         | 0.42                         | 0.42                         | 0.41                         |
| 15.400          | 0.41                         | 0.40                         | 0.40                         | 0.39                         | 0.39                         |
| 15.650          | 0.38                         | 0.38                         | 0.37                         | 0.37                         | 0.36                         |
| 15.900          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.34                         |
| 16.150          | 0.34                         | 0.33                         | 0.33                         | 0.33                         | 0.33                         |
| 16.400          | 0.33                         | 0.33                         | 0.32                         | 0.32                         | 0.32                         |
| 16.650          | 0.32                         | 0.32                         | 0.32                         | 0.31                         | 0.31                         |
| 16.900          | 0.31                         | 0.31                         | 0.31                         | 0.31                         | 0.30                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.150       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.29                      |
| 17.400       | 0.29                      | 0.29                      | 0.29                      | 0.29                      | 0.29                      |
| 17.650       | 0.28                      | 0.28                      | 0.28                      | 0.28                      | 0.28                      |
| 17.900       | 0.28                      | 0.27                      | 0.27                      | 0.27                      | 0.27                      |
| 18.150       | 0.27                      | 0.26                      | 0.26                      | 0.26                      | 0.26                      |
| 18.400       | 0.26                      | 0.26                      | 0.25                      | 0.25                      | 0.25                      |
| 18.650       | 0.25                      | 0.25                      | 0.25                      | 0.24                      | 0.24                      |
| 18.900       | 0.24                      | 0.24                      | 0.24                      | 0.23                      | 0.23                      |
| 19.150       | 0.23                      | 0.23                      | 0.23                      | 0.23                      | 0.22                      |
| 19.400       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.21                      |
| 19.650       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 19.900       | 0.20                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 20.150       | 0.20                      | 0.20                      | 0.19                      | 0.19                      | 0.19                      |
| 20.400       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 20.650       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 20.900       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 21.150       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 21.400       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 21.650       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 21.900       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 22.150       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 22.400       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 22.650       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 22.900       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.17                      |
| 23.150       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.400       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.650       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.900       | 0.17                      | 0.17                      | 0.17                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea 2

Return Event: 2 years  
 Storm Event: 2 year

|  |                          |
|--|--------------------------|
| Storm Event  | 2 year                   |
| Return Event   | 2 years                  |
| Duration   | 24.000 hours             |
| Depth  | 3.5 in                   |
| Time of Concentration<br>(Composite)                   | 0.425 hours              |
| Area (User Defined)                                    | 26.400 acres             |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.057 hours              |
| Time to Peak (Computed)                                | 12.139 hours             |
| Flow (Peak, Computed)                                  | 45.94 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours             |
| Flow (Peak Interpolated<br>Output)                     | 45.59 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 83.000                   |
| Area (User Defined)                                    | 26.400 acres             |
| Maximum Retention<br>(Pervious)                        | 2.0 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 1.9 in                   |
| Runoff Volume (Pervious)                               | 4.089 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 4.064 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.425 hours              |
| Computational Time<br>Increment                        | 0.057 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 70.31 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea 2

Return Event: 2 years

Storm Event: 2 year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.284 hours |
| Unit receding limb, Tr         | 1.135 hours |
| Total unit time, Tb            | 1.418 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.425 hours  |
| Area (User Defined)                  | 26.400 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.000           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 8.250           | 0.02                         | 0.02                         | 0.03                         | 0.04                         | 0.05                         |
| 8.500           | 0.05                         | 0.06                         | 0.07                         | 0.08                         | 0.10                         |
| 8.750           | 0.11                         | 0.12                         | 0.13                         | 0.15                         | 0.16                         |
| 9.000           | 0.17                         | 0.19                         | 0.21                         | 0.22                         | 0.24                         |
| 9.250           | 0.25                         | 0.27                         | 0.28                         | 0.30                         | 0.31                         |
| 9.500           | 0.33                         | 0.34                         | 0.35                         | 0.37                         | 0.38                         |
| 9.750           | 0.40                         | 0.42                         | 0.44                         | 0.46                         | 0.49                         |
| 10.000          | 0.51                         | 0.54                         | 0.56                         | 0.59                         | 0.62                         |
| 10.250          | 0.66                         | 0.69                         | 0.73                         | 0.77                         | 0.81                         |
| 10.500          | 0.85                         | 0.89                         | 0.94                         | 0.99                         | 1.05                         |
| 10.750          | 1.10                         | 1.17                         | 1.23                         | 1.30                         | 1.38                         |
| 11.000          | 1.46                         | 1.54                         | 1.63                         | 1.73                         | 1.84                         |
| 11.250          | 1.97                         | 2.10                         | 2.26                         | 2.43                         | 2.62                         |
| 11.500          | 2.83                         | 3.11                         | 3.54                         | 4.25                         | 5.41                         |
| 11.750          | 7.20                         | 9.77                         | 13.73                        | 19.19                        | 26.06                        |
| 12.000          | 33.48                        | 40.02                        | 44.33                        | 45.59                        | 43.77                        |
| 12.250          | 39.46                        | 34.15                        | 28.98                        | 24.46                        | 20.76                        |
| 12.500          | 17.84                        | 15.48                        | 13.53                        | 11.89                        | 10.58                        |
| 12.750          | 9.49                         | 8.60                         | 7.86                         | 7.26                         | 6.76                         |
| 13.000          | 6.34                         | 5.98                         | 5.66                         | 5.38                         | 5.13                         |
| 13.250          | 4.91                         | 4.72                         | 4.55                         | 4.41                         | 4.28                         |
| 13.500          | 4.16                         | 4.05                         | 3.94                         | 3.84                         | 3.74                         |
| 13.750          | 3.65                         | 3.56                         | 3.47                         | 3.39                         | 3.31                         |
| 14.000          | 3.23                         | 3.16                         | 3.09                         | 3.02                         | 2.95                         |
| 14.250          | 2.90                         | 2.84                         | 2.80                         | 2.76                         | 2.72                         |
| 14.500          | 2.69                         | 2.65                         | 2.62                         | 2.60                         | 2.57                         |
| 14.750          | 2.54                         | 2.52                         | 2.49                         | 2.47                         | 2.44                         |
| 15.000          | 2.42                         | 2.39                         | 2.37                         | 2.34                         | 2.32                         |
| 15.250          | 2.29                         | 2.27                         | 2.24                         | 2.22                         | 2.19                         |
| 15.500          | 2.17                         | 2.14                         | 2.12                         | 2.09                         | 2.06                         |
| 15.750          | 2.04                         | 2.01                         | 1.99                         | 1.96                         | 1.94                         |
| 16.000          | 1.91                         | 1.89                         | 1.86                         | 1.84                         | 1.82                         |
| 16.250          | 1.80                         | 1.78                         | 1.76                         | 1.75                         | 1.73                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 16.500          | 1.72                         | 1.71                         | 1.70                         | 1.69                         | 1.68                         |
| 16.750          | 1.67                         | 1.66                         | 1.65                         | 1.64                         | 1.63                         |
| 17.000          | 1.62                         | 1.61                         | 1.60                         | 1.60                         | 1.59                         |
| 17.250          | 1.58                         | 1.57                         | 1.56                         | 1.55                         | 1.54                         |
| 17.500          | 1.53                         | 1.52                         | 1.51                         | 1.50                         | 1.50                         |
| 17.750          | 1.49                         | 1.48                         | 1.47                         | 1.46                         | 1.45                         |
| 18.000          | 1.44                         | 1.43                         | 1.42                         | 1.41                         | 1.40                         |
| 18.250          | 1.40                         | 1.39                         | 1.38                         | 1.37                         | 1.36                         |
| 18.500          | 1.35                         | 1.34                         | 1.33                         | 1.32                         | 1.31                         |
| 18.750          | 1.30                         | 1.29                         | 1.28                         | 1.28                         | 1.27                         |
| 19.000          | 1.26                         | 1.25                         | 1.24                         | 1.23                         | 1.22                         |
| 19.250          | 1.21                         | 1.20                         | 1.19                         | 1.18                         | 1.17                         |
| 19.500          | 1.16                         | 1.15                         | 1.14                         | 1.14                         | 1.13                         |
| 19.750          | 1.12                         | 1.11                         | 1.10                         | 1.09                         | 1.08                         |
| 20.000          | 1.07                         | 1.06                         | 1.05                         | 1.04                         | 1.03                         |
| 20.250          | 1.03                         | 1.02                         | 1.02                         | 1.01                         | 1.01                         |
| 20.500          | 1.00                         | 1.00                         | 1.00                         | 1.00                         | 0.99                         |
| 20.750          | 0.99                         | 0.99                         | 0.99                         | 0.99                         | 0.98                         |
| 21.000          | 0.98                         | 0.98                         | 0.98                         | 0.98                         | 0.98                         |
| 21.250          | 0.97                         | 0.97                         | 0.97                         | 0.97                         | 0.97                         |
| 21.500          | 0.96                         | 0.96                         | 0.96                         | 0.96                         | 0.96                         |
| 21.750          | 0.96                         | 0.95                         | 0.95                         | 0.95                         | 0.95                         |
| 22.000          | 0.95                         | 0.95                         | 0.94                         | 0.94                         | 0.94                         |
| 22.250          | 0.94                         | 0.94                         | 0.93                         | 0.93                         | 0.93                         |
| 22.500          | 0.93                         | 0.93                         | 0.93                         | 0.92                         | 0.92                         |
| 22.750          | 0.92                         | 0.92                         | 0.92                         | 0.91                         | 0.91                         |
| 23.000          | 0.91                         | 0.91                         | 0.91                         | 0.91                         | 0.90                         |
| 23.250          | 0.90                         | 0.90                         | 0.90                         | 0.90                         | 0.89                         |
| 23.500          | 0.89                         | 0.89                         | 0.89                         | 0.89                         | 0.89                         |
| 23.750          | 0.88                         | 0.88                         | 0.88                         | 0.88                         | 0.88                         |
| 24.000          | 0.87                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea3

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.394 hours  |
| Area (User Defined)                  | 38.930 acres |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.053 hours              |
| Time to Peak (Computed)                    | 12.146 hours             |
| Flow (Peak, Computed)                      | 70.13 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)         | 69.73 ft <sup>3</sup> /s |

|   |              |
|---|--------------|
| <b>Drainage Area</b>                        |              |
| SCS CN (Composite)                          | 83.000       |
| Area (User Defined)                         | 38.930 acres |
| Maximum Retention<br>(Pervious)             | 2.0 in       |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in       |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 1.9 in      |
| Runoff Volume (Pervious)              | 6.030 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 6.001 ac-ft |

|                                       |                           |
|---------------------------------------|---------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                           |
| Time of Concentration<br>(Composite)  | 0.394 hours               |
| Computational Time<br>Increment       | 0.053 hours               |
| Unit Hydrograph Shape<br>Factor       | 483.432                   |
| K Factor                              | 0.749                     |
| Receding/Rising, Tr/Tp                | 1.670                     |
| Unit peak, qp                         | 111.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea3

Return Event: 2 years

Storm Event: 2 year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.263 hours |
| Unit receding limb, Tr         | 1.052 hours |
| Total unit time, Tb            | 1.314 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.394 hours  |
| Area (User Defined)                  | 38.930 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 7.950           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 8.200           | 0.02                         | 0.03                         | 0.04                         | 0.05                         | 0.06                         |
| 8.450           | 0.07                         | 0.09                         | 0.10                         | 0.12                         | 0.13                         |
| 8.700           | 0.15                         | 0.17                         | 0.19                         | 0.21                         | 0.23                         |
| 8.950           | 0.25                         | 0.27                         | 0.29                         | 0.31                         | 0.34                         |
| 9.200           | 0.36                         | 0.38                         | 0.41                         | 0.43                         | 0.45                         |
| 9.450           | 0.47                         | 0.49                         | 0.51                         | 0.53                         | 0.56                         |
| 9.700           | 0.58                         | 0.60                         | 0.63                         | 0.66                         | 0.70                         |
| 9.950           | 0.73                         | 0.77                         | 0.81                         | 0.85                         | 0.89                         |
| 10.200          | 0.94                         | 0.99                         | 1.04                         | 1.10                         | 1.16                         |
| 10.450          | 1.22                         | 1.28                         | 1.35                         | 1.42                         | 1.50                         |
| 10.700          | 1.58                         | 1.67                         | 1.76                         | 1.86                         | 1.97                         |
| 10.950          | 2.08                         | 2.20                         | 2.33                         | 2.47                         | 2.62                         |
| 11.200          | 2.78                         | 2.97                         | 3.19                         | 3.43                         | 3.69                         |
| 11.450          | 3.98                         | 4.30                         | 4.74                         | 5.43                         | 6.61                         |
| 11.700          | 8.58                         | 11.63                        | 16.17                        | 22.69                        | 31.56                        |
| 11.950          | 42.56                        | 54.31                        | 64.15                        | 69.73                        | 69.70                        |
| 12.200          | 64.56                        | 56.37                        | 47.56                        | 39.52                        | 33.04                        |
| 12.450          | 28.03                        | 24.11                        | 20.91                        | 18.30                        | 16.14                        |
| 12.700          | 14.37                        | 12.93                        | 11.77                        | 10.83                        | 10.06                        |
| 12.950          | 9.43                         | 8.89                         | 8.41                         | 7.99                         | 7.61                         |
| 13.200          | 7.29                         | 7.01                         | 6.78                         | 6.58                         | 6.39                         |
| 13.450          | 6.21                         | 6.04                         | 5.88                         | 5.73                         | 5.58                         |
| 13.700          | 5.44                         | 5.30                         | 5.17                         | 5.05                         | 4.93                         |
| 13.950          | 4.82                         | 4.71                         | 4.60                         | 4.50                         | 4.40                         |
| 14.200          | 4.31                         | 4.22                         | 4.15                         | 4.09                         | 4.03                         |
| 14.450          | 3.98                         | 3.93                         | 3.89                         | 3.85                         | 3.81                         |
| 14.700          | 3.77                         | 3.73                         | 3.69                         | 3.65                         | 3.62                         |
| 14.950          | 3.58                         | 3.54                         | 3.51                         | 3.47                         | 3.43                         |
| 15.200          | 3.40                         | 3.36                         | 3.32                         | 3.29                         | 3.25                         |
| 15.450          | 3.21                         | 3.18                         | 3.14                         | 3.10                         | 3.06                         |
| 15.700          | 3.03                         | 2.99                         | 2.95                         | 2.91                         | 2.88                         |
| 15.950          | 2.84                         | 2.80                         | 2.76                         | 2.73                         | 2.69                         |
| 16.200          | 2.66                         | 2.63                         | 2.60                         | 2.58                         | 2.56                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.450       | 2.54                      | 2.53                      | 2.51                      | 2.50                      | 2.48                      |
| 16.700       | 2.47                      | 2.45                      | 2.44                      | 2.43                      | 2.41                      |
| 16.950       | 2.40                      | 2.39                      | 2.37                      | 2.36                      | 2.35                      |
| 17.200       | 2.33                      | 2.32                      | 2.31                      | 2.29                      | 2.28                      |
| 17.450       | 2.27                      | 2.25                      | 2.24                      | 2.23                      | 2.21                      |
| 17.700       | 2.20                      | 2.19                      | 2.17                      | 2.16                      | 2.15                      |
| 17.950       | 2.13                      | 2.12                      | 2.11                      | 2.09                      | 2.08                      |
| 18.200       | 2.06                      | 2.05                      | 2.04                      | 2.02                      | 2.01                      |
| 18.450       | 2.00                      | 1.98                      | 1.97                      | 1.96                      | 1.94                      |
| 18.700       | 1.93                      | 1.92                      | 1.90                      | 1.89                      | 1.87                      |
| 18.950       | 1.86                      | 1.85                      | 1.83                      | 1.82                      | 1.81                      |
| 19.200       | 1.79                      | 1.78                      | 1.76                      | 1.75                      | 1.74                      |
| 19.450       | 1.72                      | 1.71                      | 1.70                      | 1.68                      | 1.67                      |
| 19.700       | 1.65                      | 1.64                      | 1.63                      | 1.61                      | 1.60                      |
| 19.950       | 1.58                      | 1.57                      | 1.56                      | 1.54                      | 1.53                      |
| 20.200       | 1.52                      | 1.51                      | 1.50                      | 1.49                      | 1.49                      |
| 20.450       | 1.48                      | 1.48                      | 1.47                      | 1.47                      | 1.47                      |
| 20.700       | 1.46                      | 1.46                      | 1.46                      | 1.46                      | 1.45                      |
| 20.950       | 1.45                      | 1.45                      | 1.44                      | 1.44                      | 1.44                      |
| 21.200       | 1.44                      | 1.43                      | 1.43                      | 1.43                      | 1.43                      |
| 21.450       | 1.42                      | 1.42                      | 1.42                      | 1.42                      | 1.41                      |
| 21.700       | 1.41                      | 1.41                      | 1.41                      | 1.40                      | 1.40                      |
| 21.950       | 1.40                      | 1.39                      | 1.39                      | 1.39                      | 1.39                      |
| 22.200       | 1.38                      | 1.38                      | 1.38                      | 1.38                      | 1.37                      |
| 22.450       | 1.37                      | 1.37                      | 1.37                      | 1.36                      | 1.36                      |
| 22.700       | 1.36                      | 1.36                      | 1.35                      | 1.35                      | 1.35                      |
| 22.950       | 1.34                      | 1.34                      | 1.34                      | 1.34                      | 1.33                      |
| 23.200       | 1.33                      | 1.33                      | 1.33                      | 1.32                      | 1.32                      |
| 23.450       | 1.32                      | 1.32                      | 1.31                      | 1.31                      | 1.31                      |
| 23.700       | 1.30                      | 1.30                      | 1.30                      | 1.30                      | 1.29                      |
| 23.950       | 1.29                      | 1.28                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea4

Return Event: 2 years  
 Storm Event: 2 year

|  |                          |
|--|--------------------------|
| Storm Event  | 2 year                   |
| Return Event   | 2 years                  |
| Duration   | 24.000 hours             |
| Depth  | 3.5 in                   |
| Time of Concentration<br>(Composite)                   | 0.373 hours              |
| Area (User Defined)                                    | 12.150 acres             |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.050 hours              |
| Time to Peak (Computed)                                | 12.129 hours             |
| Flow (Peak, Computed)                                  | 22.60 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)                     | 22.43 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 83.000                   |
| Area (User Defined)                                    | 12.150 acres             |
| Maximum Retention<br>(Pervious)                        | 2.0 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 1.9 in                   |
| Runoff Volume (Pervious)                               | 1.882 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 1.872 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.373 hours              |
| Computational Time<br>Increment                        | 0.050 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 36.93 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea4

Return Event: 2 years

Storm Event: 2 year

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| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.249 hours |
| Unit receding limb, Tr         | 0.994 hours |
| Total unit time, Tb            | 1.243 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.373 hours  |
| Area (User Defined)                  | 12.150 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.000           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 8.250           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 8.500           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.05                         |
| 8.750           | 0.05                         | 0.06                         | 0.07                         | 0.07                         | 0.08                         |
| 9.000           | 0.09                         | 0.09                         | 0.10                         | 0.11                         | 0.11                         |
| 9.250           | 0.12                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 9.500           | 0.16                         | 0.16                         | 0.17                         | 0.18                         | 0.18                         |
| 9.750           | 0.19                         | 0.20                         | 0.21                         | 0.22                         | 0.23                         |
| 10.000          | 0.24                         | 0.26                         | 0.27                         | 0.28                         | 0.30                         |
| 10.250          | 0.31                         | 0.33                         | 0.35                         | 0.37                         | 0.39                         |
| 10.500          | 0.41                         | 0.43                         | 0.45                         | 0.47                         | 0.50                         |
| 10.750          | 0.53                         | 0.56                         | 0.59                         | 0.63                         | 0.66                         |
| 11.000          | 0.70                         | 0.74                         | 0.78                         | 0.83                         | 0.89                         |
| 11.250          | 0.95                         | 1.02                         | 1.09                         | 1.18                         | 1.27                         |
| 11.500          | 1.37                         | 1.51                         | 1.74                         | 2.14                         | 2.81                         |
| 11.750          | 3.85                         | 5.38                         | 7.58                         | 10.57                        | 14.25                        |
| 12.000          | 18.04                        | 21.03                        | 22.43                        | 21.95                        | 19.90                        |
| 12.250          | 17.08                        | 14.19                        | 11.69                        | 9.72                         | 8.24                         |
| 12.500          | 7.07                         | 6.14                         | 5.37                         | 4.75                         | 4.24                         |
| 12.750          | 3.83                         | 3.50                         | 3.24                         | 3.02                         | 2.84                         |
| 13.000          | 2.68                         | 2.55                         | 2.43                         | 2.32                         | 2.23                         |
| 13.250          | 2.16                         | 2.09                         | 2.03                         | 1.97                         | 1.92                         |
| 13.500          | 1.87                         | 1.82                         | 1.77                         | 1.72                         | 1.68                         |
| 13.750          | 1.64                         | 1.60                         | 1.56                         | 1.53                         | 1.49                         |
| 14.000          | 1.46                         | 1.42                         | 1.39                         | 1.36                         | 1.33                         |
| 14.250          | 1.31                         | 1.29                         | 1.27                         | 1.25                         | 1.24                         |
| 14.500          | 1.22                         | 1.21                         | 1.20                         | 1.18                         | 1.17                         |
| 14.750          | 1.16                         | 1.15                         | 1.14                         | 1.12                         | 1.11                         |
| 15.000          | 1.10                         | 1.09                         | 1.08                         | 1.07                         | 1.06                         |
| 15.250          | 1.04                         | 1.03                         | 1.02                         | 1.01                         | 1.00                         |
| 15.500          | 0.99                         | 0.98                         | 0.96                         | 0.95                         | 0.94                         |
| 15.750          | 0.93                         | 0.92                         | 0.91                         | 0.89                         | 0.88                         |
| 16.000          | 0.87                         | 0.86                         | 0.85                         | 0.84                         | 0.83                         |
| 16.250          | 0.82                         | 0.81                         | 0.80                         | 0.80                         | 0.79                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.500       | 0.79                      | 0.78                      | 0.78                      | 0.77                      | 0.77                      |
| 16.750       | 0.76                      | 0.76                      | 0.76                      | 0.75                      | 0.75                      |
| 17.000       | 0.74                      | 0.74                      | 0.73                      | 0.73                      | 0.73                      |
| 17.250       | 0.72                      | 0.72                      | 0.71                      | 0.71                      | 0.71                      |
| 17.500       | 0.70                      | 0.70                      | 0.69                      | 0.69                      | 0.68                      |
| 17.750       | 0.68                      | 0.68                      | 0.67                      | 0.67                      | 0.66                      |
| 18.000       | 0.66                      | 0.66                      | 0.65                      | 0.65                      | 0.64                      |
| 18.250       | 0.64                      | 0.63                      | 0.63                      | 0.63                      | 0.62                      |
| 18.500       | 0.62                      | 0.61                      | 0.61                      | 0.60                      | 0.60                      |
| 18.750       | 0.60                      | 0.59                      | 0.59                      | 0.58                      | 0.58                      |
| 19.000       | 0.57                      | 0.57                      | 0.57                      | 0.56                      | 0.56                      |
| 19.250       | 0.55                      | 0.55                      | 0.54                      | 0.54                      | 0.54                      |
| 19.500       | 0.53                      | 0.53                      | 0.52                      | 0.52                      | 0.51                      |
| 19.750       | 0.51                      | 0.51                      | 0.50                      | 0.50                      | 0.49                      |
| 20.000       | 0.49                      | 0.48                      | 0.48                      | 0.48                      | 0.47                      |
| 20.250       | 0.47                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 20.500       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 20.750       | 0.46                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 21.000       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 21.250       | 0.45                      | 0.45                      | 0.45                      | 0.44                      | 0.44                      |
| 21.500       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.750       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 22.000       | 0.44                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 22.250       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 22.500       | 0.43                      | 0.43                      | 0.43                      | 0.42                      | 0.42                      |
| 22.750       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 23.000       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 23.250       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 23.500       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 23.750       | 0.41                      | 0.41                      | 0.40                      | 0.40                      | 0.40                      |
| 24.000       | 0.40                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 2 years  
 Storm Event: 2 year

## Summary for Hydrograph Addition at 'O-1'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | SubArea 2     |
| <Catchment to Outflow Node> | SubArea1      |
| <Catchment to Outflow Node> | SubArea3      |
| <Catchment to Outflow Node> | SubArea4      |

## Node Inflows

| Inflow Type | Element   | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|-----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | SubArea 2 | 4.064             | 12.150                  | 45.59                               |
| Flow (From) | SubArea1  | 0.757             | 12.000                  | 12.18                               |
| Flow (From) | SubArea3  | 6.001             | 12.100                  | 69.73                               |
| Flow (From) | SubArea4  | 1.872             | 12.100                  | 22.43                               |
| Flow (In)   | O-1       | 12.694            | 12.100                  | 145.57                              |

## **Appendix B**

### **15-Yr Existing Hydraulic Runoff Calculations**

Subsection: Master Network Summary

**Catchments Summary**

| Label     | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| SubArea 2 | Pre-Development 15 year | 15                   | 7.943                     | 12.150               | 88.58                          |
| SubArea1  | Pre-Development 15 year | 15                   | 1.520                     | 12.000               | 24.25                          |
| SubArea3  | Pre-Development 15 year | 15                   | 11.727                    | 12.100               | 136.28                         |
| SubArea4  | Pre-Development 15 year | 15                   | 3.658                     | 12.100               | 43.69                          |

**Node Summary**

| Label | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| O-1   | Pre-Development 15 year | 15                   | 24.849                    | 12.100               | 284.59                         |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Label: Time-Depth - 1

Return Event: 15 years

Storm Event: 15-year

| Time-Depth Curve: 15-year |              |
|---------------------------|--------------|
| Label                     | 15-year      |
| Start Time                | 0.000 hours  |
| Increment                 | 0.100 hours  |
| End Time                  | 24.000 hours |
| Return Event              | 15 years     |

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 0.000           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           |
| 0.500           | 0.0           | 0.0           | 0.0           | 0.0           | 0.1           |
| 1.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 1.500           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.000           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.3           |
| 4.000           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 4.500           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 5.000           | 0.3           | 0.4           | 0.4           | 0.4           | 0.4           |
| 5.500           | 0.4           | 0.4           | 0.4           | 0.4           | 0.4           |
| 6.000           | 0.4           | 0.4           | 0.5           | 0.5           | 0.5           |
| 6.500           | 0.5           | 0.5           | 0.5           | 0.5           | 0.5           |
| 7.000           | 0.5           | 0.6           | 0.6           | 0.6           | 0.6           |
| 7.500           | 0.6           | 0.6           | 0.6           | 0.6           | 0.6           |
| 8.000           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           |
| 8.500           | 0.7           | 0.7           | 0.8           | 0.8           | 0.8           |
| 9.000           | 0.8           | 0.8           | 0.8           | 0.9           | 0.9           |
| 9.500           | 0.9           | 0.9           | 0.9           | 1.0           | 1.0           |
| 10.000          | 1.0           | 1.0           | 1.0           | 1.1           | 1.1           |
| 10.500          | 1.1           | 1.2           | 1.2           | 1.2           | 1.3           |
| 11.000          | 1.3           | 1.3           | 1.4           | 1.4           | 1.5           |
| 11.500          | 1.6           | 1.7           | 1.9           | 2.4           | 3.1           |
| 12.000          | 3.6           | 3.8           | 3.8           | 3.9           | 4.0           |
| 12.500          | 4.0           | 4.1           | 4.1           | 4.2           | 4.2           |
| 13.000          | 4.2           | 4.3           | 4.3           | 4.3           | 4.4           |
| 13.500          | 4.4           | 4.4           | 4.4           | 4.5           | 4.5           |
| 14.000          | 4.5           | 4.5           | 4.5           | 4.6           | 4.6           |
| 14.500          | 4.6           | 4.6           | 4.6           | 4.7           | 4.7           |
| 15.000          | 4.7           | 4.7           | 4.7           | 4.7           | 4.8           |
| 15.500          | 4.8           | 4.8           | 4.8           | 4.8           | 4.8           |
| 16.000          | 4.8           | 4.9           | 4.9           | 4.9           | 4.9           |
| 16.500          | 4.9           | 4.9           | 4.9           | 4.9           | 4.9           |
| 17.000          | 5.0           | 5.0           | 5.0           | 5.0           | 5.0           |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Label: Time-Depth - 1

Return Event: 15 years

Storm Event: 15-year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 5.0           | 5.0           | 5.0           | 5.0           | 5.1           |
| 18.000          | 5.1           | 5.1           | 5.1           | 5.1           | 5.1           |
| 18.500          | 5.1           | 5.1           | 5.1           | 5.1           | 5.1           |
| 19.000          | 5.2           | 5.2           | 5.2           | 5.2           | 5.2           |
| 19.500          | 5.2           | 5.2           | 5.2           | 5.2           | 5.2           |
| 20.000          | 5.2           | 5.2           | 5.3           | 5.3           | 5.3           |
| 20.500          | 5.3           | 5.3           | 5.3           | 5.3           | 5.3           |
| 21.000          | 5.3           | 5.3           | 5.3           | 5.3           | 5.3           |
| 21.500          | 5.3           | 5.3           | 5.4           | 5.4           | 5.4           |
| 22.000          | 5.4           | 5.4           | 5.4           | 5.4           | 5.4           |
| 22.500          | 5.4           | 5.4           | 5.4           | 5.4           | 5.4           |
| 23.000          | 5.4           | 5.4           | 5.5           | 5.5           | 5.5           |
| 23.500          | 5.5           | 5.5           | 5.5           | 5.5           | 5.5           |
| 24.000          | 5.5           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |



## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea1

Return Event: 15 years  
 Storm Event: 15-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 232.00 ft            |
| Manning's n                                 | 0.080                |
| Slope                                       | 0.211 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.89 ft/s            |
| Segment Time of Concentration               | 0.072 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 110.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.073 ft/ft          |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.007 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 1,611.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.103 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.182 hours          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea 2

Return Event: 15 years  
 Storm Event: 15-year

## Time of Concentration Results

| Segment #1: TR-55 Sheet Flow      |                      |
|-----------------------------------|----------------------|
| Hydraulic Length                  | 287.00 ft            |
| Manning's n                       | 0.150                |
| Slope                             | 0.063 ft/ft          |
| 2 Year 24 Hour Depth              | 3.5 in               |
| Average Velocity                  | 0.35 ft/s            |
| Segment Time of Concentration     | 0.230 hours          |
| Segment #2: TR-55 Channel Flow    |                      |
| Flow Area                         | 7.5 ft <sup>2</sup>  |
| Hydraulic Length                  | 1,044.00 ft          |
| Manning's n                       | 0.030                |
| Slope                             | 0.013 ft/ft          |
| Wetted Perimeter                  | 15.13 ft             |
| Average Velocity                  | 3.60 ft/s            |
| Segment Time of Concentration     | 0.081 hours          |
| Segment #3: TR-55 Channel Flow    |                      |
| Flow Area                         | 60.0 ft <sup>2</sup> |
| Hydraulic Length                  | 1,010.00 ft          |
| Manning's n                       | 0.100                |
| Slope                             | 0.049 ft/ft          |
| Wetted Perimeter                  | 60.13 ft             |
| Average Velocity                  | 3.28 ft/s            |
| Segment Time of Concentration     | 0.086 hours          |
| Segment #4: TR-55 Channel Flow    |                      |
| Flow Area                         | 36.0 ft <sup>2</sup> |
| Hydraulic Length                  | 745.00 ft            |
| Manning's n                       | 0.045                |
| Slope                             | 0.020 ft/ft          |
| Wetted Perimeter                  | 19.70 ft             |
| Average Velocity                  | 7.02 ft/s            |
| Segment Time of Concentration     | 0.029 hours          |
| Time of Concentration (Composite) |                      |
| Time of Concentration (Composite) | 0.425 hours          |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea3

Return Event: 15 years  
 Storm Event: 15-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 300.00 ft            |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.041 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.85 ft/s            |
| Segment Time of Concentration               | 0.098 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 418.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.041 ft/ft          |
| Average Velocity                            | 3.27 ft/s            |
| Segment Time of Concentration               | 0.036 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 32.0 ft <sup>2</sup> |
| Hydraulic Length                            | 1,783.00 ft          |
| Manning's n                                 | 0.080                |
| Slope                                       | 0.030 ft/ft          |
| Wetted Perimeter                            | 17.89 ft             |
| Average Velocity                            | 4.75 ft/s            |
| Segment Time of Concentration               | 0.104 hours          |
| Segment #4: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 2,454.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.157 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.394 hours          |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea4

Return Event: 15 years  
 Storm Event: 15-year

### Time of Concentration Results

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#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

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#### Segment #2: TR-55 Shallow Concentrated Flow

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.56 ft/s   |
| Segment Time of Concentration | 0.076 hours |

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#### Segment #3: TR-55 Channel Flow

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|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.35 ft/s            |
| Segment Time of Concentration | 0.206 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.373 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea1

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - fair - Soil D   | 79.000 | 4.850        | 0.0   | 0.0    | 79.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.480        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.330        | (N/A) | (N/A)  | 80.711      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea 2

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 24.640       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.760        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.400       | (N/A) | (N/A)  | 83.067      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea3

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 36.730       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.200        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 38.930       | (N/A) | (N/A)  | 82.904      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea4

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 11.380          | 0.0      | 0.0       | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 12.150          | (N/A)    | (N/A)     | 83.014      |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea1

Return Event: 15 years  
 Storm Event: 15-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 15-year      |
| Return Event                      | 15 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.5 in       |
| Time of Concentration (Composite) | 0.182 hours  |
| Area (User Defined)               | 5.330 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.024 hours              |
| Time to Peak (Computed)                 | 12.006 hours             |
| Flow (Peak, Computed)                   | 24.28 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated Output)         | 24.25 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 81.000      |
| Area (User Defined)                      | 5.330 acres |
| Maximum Retention (Pervious)             | 2.3 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.4 in      |
| Runoff Volume (Pervious)           | 1.524 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 1.520 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.182 hours              |
| Computational Time Increment          | 0.024 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 33.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea1

Return Event: 15 years  
Storm Event: 15-year

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| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.121 hours |
| Unit receding limb, $T_r$      | 0.485 hours |
| Total unit time, $T_b$         | 0.606 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.182 hours  |
| Area (User Defined)                  | 5.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.400           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.650           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 6.900           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.150           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 7.400           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 7.650           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 7.900           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 8.150           | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 8.400           | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.15                         |
| 8.650           | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.18                         |
| 8.900           | 0.19                         | 0.19                         | 0.20                         | 0.21                         | 0.22                         |
| 9.150           | 0.22                         | 0.23                         | 0.23                         | 0.24                         | 0.24                         |
| 9.400           | 0.25                         | 0.25                         | 0.26                         | 0.26                         | 0.27                         |
| 9.650           | 0.27                         | 0.28                         | 0.29                         | 0.31                         | 0.32                         |
| 9.900           | 0.33                         | 0.34                         | 0.36                         | 0.37                         | 0.38                         |
| 10.150          | 0.40                         | 0.42                         | 0.43                         | 0.45                         | 0.47                         |
| 10.400          | 0.49                         | 0.51                         | 0.53                         | 0.56                         | 0.58                         |
| 10.650          | 0.61                         | 0.64                         | 0.67                         | 0.70                         | 0.74                         |
| 10.900          | 0.77                         | 0.81                         | 0.85                         | 0.89                         | 0.94                         |
| 11.150          | 1.00                         | 1.07                         | 1.14                         | 1.23                         | 1.31                         |
| 11.400          | 1.41                         | 1.50                         | 1.60                         | 1.83                         | 2.40                         |
| 11.650          | 3.36                         | 4.88                         | 6.87                         | 9.47                         | 12.96                        |
| 11.900          | 18.05                        | 22.70                        | 24.25                        | 22.50                        | 17.52                        |
| 12.150          | 11.97                        | 8.16                         | 6.16                         | 4.99                         | 4.26                         |
| 12.400          | 3.75                         | 3.35                         | 3.01                         | 2.72                         | 2.48                         |
| 12.650          | 2.30                         | 2.17                         | 2.07                         | 1.99                         | 1.92                         |
| 12.900          | 1.85                         | 1.79                         | 1.72                         | 1.66                         | 1.60                         |
| 13.150          | 1.55                         | 1.51                         | 1.47                         | 1.43                         | 1.40                         |
| 13.400          | 1.36                         | 1.33                         | 1.29                         | 1.26                         | 1.23                         |
| 13.650          | 1.20                         | 1.17                         | 1.14                         | 1.12                         | 1.09                         |
| 13.900          | 1.07                         | 1.04                         | 1.02                         | 0.99                         | 0.97                         |
| 14.150          | 0.96                         | 0.94                         | 0.93                         | 0.92                         | 0.91                         |
| 14.400          | 0.90                         | 0.89                         | 0.89                         | 0.88                         | 0.87                         |
| 14.650          | 0.86                         | 0.85                         | 0.84                         | 0.83                         | 0.82                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.900       | 0.82                      | 0.81                      | 0.80                      | 0.79                      | 0.78                      |
| 15.150       | 0.77                      | 0.76                      | 0.76                      | 0.75                      | 0.74                      |
| 15.400       | 0.73                      | 0.72                      | 0.71                      | 0.70                      | 0.69                      |
| 15.650       | 0.68                      | 0.68                      | 0.67                      | 0.66                      | 0.65                      |
| 15.900       | 0.64                      | 0.63                      | 0.62                      | 0.61                      | 0.61                      |
| 16.150       | 0.60                      | 0.60                      | 0.59                      | 0.59                      | 0.58                      |
| 16.400       | 0.58                      | 0.58                      | 0.57                      | 0.57                      | 0.57                      |
| 16.650       | 0.57                      | 0.56                      | 0.56                      | 0.56                      | 0.55                      |
| 16.900       | 0.55                      | 0.55                      | 0.54                      | 0.54                      | 0.54                      |
| 17.150       | 0.53                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 17.400       | 0.52                      | 0.52                      | 0.51                      | 0.51                      | 0.51                      |
| 17.650       | 0.50                      | 0.50                      | 0.50                      | 0.49                      | 0.49                      |
| 17.900       | 0.49                      | 0.48                      | 0.48                      | 0.48                      | 0.47                      |
| 18.150       | 0.47                      | 0.47                      | 0.46                      | 0.46                      | 0.46                      |
| 18.400       | 0.46                      | 0.45                      | 0.45                      | 0.45                      | 0.44                      |
| 18.650       | 0.44                      | 0.44                      | 0.43                      | 0.43                      | 0.43                      |
| 18.900       | 0.42                      | 0.42                      | 0.42                      | 0.41                      | 0.41                      |
| 19.150       | 0.41                      | 0.40                      | 0.40                      | 0.40                      | 0.39                      |
| 19.400       | 0.39                      | 0.39                      | 0.38                      | 0.38                      | 0.38                      |
| 19.650       | 0.37                      | 0.37                      | 0.37                      | 0.36                      | 0.36                      |
| 19.900       | 0.36                      | 0.36                      | 0.35                      | 0.35                      | 0.35                      |
| 20.150       | 0.34                      | 0.34                      | 0.34                      | 0.34                      | 0.34                      |
| 20.400       | 0.34                      | 0.34                      | 0.34                      | 0.34                      | 0.34                      |
| 20.650       | 0.34                      | 0.34                      | 0.34                      | 0.33                      | 0.33                      |
| 20.900       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 21.150       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 21.400       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.32                      |
| 21.650       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 21.900       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 22.150       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 22.400       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 22.650       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 22.900       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 23.150       | 0.31                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 23.400       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 23.650       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 23.900       | 0.30                      | 0.30                      | 0.29                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea 2

Return Event: 15 years  
 Storm Event: 15-year

|  |                          |
|--|--------------------------|
| Storm Event  | 15-year                  |
| Return Event   | 15 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.5 in                   |
| Time of Concentration<br>(Composite)                   | 0.425 hours              |
| Area (User Defined)                                    | 26.400 acres             |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.057 hours              |
| Time to Peak (Computed)                                | 12.139 hours             |
| Flow (Peak, Computed)                                  | 89.42 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours             |
| Flow (Peak Interpolated<br>Output)                     | 88.58 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 83.000                   |
| Area (User Defined)                                    | 26.400 acres             |
| Maximum Retention<br>(Pervious)                        | 2.0 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.6 in                   |
| Runoff Volume (Pervious)                               | 7.986 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 7.943 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.425 hours              |
| Computational Time<br>Increment                        | 0.057 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 70.31 ft <sup>3</sup> /s |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea 2

Return Event: 15 years

Storm Event: 15-year

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### SCS Unit Hydrograph Parameters

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|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.284 hours |
| Unit receding limb, $T_r$ | 1.135 hours |
| Total unit time, $T_b$    | 1.418 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.425 hours  |
| Area (User Defined)                  | 26.400 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.800           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.050           | 0.02                         | 0.03                         | 0.04                         | 0.05                         | 0.06                         |
| 6.300           | 0.07                         | 0.08                         | 0.09                         | 0.11                         | 0.12                         |
| 6.550           | 0.13                         | 0.15                         | 0.16                         | 0.17                         | 0.19                         |
| 6.800           | 0.20                         | 0.21                         | 0.23                         | 0.24                         | 0.25                         |
| 7.050           | 0.27                         | 0.28                         | 0.30                         | 0.31                         | 0.33                         |
| 7.300           | 0.34                         | 0.35                         | 0.37                         | 0.38                         | 0.40                         |
| 7.550           | 0.41                         | 0.43                         | 0.45                         | 0.46                         | 0.48                         |
| 7.800           | 0.49                         | 0.51                         | 0.52                         | 0.54                         | 0.55                         |
| 8.050           | 0.57                         | 0.59                         | 0.60                         | 0.62                         | 0.64                         |
| 8.300           | 0.67                         | 0.69                         | 0.72                         | 0.74                         | 0.77                         |
| 8.550           | 0.80                         | 0.83                         | 0.87                         | 0.90                         | 0.93                         |
| 8.800           | 0.97                         | 1.01                         | 1.04                         | 1.08                         | 1.12                         |
| 9.050           | 1.16                         | 1.20                         | 1.24                         | 1.28                         | 1.32                         |
| 9.300           | 1.35                         | 1.38                         | 1.41                         | 1.44                         | 1.47                         |
| 9.550           | 1.49                         | 1.52                         | 1.55                         | 1.58                         | 1.61                         |
| 9.800           | 1.65                         | 1.70                         | 1.75                         | 1.81                         | 1.87                         |
| 10.050          | 1.93                         | 1.99                         | 2.06                         | 2.14                         | 2.21                         |
| 10.300          | 2.30                         | 2.39                         | 2.48                         | 2.58                         | 2.68                         |
| 10.550          | 2.78                         | 2.89                         | 3.01                         | 3.13                         | 3.27                         |
| 10.800          | 3.41                         | 3.56                         | 3.72                         | 3.89                         | 4.07                         |
| 11.050          | 4.26                         | 4.46                         | 4.68                         | 4.93                         | 5.20                         |
| 11.300          | 5.51                         | 5.85                         | 6.22                         | 6.63                         | 7.08                         |
| 11.550          | 7.69                         | 8.64                         | 10.21                        | 12.73                        | 16.57                        |
| 11.800          | 21.99                        | 30.07                        | 40.86                        | 54.05                        | 67.93                        |
| 12.050          | 79.77                        | 87.10                        | 88.58                        | 84.26                        | 75.40                        |
| 12.300          | 64.87                        | 54.76                        | 45.99                        | 38.86                        | 33.22                        |
| 12.550          | 28.69                        | 24.95                        | 21.85                        | 19.36                        | 17.31                        |
| 12.800          | 15.62                        | 14.25                        | 13.12                        | 12.18                        | 11.39                        |
| 13.050          | 10.72                        | 10.14                        | 9.62                         | 9.15                         | 8.74                         |
| 13.300          | 8.39                         | 8.09                         | 7.83                         | 7.60                         | 7.39                         |
| 13.550          | 7.18                         | 6.99                         | 6.80                         | 6.62                         | 6.45                         |
| 13.800          | 6.29                         | 6.13                         | 5.99                         | 5.85                         | 5.71                         |
| 14.050          | 5.57                         | 5.45                         | 5.32                         | 5.21                         | 5.10                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.300       | 5.01                      | 4.92                      | 4.85                      | 4.78                      | 4.72                      |
| 14.550       | 4.67                      | 4.61                      | 4.56                      | 4.51                      | 4.46                      |
| 14.800       | 4.42                      | 4.37                      | 4.33                      | 4.28                      | 4.23                      |
| 15.050       | 4.19                      | 4.14                      | 4.10                      | 4.06                      | 4.01                      |
| 15.300       | 3.97                      | 3.92                      | 3.88                      | 3.83                      | 3.79                      |
| 15.550       | 3.74                      | 3.70                      | 3.65                      | 3.61                      | 3.56                      |
| 15.800       | 3.52                      | 3.47                      | 3.43                      | 3.38                      | 3.34                      |
| 16.050       | 3.29                      | 3.25                      | 3.21                      | 3.17                      | 3.13                      |
| 16.300       | 3.10                      | 3.07                      | 3.04                      | 3.02                      | 3.00                      |
| 16.550       | 2.98                      | 2.96                      | 2.94                      | 2.92                      | 2.90                      |
| 16.800       | 2.89                      | 2.87                      | 2.85                      | 2.84                      | 2.82                      |
| 17.050       | 2.80                      | 2.79                      | 2.77                      | 2.76                      | 2.74                      |
| 17.300       | 2.72                      | 2.71                      | 2.69                      | 2.68                      | 2.66                      |
| 17.550       | 2.64                      | 2.63                      | 2.61                      | 2.60                      | 2.58                      |
| 17.800       | 2.56                      | 2.55                      | 2.53                      | 2.51                      | 2.50                      |
| 18.050       | 2.48                      | 2.47                      | 2.45                      | 2.43                      | 2.42                      |
| 18.300       | 2.40                      | 2.39                      | 2.37                      | 2.35                      | 2.34                      |
| 18.550       | 2.32                      | 2.30                      | 2.29                      | 2.27                      | 2.26                      |
| 18.800       | 2.24                      | 2.22                      | 2.21                      | 2.19                      | 2.17                      |
| 19.050       | 2.16                      | 2.14                      | 2.12                      | 2.11                      | 2.09                      |
| 19.300       | 2.08                      | 2.06                      | 2.04                      | 2.03                      | 2.01                      |
| 19.550       | 1.99                      | 1.98                      | 1.96                      | 1.94                      | 1.93                      |
| 19.800       | 1.91                      | 1.90                      | 1.88                      | 1.86                      | 1.85                      |
| 20.050       | 1.83                      | 1.81                      | 1.80                      | 1.78                      | 1.77                      |
| 20.300       | 1.76                      | 1.75                      | 1.74                      | 1.74                      | 1.73                      |
| 20.550       | 1.73                      | 1.72                      | 1.72                      | 1.71                      | 1.71                      |
| 20.800       | 1.71                      | 1.70                      | 1.70                      | 1.70                      | 1.69                      |
| 21.050       | 1.69                      | 1.69                      | 1.68                      | 1.68                      | 1.68                      |
| 21.300       | 1.67                      | 1.67                      | 1.67                      | 1.66                      | 1.66                      |
| 21.550       | 1.66                      | 1.65                      | 1.65                      | 1.65                      | 1.64                      |
| 21.800       | 1.64                      | 1.64                      | 1.63                      | 1.63                      | 1.63                      |
| 22.050       | 1.63                      | 1.62                      | 1.62                      | 1.62                      | 1.61                      |
| 22.300       | 1.61                      | 1.61                      | 1.60                      | 1.60                      | 1.60                      |
| 22.550       | 1.59                      | 1.59                      | 1.59                      | 1.58                      | 1.58                      |
| 22.800       | 1.58                      | 1.57                      | 1.57                      | 1.57                      | 1.56                      |
| 23.050       | 1.56                      | 1.56                      | 1.55                      | 1.55                      | 1.55                      |
| 23.300       | 1.55                      | 1.54                      | 1.54                      | 1.54                      | 1.53                      |
| 23.550       | 1.53                      | 1.53                      | 1.52                      | 1.52                      | 1.52                      |
| 23.800       | 1.51                      | 1.51                      | 1.51                      | 1.50                      | 1.50                      |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea3

Return Event: 15 years  
 Storm Event: 15-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 15-year      |
| Return Event                      | 15 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.5 in       |
| Time of Concentration (Composite) | 0.394 hours  |
| Area (User Defined)               | 38.930 acres |

|   |                           |
|---|---------------------------|
| Computational Time Increment            | 0.053 hours               |
| Time to Peak (Computed)                 | 12.093 hours              |
| Flow (Peak, Computed)                   | 136.37 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours               |
| Time to Flow (Peak Interpolated Output) | 12.100 hours              |
| Flow (Peak Interpolated Output)         | 136.28 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 83.000       |
| Area (User Defined)                      | 38.930 acres |
| Maximum Retention (Pervious)             | 2.0 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |              |
|------------------------------------|--------------|
| <b>Cumulative Runoff</b>           |              |
| Cumulative Runoff Depth (Pervious) | 3.6 in       |
| Runoff Volume (Pervious)           | 11.776 ac-ft |

|  |              |
|--|--------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |              |
| Volume   | 11.727 ac-ft |

|                                       |                           |
|---------------------------------------|---------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                           |
| Time of Concentration (Composite)     | 0.394 hours               |
| Computational Time Increment          | 0.053 hours               |
| Unit Hydrograph Shape Factor          | 483.432                   |
| K Factor                              | 0.749                     |
| Receding/Rising, Tr/Tp                | 1.670                     |
| Unit peak, qp                         | 111.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea3

Return Event: 15 years  
Storm Event: 15-year

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| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.263 hours |
| Unit receding limb, Tr         | 1.052 hours |
| Total unit time, Tb            | 1.314 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.394 hours  |
| Area (User Defined)                  | 38.930 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.750           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.000           | 0.02                         | 0.03                         | 0.05                         | 0.06                         | 0.08                         |
| 6.250           | 0.10                         | 0.11                         | 0.13                         | 0.15                         | 0.17                         |
| 6.500           | 0.19                         | 0.20                         | 0.22                         | 0.24                         | 0.26                         |
| 6.750           | 0.28                         | 0.30                         | 0.32                         | 0.34                         | 0.36                         |
| 7.000           | 0.38                         | 0.41                         | 0.43                         | 0.45                         | 0.47                         |
| 7.250           | 0.49                         | 0.51                         | 0.53                         | 0.56                         | 0.58                         |
| 7.500           | 0.60                         | 0.62                         | 0.64                         | 0.67                         | 0.69                         |
| 7.750           | 0.71                         | 0.74                         | 0.76                         | 0.78                         | 0.81                         |
| 8.000           | 0.83                         | 0.85                         | 0.88                         | 0.90                         | 0.93                         |
| 8.250           | 0.96                         | 1.00                         | 1.03                         | 1.07                         | 1.11                         |
| 8.500           | 1.16                         | 1.20                         | 1.25                         | 1.30                         | 1.35                         |
| 8.750           | 1.40                         | 1.46                         | 1.51                         | 1.57                         | 1.62                         |
| 9.000           | 1.68                         | 1.74                         | 1.80                         | 1.86                         | 1.91                         |
| 9.250           | 1.97                         | 2.02                         | 2.06                         | 2.10                         | 2.14                         |
| 9.500           | 2.18                         | 2.22                         | 2.26                         | 2.30                         | 2.35                         |
| 9.750           | 2.40                         | 2.47                         | 2.54                         | 2.62                         | 2.70                         |
| 10.000          | 2.79                         | 2.88                         | 2.98                         | 3.09                         | 3.20                         |
| 10.250          | 3.32                         | 3.44                         | 3.58                         | 3.72                         | 3.87                         |
| 10.500          | 4.02                         | 4.18                         | 4.34                         | 4.52                         | 4.71                         |
| 10.750          | 4.91                         | 5.13                         | 5.36                         | 5.60                         | 5.86                         |
| 11.000          | 6.13                         | 6.41                         | 6.71                         | 7.04                         | 7.41                         |
| 11.250          | 7.83                         | 8.31                         | 8.84                         | 9.42                         | 10.04                        |
| 11.500          | 10.74                        | 11.68                        | 13.19                        | 15.79                        | 20.08                        |
| 11.750          | 26.63                        | 36.11                        | 49.34                        | 66.81                        | 87.83                        |
| 12.000          | 109.65                       | 127.19                       | 136.28                       | 134.70                       | 123.69                       |
| 12.250          | 107.23                       | 89.95                        | 74.36                        | 61.86                        | 52.22                        |
| 12.500          | 44.69                        | 38.59                        | 33.61                        | 29.53                        | 26.20                        |
| 12.750          | 23.49                        | 21.31                        | 19.55                        | 18.11                        | 16.93                        |
| 13.000          | 15.93                        | 15.05                        | 14.26                        | 13.57                        | 12.98                        |
| 13.250          | 12.48                        | 12.06                        | 11.69                        | 11.34                        | 11.02                        |
| 13.500          | 10.72                        | 10.42                        | 10.15                        | 9.88                         | 9.62                         |
| 13.750          | 9.38                         | 9.15                         | 8.93                         | 8.72                         | 8.51                         |
| 14.000          | 8.31                         | 8.12                         | 7.93                         | 7.75                         | 7.59                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.250       | 7.44                      | 7.31                      | 7.19                      | 7.09                      | 7.00                      |
| 14.500       | 6.91                      | 6.83                      | 6.76                      | 6.69                      | 6.61                      |
| 14.750       | 6.55                      | 6.48                      | 6.41                      | 6.34                      | 6.28                      |
| 15.000       | 6.21                      | 6.15                      | 6.08                      | 6.01                      | 5.95                      |
| 15.250       | 5.88                      | 5.82                      | 5.75                      | 5.69                      | 5.62                      |
| 15.500       | 5.55                      | 5.49                      | 5.42                      | 5.35                      | 5.29                      |
| 15.750       | 5.22                      | 5.15                      | 5.09                      | 5.02                      | 4.95                      |
| 16.000       | 4.89                      | 4.82                      | 4.76                      | 4.70                      | 4.64                      |
| 16.250       | 4.59                      | 4.54                      | 4.50                      | 4.46                      | 4.43                      |
| 16.500       | 4.40                      | 4.37                      | 4.34                      | 4.32                      | 4.29                      |
| 16.750       | 4.27                      | 4.24                      | 4.22                      | 4.20                      | 4.17                      |
| 17.000       | 4.15                      | 4.12                      | 4.10                      | 4.08                      | 4.05                      |
| 17.250       | 4.03                      | 4.01                      | 3.98                      | 3.96                      | 3.93                      |
| 17.500       | 3.91                      | 3.89                      | 3.86                      | 3.84                      | 3.82                      |
| 17.750       | 3.79                      | 3.77                      | 3.74                      | 3.72                      | 3.70                      |
| 18.000       | 3.67                      | 3.65                      | 3.63                      | 3.60                      | 3.58                      |
| 18.250       | 3.55                      | 3.53                      | 3.51                      | 3.48                      | 3.46                      |
| 18.500       | 3.43                      | 3.41                      | 3.39                      | 3.36                      | 3.34                      |
| 18.750       | 3.31                      | 3.29                      | 3.27                      | 3.24                      | 3.22                      |
| 19.000       | 3.19                      | 3.17                      | 3.15                      | 3.12                      | 3.10                      |
| 19.250       | 3.07                      | 3.05                      | 3.02                      | 3.00                      | 2.98                      |
| 19.500       | 2.95                      | 2.93                      | 2.90                      | 2.88                      | 2.86                      |
| 19.750       | 2.83                      | 2.81                      | 2.78                      | 2.76                      | 2.73                      |
| 20.000       | 2.71                      | 2.69                      | 2.66                      | 2.64                      | 2.62                      |
| 20.250       | 2.60                      | 2.59                      | 2.58                      | 2.57                      | 2.56                      |
| 20.500       | 2.55                      | 2.54                      | 2.54                      | 2.53                      | 2.52                      |
| 20.750       | 2.52                      | 2.51                      | 2.51                      | 2.50                      | 2.50                      |
| 21.000       | 2.49                      | 2.49                      | 2.48                      | 2.48                      | 2.47                      |
| 21.250       | 2.47                      | 2.47                      | 2.46                      | 2.46                      | 2.45                      |
| 21.500       | 2.45                      | 2.44                      | 2.44                      | 2.43                      | 2.43                      |
| 21.750       | 2.42                      | 2.42                      | 2.41                      | 2.41                      | 2.40                      |
| 22.000       | 2.40                      | 2.39                      | 2.39                      | 2.39                      | 2.38                      |
| 22.250       | 2.38                      | 2.37                      | 2.37                      | 2.36                      | 2.36                      |
| 22.500       | 2.35                      | 2.35                      | 2.34                      | 2.34                      | 2.33                      |
| 22.750       | 2.33                      | 2.32                      | 2.32                      | 2.31                      | 2.31                      |
| 23.000       | 2.30                      | 2.30                      | 2.30                      | 2.29                      | 2.29                      |
| 23.250       | 2.28                      | 2.28                      | 2.27                      | 2.27                      | 2.26                      |
| 23.500       | 2.26                      | 2.25                      | 2.25                      | 2.24                      | 2.24                      |
| 23.750       | 2.23                      | 2.23                      | 2.22                      | 2.22                      | 2.21                      |
| 24.000       | 2.20                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea4

Return Event: 15 years  
 Storm Event: 15-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 15-year      |
| Return Event                      | 15 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.5 in       |
| Time of Concentration (Composite) | 0.373 hours  |
| Area (User Defined)               | 12.150 acres |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.050 hours              |
| Time to Peak (Computed)                 | 12.129 hours             |
| Flow (Peak, Computed)                   | 43.71 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated Output)         | 43.69 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 83.000       |
| Area (User Defined)                      | 12.150 acres |
| Maximum Retention (Pervious)             | 2.0 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.6 in      |
| Runoff Volume (Pervious)           | 3.675 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 3.658 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.373 hours              |
| Computational Time Increment          | 0.050 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 36.93 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea4

Return Event: 15 years  
Storm Event: 15-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.249 hours |
| Unit receding limb, $T_r$      | 0.994 hours |
| Total unit time, $T_b$         | 1.243 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.373 hours  |
| Area (User Defined)                  | 12.150 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 6.050           | 0.01                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 6.300           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.06                         |
| 6.550           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.09                         |
| 6.800           | 0.10                         | 0.10                         | 0.11                         | 0.12                         | 0.12                         |
| 7.050           | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.16                         |
| 7.300           | 0.16                         | 0.17                         | 0.18                         | 0.18                         | 0.19                         |
| 7.550           | 0.20                         | 0.20                         | 0.21                         | 0.22                         | 0.22                         |
| 7.800           | 0.23                         | 0.24                         | 0.25                         | 0.25                         | 0.26                         |
| 8.050           | 0.27                         | 0.28                         | 0.28                         | 0.29                         | 0.30                         |
| 8.300           | 0.31                         | 0.33                         | 0.34                         | 0.35                         | 0.37                         |
| 8.550           | 0.38                         | 0.40                         | 0.41                         | 0.43                         | 0.44                         |
| 8.800           | 0.46                         | 0.48                         | 0.49                         | 0.51                         | 0.53                         |
| 9.050           | 0.55                         | 0.57                         | 0.59                         | 0.60                         | 0.62                         |
| 9.300           | 0.64                         | 0.65                         | 0.66                         | 0.67                         | 0.69                         |
| 9.550           | 0.70                         | 0.71                         | 0.72                         | 0.74                         | 0.75                         |
| 9.800           | 0.78                         | 0.80                         | 0.82                         | 0.85                         | 0.88                         |
| 10.050          | 0.91                         | 0.94                         | 0.97                         | 1.01                         | 1.05                         |
| 10.300          | 1.09                         | 1.13                         | 1.18                         | 1.22                         | 1.27                         |
| 10.550          | 1.32                         | 1.37                         | 1.43                         | 1.49                         | 1.55                         |
| 10.800          | 1.62                         | 1.69                         | 1.77                         | 1.85                         | 1.94                         |
| 11.050          | 2.03                         | 2.13                         | 2.23                         | 2.35                         | 2.49                         |
| 11.300          | 2.64                         | 2.81                         | 3.00                         | 3.19                         | 3.42                         |
| 11.550          | 3.72                         | 4.22                         | 5.11                         | 6.56                         | 8.79                         |
| 11.800          | 11.98                        | 16.43                        | 22.29                        | 29.29                        | 36.28                        |
| 12.050          | 41.53                        | 43.69                        | 42.29                        | 38.02                        | 32.40                        |
| 12.300          | 26.77                        | 21.93                        | 18.15                        | 15.29                        | 13.07                        |
| 12.550          | 11.29                        | 9.84                         | 8.66                         | 7.71                         | 6.94                         |
| 12.800          | 6.32                         | 5.83                         | 5.43                         | 5.09                         | 4.80                         |
| 13.050          | 4.55                         | 4.33                         | 4.14                         | 3.97                         | 3.84                         |
| 13.300          | 3.71                         | 3.60                         | 3.50                         | 3.40                         | 3.31                         |
| 13.550          | 3.22                         | 3.13                         | 3.05                         | 2.97                         | 2.90                         |
| 13.800          | 2.83                         | 2.76                         | 2.70                         | 2.63                         | 2.57                         |
| 14.050          | 2.51                         | 2.45                         | 2.40                         | 2.35                         | 2.30                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.300       | 2.27                      | 2.23                      | 2.20                      | 2.17                      | 2.15                      |
| 14.550       | 2.12                      | 2.10                      | 2.08                      | 2.06                      | 2.04                      |
| 14.800       | 2.01                      | 1.99                      | 1.97                      | 1.95                      | 1.93                      |
| 15.050       | 1.91                      | 1.89                      | 1.87                      | 1.85                      | 1.83                      |
| 15.300       | 1.81                      | 1.79                      | 1.77                      | 1.75                      | 1.73                      |
| 15.550       | 1.71                      | 1.68                      | 1.66                      | 1.64                      | 1.62                      |
| 15.800       | 1.60                      | 1.58                      | 1.56                      | 1.54                      | 1.52                      |
| 16.050       | 1.50                      | 1.48                      | 1.46                      | 1.44                      | 1.43                      |
| 16.300       | 1.41                      | 1.40                      | 1.39                      | 1.38                      | 1.37                      |
| 16.550       | 1.36                      | 1.35                      | 1.34                      | 1.34                      | 1.33                      |
| 16.800       | 1.32                      | 1.31                      | 1.31                      | 1.30                      | 1.29                      |
| 17.050       | 1.28                      | 1.28                      | 1.27                      | 1.26                      | 1.25                      |
| 17.300       | 1.25                      | 1.24                      | 1.23                      | 1.23                      | 1.22                      |
| 17.550       | 1.21                      | 1.20                      | 1.20                      | 1.19                      | 1.18                      |
| 17.800       | 1.17                      | 1.17                      | 1.16                      | 1.15                      | 1.14                      |
| 18.050       | 1.14                      | 1.13                      | 1.12                      | 1.11                      | 1.11                      |
| 18.300       | 1.10                      | 1.09                      | 1.08                      | 1.08                      | 1.07                      |
| 18.550       | 1.06                      | 1.05                      | 1.05                      | 1.04                      | 1.03                      |
| 18.800       | 1.02                      | 1.02                      | 1.01                      | 1.00                      | 0.99                      |
| 19.050       | 0.99                      | 0.98                      | 0.97                      | 0.96                      | 0.96                      |
| 19.300       | 0.95                      | 0.94                      | 0.93                      | 0.93                      | 0.92                      |
| 19.550       | 0.91                      | 0.90                      | 0.90                      | 0.89                      | 0.88                      |
| 19.800       | 0.87                      | 0.87                      | 0.86                      | 0.85                      | 0.84                      |
| 20.050       | 0.84                      | 0.83                      | 0.82                      | 0.82                      | 0.81                      |
| 20.300       | 0.81                      | 0.80                      | 0.80                      | 0.80                      | 0.79                      |
| 20.550       | 0.79                      | 0.79                      | 0.79                      | 0.79                      | 0.79                      |
| 20.800       | 0.78                      | 0.78                      | 0.78                      | 0.78                      | 0.78                      |
| 21.050       | 0.78                      | 0.77                      | 0.77                      | 0.77                      | 0.77                      |
| 21.300       | 0.77                      | 0.77                      | 0.77                      | 0.76                      | 0.76                      |
| 21.550       | 0.76                      | 0.76                      | 0.76                      | 0.76                      | 0.76                      |
| 21.800       | 0.75                      | 0.75                      | 0.75                      | 0.75                      | 0.75                      |
| 22.050       | 0.75                      | 0.75                      | 0.74                      | 0.74                      | 0.74                      |
| 22.300       | 0.74                      | 0.74                      | 0.74                      | 0.74                      | 0.73                      |
| 22.550       | 0.73                      | 0.73                      | 0.73                      | 0.73                      | 0.73                      |
| 22.800       | 0.72                      | 0.72                      | 0.72                      | 0.72                      | 0.72                      |
| 23.050       | 0.72                      | 0.72                      | 0.71                      | 0.71                      | 0.71                      |
| 23.300       | 0.71                      | 0.71                      | 0.71                      | 0.71                      | 0.70                      |
| 23.550       | 0.70                      | 0.70                      | 0.70                      | 0.70                      | 0.70                      |
| 23.800       | 0.70                      | 0.69                      | 0.69                      | 0.69                      | 0.69                      |



## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 15 years  
 Storm Event: 15-year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | SubArea 2     |
| <Catchment to Outflow Node> | SubArea1      |
| <Catchment to Outflow Node> | SubArea3      |
| <Catchment to Outflow Node> | SubArea4      |

### Node Inflows

| Inflow Type | Element   | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|-----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | SubArea 2 | 7.943             | 12.150                  | 88.58                               |
| Flow (From) | SubArea1  | 1.520             | 12.000                  | 24.25                               |
| Flow (From) | SubArea3  | 11.727            | 12.100                  | 136.28                              |
| Flow (From) | SubArea4  | 3.658             | 12.100                  | 43.69                               |
| Flow (In)   | O-1       | 24.849            | 12.100                  | 284.59                              |

## **Appendix C**

### **25-Yr Existing Hydraulic Runoff Calculations**

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Catchments Summary

| Label     | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| SubArea 2 | Pre-Development 25 year | 25                   | 8.346                     | 12.150               | 92.95                          |
| SubArea1  | Pre-Development 25 year | 25                   | 1.600                     | 12.000               | 25.49                          |
| SubArea3  | Pre-Development 25 year | 25                   | 12.321                    | 12.100               | 143.05                         |
| SubArea4  | Pre-Development 25 year | 25                   | 3.844                     | 12.100               | 45.85                          |

## Node Summary

| Label | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| O-1   | Pre-Development 25 year | 25                   | 26.112                    | 12.100               | 298.75                         |

# O'Day Park Detention Calculations

Subsection: Time-Depth Curve  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

| Time-Depth Curve: 25-year |              |
|---------------------------|--------------|
| Label                     | 25-year      |
| Start Time                | 0.000 hours  |
| Increment                 | 0.100 hours  |
| End Time                  | 24.000 hours |
| Return Event              | 25 years     |

**CUMULATIVE RAINFALL (in)**  
**Output Time Increment = 0.100 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Depth (in) | Depth (in) | Depth (in) | Depth (in) | Depth (in) |
|--------------|------------|------------|------------|------------|------------|
| 0.000        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 0.500        | 0.0        | 0.0        | 0.0        | 0.0        | 0.1        |
| 1.000        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 1.500        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 2.000        | 0.1        | 0.1        | 0.1        | 0.1        | 0.2        |
| 2.500        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 3.000        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 3.500        | 0.2        | 0.2        | 0.2        | 0.3        | 0.3        |
| 4.000        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3        |
| 4.500        | 0.3        | 0.3        | 0.3        | 0.3        | 0.4        |
| 5.000        | 0.4        | 0.4        | 0.4        | 0.4        | 0.4        |
| 5.500        | 0.4        | 0.4        | 0.4        | 0.4        | 0.4        |
| 6.000        | 0.5        | 0.5        | 0.5        | 0.5        | 0.5        |
| 6.500        | 0.5        | 0.5        | 0.5        | 0.5        | 0.6        |
| 7.000        | 0.6        | 0.6        | 0.6        | 0.6        | 0.6        |
| 7.500        | 0.6        | 0.6        | 0.6        | 0.7        | 0.7        |
| 8.000        | 0.7        | 0.7        | 0.7        | 0.7        | 0.7        |
| 8.500        | 0.8        | 0.8        | 0.8        | 0.8        | 0.8        |
| 9.000        | 0.8        | 0.9        | 0.9        | 0.9        | 0.9        |
| 9.500        | 0.9        | 0.9        | 1.0        | 1.0        | 1.0        |
| 10.000       | 1.0        | 1.1        | 1.1        | 1.1        | 1.1        |
| 10.500       | 1.2        | 1.2        | 1.2        | 1.3        | 1.3        |
| 11.000       | 1.3        | 1.4        | 1.4        | 1.5        | 1.5        |
| 11.500       | 1.6        | 1.7        | 2.0        | 2.5        | 3.2        |
| 12.000       | 3.8        | 3.9        | 4.0        | 4.1        | 4.1        |
| 12.500       | 4.2        | 4.2        | 4.3        | 4.3        | 4.4        |
| 13.000       | 4.4        | 4.4        | 4.5        | 4.5        | 4.5        |
| 13.500       | 4.6        | 4.6        | 4.6        | 4.6        | 4.7        |
| 14.000       | 4.7        | 4.7        | 4.7        | 4.7        | 4.8        |
| 14.500       | 4.8        | 4.8        | 4.8        | 4.8        | 4.8        |
| 15.000       | 4.9        | 4.9        | 4.9        | 4.9        | 4.9        |
| 15.500       | 4.9        | 5.0        | 5.0        | 5.0        | 5.0        |
| 16.000       | 5.0        | 5.0        | 5.0        | 5.1        | 5.1        |
| 16.500       | 5.1        | 5.1        | 5.1        | 5.1        | 5.1        |
| 17.000       | 5.1        | 5.2        | 5.2        | 5.2        | 5.2        |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

**CUMULATIVE RAINFALL (in)**  
**Output Time Increment = 0.100 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Depth (in) | Depth (in) | Depth (in) | Depth (in) | Depth (in) |
|--------------|------------|------------|------------|------------|------------|
| 17.500       | 5.2        | 5.2        | 5.2        | 5.2        | 5.2        |
| 18.000       | 5.2        | 5.3        | 5.3        | 5.3        | 5.3        |
| 18.500       | 5.3        | 5.3        | 5.3        | 5.3        | 5.3        |
| 19.000       | 5.3        | 5.4        | 5.4        | 5.4        | 5.4        |
| 19.500       | 5.4        | 5.4        | 5.4        | 5.4        | 5.4        |
| 20.000       | 5.4        | 5.4        | 5.4        | 5.4        | 5.5        |
| 20.500       | 5.5        | 5.5        | 5.5        | 5.5        | 5.5        |
| 21.000       | 5.5        | 5.5        | 5.5        | 5.5        | 5.5        |
| 21.500       | 5.5        | 5.5        | 5.5        | 5.6        | 5.6        |
| 22.000       | 5.6        | 5.6        | 5.6        | 5.6        | 5.6        |
| 22.500       | 5.6        | 5.6        | 5.6        | 5.6        | 5.6        |
| 23.000       | 5.6        | 5.6        | 5.6        | 5.7        | 5.7        |
| 23.500       | 5.7        | 5.7        | 5.7        | 5.7        | 5.7        |
| 24.000       | 5.7        | (N/A)      | (N/A)      | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea1

Return Event: 25 years  
 Storm Event: 25-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 232.00 ft   |
| Manning's n                   | 0.080       |
| Slope                         | 0.211 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.89 ft/s   |
| Segment Time of Concentration | 0.072 hours |

---

#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 110.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.073 ft/ft |
| Average Velocity              | 4.35 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---

#### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,611.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.35 ft/s            |
| Segment Time of Concentration | 0.103 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.182 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

## Time of Concentration Results

| Segment #1: TR-55 Sheet Flow      |                      |
|-----------------------------------|----------------------|
| Hydraulic Length                  | 287.00 ft            |
| Manning's n                       | 0.150                |
| Slope                             | 0.063 ft/ft          |
| 2 Year 24 Hour Depth              | 3.5 in               |
| Average Velocity                  | 0.35 ft/s            |
| Segment Time of Concentration     | 0.230 hours          |
| Segment #2: TR-55 Channel Flow    |                      |
| Flow Area                         | 7.5 ft <sup>2</sup>  |
| Hydraulic Length                  | 1,044.00 ft          |
| Manning's n                       | 0.030                |
| Slope                             | 0.013 ft/ft          |
| Wetted Perimeter                  | 15.13 ft             |
| Average Velocity                  | 3.60 ft/s            |
| Segment Time of Concentration     | 0.081 hours          |
| Segment #3: TR-55 Channel Flow    |                      |
| Flow Area                         | 60.0 ft <sup>2</sup> |
| Hydraulic Length                  | 1,010.00 ft          |
| Manning's n                       | 0.100                |
| Slope                             | 0.049 ft/ft          |
| Wetted Perimeter                  | 60.13 ft             |
| Average Velocity                  | 3.28 ft/s            |
| Segment Time of Concentration     | 0.086 hours          |
| Segment #4: TR-55 Channel Flow    |                      |
| Flow Area                         | 36.0 ft <sup>2</sup> |
| Hydraulic Length                  | 745.00 ft            |
| Manning's n                       | 0.045                |
| Slope                             | 0.020 ft/ft          |
| Wetted Perimeter                  | 19.70 ft             |
| Average Velocity                  | 7.02 ft/s            |
| Segment Time of Concentration     | 0.029 hours          |
| Time of Concentration (Composite) |                      |
| Time of Concentration (Composite) | 0.425 hours          |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea3

Return Event: 25 years  
 Storm Event: 25-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 300.00 ft            |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.041 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.85 ft/s            |
| Segment Time of Concentration               | 0.098 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 418.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.041 ft/ft          |
| Average Velocity                            | 3.27 ft/s            |
| Segment Time of Concentration               | 0.036 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 32.0 ft <sup>2</sup> |
| Hydraulic Length                            | 1,783.00 ft          |
| Manning's n                                 | 0.080                |
| Slope                                       | 0.030 ft/ft          |
| Wetted Perimeter                            | 17.89 ft             |
| Average Velocity                            | 4.75 ft/s            |
| Segment Time of Concentration               | 0.104 hours          |
| Segment #4: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 2,454.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.157 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.394 hours          |



## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea4

Return Event: 25 years  
 Storm Event: 25-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 300.00 ft            |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.049 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.91 ft/s            |
| Segment Time of Concentration               | 0.091 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 970.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.049 ft/ft          |
| Average Velocity                            | 3.56 ft/s            |
| Segment Time of Concentration               | 0.076 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 3,226.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.206 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.373 hours          |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea1

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - fair - Soil D   | 79.000 | 4.850        | 0.0   | 0.0    | 79.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.480        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.330        | (N/A) | (N/A)  | 80.711      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 24.640       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.760        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.400       | (N/A) | (N/A)  | 83.067      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea3

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 36.730          | 0.0      | 0.0       | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.200           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 38.930          | (N/A)    | (N/A)     | 82.904      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea4

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 11.380       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 12.150       | (N/A) | (N/A)  | 83.014      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea1

Return Event: 25 years  
 Storm Event: 25-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 25-year      |
| Return Event                      | 25 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.7 in       |
| Time of Concentration (Composite) | 0.182 hours  |
| Area (User Defined)               | 5.330 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.024 hours              |
| Time to Peak (Computed)                 | 12.006 hours             |
| Flow (Peak, Computed)                   | 25.51 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated Output)         | 25.49 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 81.000      |
| Area (User Defined)                      | 5.330 acres |
| Maximum Retention (Pervious)             | 2.3 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.6 in      |
| Runoff Volume (Pervious)           | 1.604 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 1.600 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.182 hours              |
| Computational Time Increment          | 0.024 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 33.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea1

Return Event: 25 years  
Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.121 hours |
| Unit receding limb, Tr         | 0.485 hours |
| Total unit time, Tb            | 0.606 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.182 hours  |
| Area (User Defined)                  | 5.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.250           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.500           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 6.750           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 7.000           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 7.250           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 7.500           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 7.750           | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 8.000           | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 8.250           | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 8.500           | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.18                         |
| 8.750           | 0.18                         | 0.19                         | 0.20                         | 0.21                         | 0.22                         |
| 9.000           | 0.22                         | 0.23                         | 0.24                         | 0.25                         | 0.25                         |
| 9.250           | 0.26                         | 0.26                         | 0.27                         | 0.27                         | 0.28                         |
| 9.500           | 0.28                         | 0.29                         | 0.29                         | 0.30                         | 0.31                         |
| 9.750           | 0.32                         | 0.33                         | 0.35                         | 0.36                         | 0.37                         |
| 10.000          | 0.39                         | 0.40                         | 0.42                         | 0.43                         | 0.45                         |
| 10.250          | 0.47                         | 0.49                         | 0.51                         | 0.53                         | 0.55                         |
| 10.500          | 0.58                         | 0.60                         | 0.63                         | 0.65                         | 0.69                         |
| 10.750          | 0.72                         | 0.76                         | 0.79                         | 0.83                         | 0.87                         |
| 11.000          | 0.91                         | 0.96                         | 1.01                         | 1.07                         | 1.14                         |
| 11.250          | 1.23                         | 1.31                         | 1.41                         | 1.50                         | 1.60                         |
| 11.500          | 1.71                         | 1.95                         | 2.56                         | 3.57                         | 5.18                         |
| 11.750          | 7.29                         | 10.03                        | 13.70                        | 19.04                        | 23.89                        |
| 12.000          | 25.49                        | 23.62                        | 18.38                        | 12.55                        | 8.55                         |
| 12.250          | 6.45                         | 5.22                         | 4.46                         | 3.92                         | 3.50                         |
| 12.500          | 3.15                         | 2.84                         | 2.60                         | 2.41                         | 2.27                         |
| 12.750          | 2.17                         | 2.08                         | 2.01                         | 1.94                         | 1.87                         |
| 13.000          | 1.80                         | 1.74                         | 1.68                         | 1.62                         | 1.58                         |
| 13.250          | 1.54                         | 1.50                         | 1.46                         | 1.43                         | 1.39                         |
| 13.500          | 1.35                         | 1.32                         | 1.28                         | 1.25                         | 1.22                         |
| 13.750          | 1.20                         | 1.17                         | 1.14                         | 1.12                         | 1.09                         |
| 14.000          | 1.06                         | 1.04                         | 1.02                         | 1.00                         | 0.98                         |
| 14.250          | 0.97                         | 0.96                         | 0.95                         | 0.94                         | 0.93                         |
| 14.500          | 0.92                         | 0.92                         | 0.91                         | 0.90                         | 0.89                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.750       | 0.88                      | 0.87                      | 0.86                      | 0.85                      | 0.84                      |
| 15.000       | 0.83                      | 0.82                      | 0.82                      | 0.81                      | 0.80                      |
| 15.250       | 0.79                      | 0.78                      | 0.77                      | 0.76                      | 0.75                      |
| 15.500       | 0.74                      | 0.73                      | 0.72                      | 0.71                      | 0.71                      |
| 15.750       | 0.70                      | 0.69                      | 0.68                      | 0.67                      | 0.66                      |
| 16.000       | 0.65                      | 0.64                      | 0.63                      | 0.63                      | 0.62                      |
| 16.250       | 0.62                      | 0.61                      | 0.61                      | 0.61                      | 0.60                      |
| 16.500       | 0.60                      | 0.60                      | 0.59                      | 0.59                      | 0.59                      |
| 16.750       | 0.58                      | 0.58                      | 0.58                      | 0.57                      | 0.57                      |
| 17.000       | 0.57                      | 0.56                      | 0.56                      | 0.56                      | 0.55                      |
| 17.250       | 0.55                      | 0.55                      | 0.54                      | 0.54                      | 0.54                      |
| 17.500       | 0.53                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 17.750       | 0.52                      | 0.51                      | 0.51                      | 0.51                      | 0.50                      |
| 18.000       | 0.50                      | 0.50                      | 0.49                      | 0.49                      | 0.49                      |
| 18.250       | 0.48                      | 0.48                      | 0.48                      | 0.47                      | 0.47                      |
| 18.500       | 0.47                      | 0.46                      | 0.46                      | 0.46                      | 0.45                      |
| 18.750       | 0.45                      | 0.45                      | 0.44                      | 0.44                      | 0.44                      |
| 19.000       | 0.43                      | 0.43                      | 0.43                      | 0.42                      | 0.42                      |
| 19.250       | 0.42                      | 0.41                      | 0.41                      | 0.41                      | 0.40                      |
| 19.500       | 0.40                      | 0.40                      | 0.39                      | 0.39                      | 0.39                      |
| 19.750       | 0.38                      | 0.38                      | 0.38                      | 0.37                      | 0.37                      |
| 20.000       | 0.37                      | 0.36                      | 0.36                      | 0.36                      | 0.36                      |
| 20.250       | 0.36                      | 0.36                      | 0.35                      | 0.35                      | 0.35                      |
| 20.500       | 0.35                      | 0.35                      | 0.35                      | 0.35                      | 0.35                      |
| 20.750       | 0.35                      | 0.35                      | 0.35                      | 0.35                      | 0.35                      |
| 21.000       | 0.35                      | 0.35                      | 0.34                      | 0.34                      | 0.34                      |
| 21.250       | 0.34                      | 0.34                      | 0.34                      | 0.34                      | 0.34                      |
| 21.500       | 0.34                      | 0.34                      | 0.34                      | 0.34                      | 0.34                      |
| 21.750       | 0.34                      | 0.34                      | 0.33                      | 0.33                      | 0.33                      |
| 22.000       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 22.250       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 22.500       | 0.33                      | 0.33                      | 0.33                      | 0.32                      | 0.32                      |
| 22.750       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 23.000       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 23.250       | 0.32                      | 0.32                      | 0.32                      | 0.31                      | 0.31                      |
| 23.500       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 23.750       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 24.000       | 0.31                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.425 hours  |
| Area (User Defined)                  | 26.400 acres |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.057 hours              |
| Time to Peak (Computed)                    | 12.139 hours             |
| Flow (Peak, Computed)                      | 93.85 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.150 hours             |
| Flow (Peak Interpolated<br>Output)         | 92.95 ft <sup>3</sup> /s |

|   |              |
|---|--------------|
| <b>Drainage Area</b>                        |              |
| SCS CN (Composite)                          | 83.000       |
| Area (User Defined)                         | 26.400 acres |
| Maximum Retention<br>(Pervious)             | 2.0 in       |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in       |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 3.8 in      |
| Runoff Volume (Pervious)              | 8.391 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 8.346 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.425 hours              |
| Computational Time<br>Increment       | 0.057 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 70.31 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea 2

Return Event: 25 years

Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.284 hours |
| Unit receding limb, Tr         | 1.135 hours |
| Total unit time, Tb            | 1.418 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.425 hours  |
| Area (User Defined)                  | 26.400 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.650           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.900           | 0.02                         | 0.03                         | 0.04                         | 0.05                         | 0.06                         |
| 6.150           | 0.07                         | 0.09                         | 0.10                         | 0.11                         | 0.12                         |
| 6.400           | 0.14                         | 0.15                         | 0.17                         | 0.18                         | 0.19                         |
| 6.650           | 0.21                         | 0.22                         | 0.24                         | 0.25                         | 0.26                         |
| 6.900           | 0.28                         | 0.29                         | 0.31                         | 0.32                         | 0.34                         |
| 7.150           | 0.35                         | 0.37                         | 0.38                         | 0.40                         | 0.42                         |
| 7.400           | 0.43                         | 0.45                         | 0.46                         | 0.48                         | 0.50                         |
| 7.650           | 0.51                         | 0.53                         | 0.54                         | 0.56                         | 0.58                         |
| 7.900           | 0.59                         | 0.61                         | 0.63                         | 0.64                         | 0.66                         |
| 8.150           | 0.68                         | 0.70                         | 0.72                         | 0.75                         | 0.77                         |
| 8.400           | 0.80                         | 0.83                         | 0.86                         | 0.89                         | 0.93                         |
| 8.650           | 0.96                         | 1.00                         | 1.03                         | 1.07                         | 1.11                         |
| 8.900           | 1.15                         | 1.19                         | 1.23                         | 1.28                         | 1.32                         |
| 9.150           | 1.36                         | 1.40                         | 1.44                         | 1.48                         | 1.51                         |
| 9.400           | 1.54                         | 1.57                         | 1.60                         | 1.63                         | 1.65                         |
| 9.650           | 1.68                         | 1.71                         | 1.75                         | 1.80                         | 1.84                         |
| 9.900           | 1.90                         | 1.96                         | 2.02                         | 2.09                         | 2.16                         |
| 10.150          | 2.23                         | 2.31                         | 2.39                         | 2.48                         | 2.57                         |
| 10.400          | 2.67                         | 2.78                         | 2.88                         | 3.00                         | 3.11                         |
| 10.650          | 3.24                         | 3.37                         | 3.51                         | 3.66                         | 3.82                         |
| 10.900          | 3.99                         | 4.17                         | 4.36                         | 4.56                         | 4.77                         |
| 11.150          | 5.00                         | 5.26                         | 5.55                         | 5.88                         | 6.24                         |
| 11.400          | 6.63                         | 7.06                         | 7.54                         | 8.19                         | 9.19                         |
| 11.650          | 10.84                        | 13.51                        | 17.57                        | 23.28                        | 31.79                        |
| 11.900          | 43.12                        | 56.95                        | 71.47                        | 83.84                        | 91.47                        |
| 12.150          | 92.95                        | 88.37                        | 79.04                        | 67.98                        | 57.37                        |
| 12.400          | 48.16                        | 40.68                        | 34.77                        | 30.01                        | 26.10                        |
| 12.650          | 22.85                        | 20.24                        | 18.09                        | 16.33                        | 14.89                        |
| 12.900          | 13.70                        | 12.72                        | 11.90                        | 11.20                        | 10.58                        |
| 13.150          | 10.04                        | 9.55                         | 9.13                         | 8.76                         | 8.45                         |
| 13.400          | 8.17                         | 7.93                         | 7.71                         | 7.49                         | 7.29                         |
| 13.650          | 7.10                         | 6.91                         | 6.73                         | 6.56                         | 6.40                         |
| 13.900          | 6.25                         | 6.10                         | 5.96                         | 5.82                         | 5.68                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.150       | 5.55                      | 5.43                      | 5.32                      | 5.22                      | 5.13                      |
| 14.400       | 5.06                      | 4.99                      | 4.93                      | 4.87                      | 4.81                      |
| 14.650       | 4.76                      | 4.71                      | 4.66                      | 4.61                      | 4.56                      |
| 14.900       | 4.51                      | 4.46                      | 4.42                      | 4.37                      | 4.32                      |
| 15.150       | 4.28                      | 4.23                      | 4.18                      | 4.14                      | 4.09                      |
| 15.400       | 4.04                      | 4.00                      | 3.95                      | 3.90                      | 3.85                      |
| 15.650       | 3.81                      | 3.76                      | 3.71                      | 3.67                      | 3.62                      |
| 15.900       | 3.57                      | 3.53                      | 3.48                      | 3.43                      | 3.39                      |
| 16.150       | 3.34                      | 3.30                      | 3.26                      | 3.23                      | 3.20                      |
| 16.400       | 3.17                      | 3.15                      | 3.12                      | 3.10                      | 3.08                      |
| 16.650       | 3.06                      | 3.04                      | 3.03                      | 3.01                      | 2.99                      |
| 16.900       | 2.97                      | 2.96                      | 2.94                      | 2.92                      | 2.91                      |
| 17.150       | 2.89                      | 2.87                      | 2.86                      | 2.84                      | 2.82                      |
| 17.400       | 2.81                      | 2.79                      | 2.77                      | 2.76                      | 2.74                      |
| 17.650       | 2.72                      | 2.70                      | 2.69                      | 2.67                      | 2.65                      |
| 17.900       | 2.64                      | 2.62                      | 2.60                      | 2.59                      | 2.57                      |
| 18.150       | 2.55                      | 2.54                      | 2.52                      | 2.50                      | 2.49                      |
| 18.400       | 2.47                      | 2.45                      | 2.43                      | 2.42                      | 2.40                      |
| 18.650       | 2.38                      | 2.37                      | 2.35                      | 2.33                      | 2.32                      |
| 18.900       | 2.30                      | 2.28                      | 2.26                      | 2.25                      | 2.23                      |
| 19.150       | 2.21                      | 2.20                      | 2.18                      | 2.16                      | 2.15                      |
| 19.400       | 2.13                      | 2.11                      | 2.09                      | 2.08                      | 2.06                      |
| 19.650       | 2.04                      | 2.03                      | 2.01                      | 1.99                      | 1.97                      |
| 19.900       | 1.96                      | 1.94                      | 1.92                      | 1.91                      | 1.89                      |
| 20.150       | 1.87                      | 1.86                      | 1.85                      | 1.83                      | 1.82                      |
| 20.400       | 1.82                      | 1.81                      | 1.80                      | 1.80                      | 1.79                      |
| 20.650       | 1.79                      | 1.79                      | 1.78                      | 1.78                      | 1.77                      |
| 20.900       | 1.77                      | 1.77                      | 1.76                      | 1.76                      | 1.76                      |
| 21.150       | 1.75                      | 1.75                      | 1.75                      | 1.74                      | 1.74                      |
| 21.400       | 1.74                      | 1.73                      | 1.73                      | 1.73                      | 1.72                      |
| 21.650       | 1.72                      | 1.72                      | 1.71                      | 1.71                      | 1.71                      |
| 21.900       | 1.70                      | 1.70                      | 1.70                      | 1.69                      | 1.69                      |
| 22.150       | 1.69                      | 1.68                      | 1.68                      | 1.68                      | 1.67                      |
| 22.400       | 1.67                      | 1.67                      | 1.66                      | 1.66                      | 1.66                      |
| 22.650       | 1.65                      | 1.65                      | 1.65                      | 1.64                      | 1.64                      |
| 22.900       | 1.64                      | 1.63                      | 1.63                      | 1.63                      | 1.62                      |
| 23.150       | 1.62                      | 1.62                      | 1.61                      | 1.61                      | 1.61                      |
| 23.400       | 1.60                      | 1.60                      | 1.60                      | 1.59                      | 1.59                      |
| 23.650       | 1.59                      | 1.58                      | 1.58                      | 1.58                      | 1.57                      |
| 23.900       | 1.57                      | 1.57                      | 1.56                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea3

Return Event: 25 years  
 Storm Event: 25-year

|  |                           |
|--|---------------------------|
| Storm Event  | 25-year                   |
| Return Event   | 25 years                  |
| Duration   | 24.000 hours              |
| Depth  | 5.7 in                    |
| Time of Concentration<br>(Composite)                   | 0.394 hours               |
| Area (User Defined)                                    | 38.930 acres              |
| <hr/>  |                           |
| Computational Time<br>Increment                        | 0.053 hours               |
| Time to Peak (Computed)                                | 12.093 hours              |
| Flow (Peak, Computed)                                  | 143.17 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours               |
| Time to Flow (Peak<br>Interpolated Output)             | 12.100 hours              |
| Flow (Peak Interpolated<br>Output)                     | 143.05 ft <sup>3</sup> /s |
| <hr/>  |                           |
| <b>Drainage Area</b>                                   |                           |
| SCS CN (Composite)                                     | 83.000                    |
| Area (User Defined)                                    | 38.930 acres              |
| Maximum Retention<br>(Pervious)                        | 2.0 in                    |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                    |
| <hr/>  |                           |
| <b>Cumulative Runoff</b>                               |                           |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.8 in                    |
| Runoff Volume (Pervious)                               | 12.373 ac-ft              |
| <hr/>  |                           |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                           |
| Volume   | 12.321 ac-ft              |
| <hr/>  |                           |
| <b>SCS Unit Hydrograph Parameters</b>                  |                           |
| Time of Concentration<br>(Composite)                   | 0.394 hours               |
| Computational Time<br>Increment                        | 0.053 hours               |
| Unit Hydrograph Shape<br>Factor                        | 483.432                   |
| K Factor   | 0.749                     |
| Receding/Rising, Tr/Tp                                 | 1.670                     |
| Unit peak, qp  | 111.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea3

Return Event: 25 years  
Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.263 hours |
| Unit receding limb, Tr         | 1.052 hours |
| Total unit time, Tb            | 1.314 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.394 hours  |
| Area (User Defined)                  | 38.930 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.600           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.02                         |
| 5.850           | 0.02                         | 0.04                         | 0.05                         | 0.07                         | 0.08                         |
| 6.100           | 0.10                         | 0.12                         | 0.14                         | 0.15                         | 0.17                         |
| 6.350           | 0.19                         | 0.21                         | 0.23                         | 0.25                         | 0.27                         |
| 6.600           | 0.29                         | 0.32                         | 0.34                         | 0.36                         | 0.38                         |
| 6.850           | 0.40                         | 0.42                         | 0.44                         | 0.47                         | 0.49                         |
| 7.100           | 0.51                         | 0.53                         | 0.56                         | 0.58                         | 0.60                         |
| 7.350           | 0.62                         | 0.65                         | 0.67                         | 0.69                         | 0.72                         |
| 7.600           | 0.74                         | 0.77                         | 0.79                         | 0.81                         | 0.84                         |
| 7.850           | 0.86                         | 0.89                         | 0.91                         | 0.94                         | 0.96                         |
| 8.100           | 0.99                         | 1.02                         | 1.05                         | 1.08                         | 1.11                         |
| 8.350           | 1.15                         | 1.20                         | 1.24                         | 1.29                         | 1.34                         |
| 8.600           | 1.39                         | 1.44                         | 1.50                         | 1.55                         | 1.61                         |
| 8.850           | 1.67                         | 1.73                         | 1.79                         | 1.85                         | 1.91                         |
| 9.100           | 1.98                         | 2.04                         | 2.10                         | 2.15                         | 2.21                         |
| 9.350           | 2.25                         | 2.30                         | 2.34                         | 2.38                         | 2.42                         |
| 9.600           | 2.46                         | 2.50                         | 2.55                         | 2.61                         | 2.68                         |
| 9.850           | 2.75                         | 2.84                         | 2.93                         | 3.02                         | 3.12                         |
| 10.100          | 3.23                         | 3.34                         | 3.45                         | 3.58                         | 3.72                         |
| 10.350          | 3.86                         | 4.01                         | 4.17                         | 4.33                         | 4.50                         |
| 10.600          | 4.67                         | 4.86                         | 5.06                         | 5.27                         | 5.50                         |
| 10.850          | 5.75                         | 6.00                         | 6.28                         | 6.56                         | 6.86                         |
| 11.100          | 7.18                         | 7.53                         | 7.92                         | 8.36                         | 8.87                         |
| 11.350          | 9.43                         | 10.04                        | 10.69                        | 11.43                        | 12.43                        |
| 11.600          | 14.02                        | 16.78                        | 21.31                        | 28.22                        | 38.21                        |
| 11.850          | 52.13                        | 70.47                        | 92.51                        | 115.33                       | 133.63                       |
| 12.100          | 143.05                       | 141.31                       | 129.69                       | 112.38                       | 94.23                        |
| 12.350          | 77.88                        | 64.77                        | 54.65                        | 46.76                        | 40.36                        |
| 12.600          | 35.14                        | 30.87                        | 27.38                        | 24.55                        | 22.26                        |
| 12.850          | 20.42                        | 18.92                        | 17.68                        | 16.63                        | 15.71                        |
| 13.100          | 14.89                        | 14.17                        | 13.55                        | 13.02                        | 12.59                        |
| 13.350          | 12.20                        | 11.84                        | 11.50                        | 11.18                        | 10.88                        |
| 13.600          | 10.59                        | 10.31                        | 10.04                        | 9.78                         | 9.54                         |
| 13.850          | 9.31                         | 9.09                         | 8.88                         | 8.67                         | 8.47                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.100       | 8.27                      | 8.09                      | 7.91                      | 7.76                      | 7.62                      |
| 14.350       | 7.50                      | 7.40                      | 7.30                      | 7.21                      | 7.13                      |
| 14.600       | 7.05                      | 6.97                      | 6.90                      | 6.83                      | 6.75                      |
| 14.850       | 6.68                      | 6.61                      | 6.55                      | 6.48                      | 6.41                      |
| 15.100       | 6.34                      | 6.27                      | 6.20                      | 6.13                      | 6.06                      |
| 15.350       | 6.00                      | 5.93                      | 5.86                      | 5.79                      | 5.72                      |
| 15.600       | 5.65                      | 5.58                      | 5.51                      | 5.44                      | 5.37                      |
| 15.850       | 5.30                      | 5.23                      | 5.16                      | 5.10                      | 5.03                      |
| 16.100       | 4.96                      | 4.89                      | 4.83                      | 4.78                      | 4.73                      |
| 16.350       | 4.69                      | 4.65                      | 4.62                      | 4.59                      | 4.56                      |
| 16.600       | 4.53                      | 4.50                      | 4.47                      | 4.45                      | 4.42                      |
| 16.850       | 4.40                      | 4.37                      | 4.35                      | 4.32                      | 4.30                      |
| 17.100       | 4.27                      | 4.25                      | 4.22                      | 4.20                      | 4.17                      |
| 17.350       | 4.15                      | 4.13                      | 4.10                      | 4.08                      | 4.05                      |
| 17.600       | 4.03                      | 4.00                      | 3.98                      | 3.95                      | 3.93                      |
| 17.850       | 3.90                      | 3.88                      | 3.85                      | 3.83                      | 3.80                      |
| 18.100       | 3.78                      | 3.75                      | 3.73                      | 3.70                      | 3.68                      |
| 18.350       | 3.65                      | 3.63                      | 3.60                      | 3.58                      | 3.55                      |
| 18.600       | 3.53                      | 3.50                      | 3.48                      | 3.45                      | 3.43                      |
| 18.850       | 3.40                      | 3.38                      | 3.35                      | 3.33                      | 3.30                      |
| 19.100       | 3.28                      | 3.25                      | 3.23                      | 3.20                      | 3.18                      |
| 19.350       | 3.15                      | 3.13                      | 3.10                      | 3.08                      | 3.05                      |
| 19.600       | 3.03                      | 3.00                      | 2.97                      | 2.95                      | 2.92                      |
| 19.850       | 2.90                      | 2.87                      | 2.85                      | 2.82                      | 2.80                      |
| 20.100       | 2.77                      | 2.75                      | 2.73                      | 2.71                      | 2.70                      |
| 20.350       | 2.68                      | 2.67                      | 2.66                      | 2.65                      | 2.65                      |
| 20.600       | 2.64                      | 2.63                      | 2.63                      | 2.62                      | 2.62                      |
| 20.850       | 2.61                      | 2.61                      | 2.60                      | 2.60                      | 2.59                      |
| 21.100       | 2.59                      | 2.58                      | 2.58                      | 2.57                      | 2.57                      |
| 21.350       | 2.56                      | 2.56                      | 2.55                      | 2.55                      | 2.54                      |
| 21.600       | 2.54                      | 2.53                      | 2.53                      | 2.52                      | 2.52                      |
| 21.850       | 2.51                      | 2.51                      | 2.50                      | 2.50                      | 2.49                      |
| 22.100       | 2.49                      | 2.48                      | 2.48                      | 2.47                      | 2.47                      |
| 22.350       | 2.46                      | 2.46                      | 2.45                      | 2.45                      | 2.44                      |
| 22.600       | 2.44                      | 2.43                      | 2.43                      | 2.42                      | 2.42                      |
| 22.850       | 2.42                      | 2.41                      | 2.41                      | 2.40                      | 2.40                      |
| 23.100       | 2.39                      | 2.39                      | 2.38                      | 2.38                      | 2.37                      |
| 23.350       | 2.37                      | 2.36                      | 2.36                      | 2.35                      | 2.35                      |
| 23.600       | 2.34                      | 2.34                      | 2.33                      | 2.33                      | 2.32                      |
| 23.850       | 2.32                      | 2.31                      | 2.31                      | 2.29                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea4

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.373 hours  |
| Area (User Defined)                  | 12.150 acres |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.050 hours              |
| Time to Peak (Computed)                    | 12.129 hours             |
| Flow (Peak, Computed)                      | 45.85 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)         | 45.85 ft <sup>3</sup> /s |

|   |              |
|---|--------------|
| <b>Drainage Area</b>                        |              |
| SCS CN (Composite)                          | 83.000       |
| Area (User Defined)                         | 12.150 acres |
| Maximum Retention<br>(Pervious)             | 2.0 in       |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in       |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 3.8 in      |
| Runoff Volume (Pervious)              | 3.862 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 3.844 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.373 hours              |
| Computational Time<br>Increment       | 0.050 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 36.93 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea4

Return Event: 25 years

Storm Event: 25-year

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## SCS Unit Hydrograph Parameters

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|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.249 hours |
| Unit receding limb, $T_r$ | 0.994 hours |
| Total unit time, $T_b$    | 1.243 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.373 hours  |
| Area (User Defined)                  | 12.150 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.650           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.900           | 0.01                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 6.150           | 0.04                         | 0.04                         | 0.05                         | 0.06                         | 0.06                         |
| 6.400           | 0.07                         | 0.07                         | 0.08                         | 0.09                         | 0.09                         |
| 6.650           | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.13                         |
| 6.900           | 0.13                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 7.150           | 0.17                         | 0.18                         | 0.18                         | 0.19                         | 0.20                         |
| 7.400           | 0.20                         | 0.21                         | 0.22                         | 0.23                         | 0.23                         |
| 7.650           | 0.24                         | 0.25                         | 0.26                         | 0.26                         | 0.27                         |
| 7.900           | 0.28                         | 0.29                         | 0.30                         | 0.30                         | 0.31                         |
| 8.150           | 0.32                         | 0.33                         | 0.34                         | 0.35                         | 0.36                         |
| 8.400           | 0.38                         | 0.39                         | 0.41                         | 0.42                         | 0.44                         |
| 8.650           | 0.45                         | 0.47                         | 0.49                         | 0.51                         | 0.53                         |
| 8.900           | 0.54                         | 0.56                         | 0.58                         | 0.60                         | 0.62                         |
| 9.150           | 0.64                         | 0.66                         | 0.68                         | 0.69                         | 0.71                         |
| 9.400           | 0.72                         | 0.74                         | 0.75                         | 0.76                         | 0.77                         |
| 9.650           | 0.79                         | 0.80                         | 0.82                         | 0.84                         | 0.87                         |
| 9.900           | 0.89                         | 0.92                         | 0.95                         | 0.98                         | 1.02                         |
| 10.150          | 1.05                         | 1.09                         | 1.13                         | 1.17                         | 1.22                         |
| 10.400          | 1.27                         | 1.32                         | 1.37                         | 1.42                         | 1.48                         |
| 10.650          | 1.53                         | 1.60                         | 1.67                         | 1.74                         | 1.82                         |
| 10.900          | 1.90                         | 1.99                         | 2.08                         | 2.17                         | 2.27                         |
| 11.150          | 2.39                         | 2.51                         | 2.66                         | 2.82                         | 3.00                         |
| 11.400          | 3.19                         | 3.40                         | 3.64                         | 3.96                         | 4.49                         |
| 11.650          | 5.42                         | 6.96                         | 9.31                         | 12.68                        | 17.35                        |
| 11.900          | 23.51                        | 30.84                        | 38.15                        | 43.63                        | 45.85                        |
| 12.150          | 44.35                        | 39.86                        | 33.94                        | 28.04                        | 22.97                        |
| 12.400          | 19.00                        | 16.00                        | 13.67                        | 11.80                        | 10.29                        |
| 12.650          | 9.06                         | 8.06                         | 7.25                         | 6.60                         | 6.09                         |
| 12.900          | 5.67                         | 5.31                         | 5.01                         | 4.75                         | 4.51                         |
| 13.150          | 4.32                         | 4.15                         | 4.00                         | 3.87                         | 3.76                         |
| 13.400          | 3.65                         | 3.55                         | 3.45                         | 3.36                         | 3.27                         |
| 13.650          | 3.19                         | 3.10                         | 3.03                         | 2.95                         | 2.88                         |
| 13.900          | 2.81                         | 2.75                         | 2.68                         | 2.62                         | 2.56                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.150       | 2.50                      | 2.45                      | 2.40                      | 2.36                      | 2.33                      |
| 14.400       | 2.29                      | 2.27                      | 2.24                      | 2.21                      | 2.19                      |
| 14.650       | 2.17                      | 2.14                      | 2.12                      | 2.10                      | 2.08                      |
| 14.900       | 2.06                      | 2.04                      | 2.01                      | 1.99                      | 1.97                      |
| 15.150       | 1.95                      | 1.93                      | 1.91                      | 1.89                      | 1.86                      |
| 15.400       | 1.84                      | 1.82                      | 1.80                      | 1.78                      | 1.76                      |
| 15.650       | 1.73                      | 1.71                      | 1.69                      | 1.67                      | 1.65                      |
| 15.900       | 1.63                      | 1.60                      | 1.58                      | 1.56                      | 1.54                      |
| 16.150       | 1.52                      | 1.50                      | 1.49                      | 1.47                      | 1.46                      |
| 16.400       | 1.45                      | 1.44                      | 1.43                      | 1.42                      | 1.41                      |
| 16.650       | 1.40                      | 1.39                      | 1.39                      | 1.38                      | 1.37                      |
| 16.900       | 1.36                      | 1.35                      | 1.35                      | 1.34                      | 1.33                      |
| 17.150       | 1.32                      | 1.32                      | 1.31                      | 1.30                      | 1.29                      |
| 17.400       | 1.28                      | 1.28                      | 1.27                      | 1.26                      | 1.25                      |
| 17.650       | 1.25                      | 1.24                      | 1.23                      | 1.22                      | 1.22                      |
| 17.900       | 1.21                      | 1.20                      | 1.19                      | 1.18                      | 1.18                      |
| 18.150       | 1.17                      | 1.16                      | 1.15                      | 1.15                      | 1.14                      |
| 18.400       | 1.13                      | 1.12                      | 1.11                      | 1.11                      | 1.10                      |
| 18.650       | 1.09                      | 1.08                      | 1.07                      | 1.07                      | 1.06                      |
| 18.900       | 1.05                      | 1.04                      | 1.04                      | 1.03                      | 1.02                      |
| 19.150       | 1.01                      | 1.00                      | 1.00                      | 0.99                      | 0.98                      |
| 19.400       | 0.97                      | 0.97                      | 0.96                      | 0.95                      | 0.94                      |
| 19.650       | 0.93                      | 0.93                      | 0.92                      | 0.91                      | 0.90                      |
| 19.900       | 0.89                      | 0.89                      | 0.88                      | 0.87                      | 0.86                      |
| 20.150       | 0.86                      | 0.85                      | 0.84                      | 0.84                      | 0.84                      |
| 20.400       | 0.83                      | 0.83                      | 0.83                      | 0.83                      | 0.82                      |
| 20.650       | 0.82                      | 0.82                      | 0.82                      | 0.82                      | 0.81                      |
| 20.900       | 0.81                      | 0.81                      | 0.81                      | 0.81                      | 0.81                      |
| 21.150       | 0.81                      | 0.80                      | 0.80                      | 0.80                      | 0.80                      |
| 21.400       | 0.80                      | 0.80                      | 0.79                      | 0.79                      | 0.79                      |
| 21.650       | 0.79                      | 0.79                      | 0.79                      | 0.79                      | 0.78                      |
| 21.900       | 0.78                      | 0.78                      | 0.78                      | 0.78                      | 0.78                      |
| 22.150       | 0.77                      | 0.77                      | 0.77                      | 0.77                      | 0.77                      |
| 22.400       | 0.77                      | 0.77                      | 0.76                      | 0.76                      | 0.76                      |
| 22.650       | 0.76                      | 0.76                      | 0.76                      | 0.75                      | 0.75                      |
| 22.900       | 0.75                      | 0.75                      | 0.75                      | 0.75                      | 0.75                      |
| 23.150       | 0.74                      | 0.74                      | 0.74                      | 0.74                      | 0.74                      |
| 23.400       | 0.74                      | 0.73                      | 0.73                      | 0.73                      | 0.73                      |
| 23.650       | 0.73                      | 0.73                      | 0.73                      | 0.72                      | 0.72                      |
| 23.900       | 0.72                      | 0.72                      | 0.72                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 25 years  
 Storm Event: 25-year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | SubArea 2     |
| <Catchment to Outflow Node> | SubArea1      |
| <Catchment to Outflow Node> | SubArea3      |
| <Catchment to Outflow Node> | SubArea4      |

### Node Inflows

| Inflow Type | Element   | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|-----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | SubArea 2 | 8.346             | 12.150                  | 92.95                               |
| Flow (From) | SubArea1  | 1.600             | 12.000                  | 25.49                               |
| Flow (From) | SubArea3  | 12.321            | 12.100                  | 143.05                              |
| Flow (From) | SubArea4  | 3.844             | 12.100                  | 45.85                               |
| Flow (In)   | O-1       | 26.112            | 12.100                  | 298.75                              |

## **Appendix D**

### **100-Yr Existing Hydraulic Runoff Calculations**

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Catchments Summary

| Label     | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| SubArea 2 | Pre-Development 100 year | 100                  | 11.420                    | 12.150               | 125.85                         |
| SubArea1  | Pre-Development 100 year | 100                  | 2.212                     | 12.000               | 34.80                          |
| SubArea3  | Pre-Development 100 year | 100                  | 16.858                    | 12.100               | 194.08                         |
| SubArea4  | Pre-Development 100 year | 100                  | 5.259                     | 12.100               | 62.13                          |

## Node Summary

| Label | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| O-1   | Pre-Development 100 year | 100                  | 35.749                    | 12.100               | 405.36                         |



## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Return Event: 100 years

Label: Time-Depth - 1

Storm Event: 100-year

| Time-Depth Curve: 100-year |              |
|----------------------------|--------------|
| Label                      | 100-year     |
| Start Time                 | 0.000 hours  |
| Increment                  | 0.100 hours  |
| End Time                   | 24.000 hours |
| Return Event               | 100 years    |

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 0.000           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           |
| 0.500           | 0.0           | 0.0           | 0.1           | 0.1           | 0.1           |
| 1.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 1.500           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.000           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 2.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.000           | 0.2           | 0.3           | 0.3           | 0.3           | 0.3           |
| 3.500           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 4.000           | 0.3           | 0.4           | 0.4           | 0.4           | 0.4           |
| 4.500           | 0.4           | 0.4           | 0.4           | 0.4           | 0.4           |
| 5.000           | 0.5           | 0.5           | 0.5           | 0.5           | 0.5           |
| 5.500           | 0.5           | 0.5           | 0.5           | 0.6           | 0.6           |
| 6.000           | 0.6           | 0.6           | 0.6           | 0.6           | 0.6           |
| 6.500           | 0.6           | 0.7           | 0.7           | 0.7           | 0.7           |
| 7.000           | 0.7           | 0.7           | 0.7           | 0.8           | 0.8           |
| 7.500           | 0.8           | 0.8           | 0.8           | 0.8           | 0.8           |
| 8.000           | 0.9           | 0.9           | 0.9           | 0.9           | 0.9           |
| 8.500           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           |
| 9.000           | 1.1           | 1.1           | 1.1           | 1.1           | 1.2           |
| 9.500           | 1.2           | 1.2           | 1.2           | 1.2           | 1.3           |
| 10.000          | 1.3           | 1.3           | 1.4           | 1.4           | 1.4           |
| 10.500          | 1.5           | 1.5           | 1.5           | 1.6           | 1.6           |
| 11.000          | 1.7           | 1.7           | 1.8           | 1.9           | 2.0           |
| 11.500          | 2.0           | 2.2           | 2.6           | 3.1           | 4.1           |
| 12.000          | 4.8           | 4.9           | 5.0           | 5.1           | 5.2           |
| 12.500          | 5.3           | 5.4           | 5.4           | 5.5           | 5.5           |
| 13.000          | 5.6           | 5.6           | 5.6           | 5.7           | 5.7           |
| 13.500          | 5.8           | 5.8           | 5.8           | 5.8           | 5.9           |
| 14.000          | 5.9           | 5.9           | 6.0           | 6.0           | 6.0           |
| 14.500          | 6.0           | 6.1           | 6.1           | 6.1           | 6.1           |
| 15.000          | 6.1           | 6.2           | 6.2           | 6.2           | 6.2           |
| 15.500          | 6.2           | 6.3           | 6.3           | 6.3           | 6.3           |
| 16.000          | 6.3           | 6.4           | 6.4           | 6.4           | 6.4           |
| 16.500          | 6.4           | 6.4           | 6.4           | 6.5           | 6.5           |
| 17.000          | 6.5           | 6.5           | 6.5           | 6.5           | 6.6           |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Return Event: 100 years

Label: Time-Depth - 1

Storm Event: 100-year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 6.6           | 6.6           | 6.6           | 6.6           | 6.6           |
| 18.000          | 6.6           | 6.6           | 6.7           | 6.7           | 6.7           |
| 18.500          | 6.7           | 6.7           | 6.7           | 6.7           | 6.7           |
| 19.000          | 6.8           | 6.8           | 6.8           | 6.8           | 6.8           |
| 19.500          | 6.8           | 6.8           | 6.8           | 6.8           | 6.8           |
| 20.000          | 6.9           | 6.9           | 6.9           | 6.9           | 6.9           |
| 20.500          | 6.9           | 6.9           | 6.9           | 6.9           | 6.9           |
| 21.000          | 6.9           | 7.0           | 7.0           | 7.0           | 7.0           |
| 21.500          | 7.0           | 7.0           | 7.0           | 7.0           | 7.0           |
| 22.000          | 7.0           | 7.0           | 7.1           | 7.1           | 7.1           |
| 22.500          | 7.1           | 7.1           | 7.1           | 7.1           | 7.1           |
| 23.000          | 7.1           | 7.1           | 7.1           | 7.1           | 7.2           |
| 23.500          | 7.2           | 7.2           | 7.2           | 7.2           | 7.2           |
| 24.000          | 7.2           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: SubArea1

Return Event: 100 years  
Storm Event: 100-year

## Time of Concentration Results

### Segment #1: TR-55 Sheet Flow

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 232.00 ft   |
| Manning's n                   | 0.080       |
| Slope                         | 0.211 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.89 ft/s   |
| Segment Time of Concentration | 0.072 hours |

### Segment #2: TR-55 Shallow Concentrated Flow

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 110.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.073 ft/ft |
| Average Velocity              | 4.35 ft/s   |
| Segment Time of Concentration | 0.007 hours |

### Segment #3: TR-55 Channel Flow

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,611.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.35 ft/s            |
| Segment Time of Concentration | 0.103 hours          |

### Time of Concentration (Composite)

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.182 hours |
|-----------------------------------|-------------|

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea 2

Return Event: 100 years  
 Storm Event: 100-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow      |                      |
|-----------------------------------|----------------------|
| Hydraulic Length                  | 287.00 ft            |
| Manning's n                       | 0.150                |
| Slope                             | 0.063 ft/ft          |
| 2 Year 24 Hour Depth              | 3.5 in               |
| Average Velocity                  | 0.35 ft/s            |
| Segment Time of Concentration     | 0.230 hours          |
| Segment #2: TR-55 Channel Flow    |                      |
| Flow Area                         | 7.5 ft <sup>2</sup>  |
| Hydraulic Length                  | 1,044.00 ft          |
| Manning's n                       | 0.030                |
| Slope                             | 0.013 ft/ft          |
| Wetted Perimeter                  | 15.13 ft             |
| Average Velocity                  | 3.60 ft/s            |
| Segment Time of Concentration     | 0.081 hours          |
| Segment #3: TR-55 Channel Flow    |                      |
| Flow Area                         | 60.0 ft <sup>2</sup> |
| Hydraulic Length                  | 1,010.00 ft          |
| Manning's n                       | 0.100                |
| Slope                             | 0.049 ft/ft          |
| Wetted Perimeter                  | 60.13 ft             |
| Average Velocity                  | 3.28 ft/s            |
| Segment Time of Concentration     | 0.086 hours          |
| Segment #4: TR-55 Channel Flow    |                      |
| Flow Area                         | 36.0 ft <sup>2</sup> |
| Hydraulic Length                  | 745.00 ft            |
| Manning's n                       | 0.045                |
| Slope                             | 0.020 ft/ft          |
| Wetted Perimeter                  | 19.70 ft             |
| Average Velocity                  | 7.02 ft/s            |
| Segment Time of Concentration     | 0.029 hours          |
| Time of Concentration (Composite) |                      |
| Time of Concentration (Composite) | 0.425 hours          |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea3

Return Event: 100 years  
 Storm Event: 100-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                      |
|---|----------------------|
| Hydraulic Length                            | 300.00 ft            |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.041 ft/ft          |
| 2 Year 24 Hour Depth                        | 3.5 in               |
| Average Velocity                            | 0.85 ft/s            |
| Segment Time of Concentration               | 0.098 hours          |
| Segment #2: TR-55 Shallow Concentrated Flow |                      |
| Hydraulic Length                            | 418.00 ft            |
| Is Paved?                                   | False                |
| Slope                                       | 0.041 ft/ft          |
| Average Velocity                            | 3.27 ft/s            |
| Segment Time of Concentration               | 0.036 hours          |
| Segment #3: TR-55 Channel Flow              |                      |
| Flow Area                                   | 32.0 ft <sup>2</sup> |
| Hydraulic Length                            | 1,783.00 ft          |
| Manning's n                                 | 0.080                |
| Slope                                       | 0.030 ft/ft          |
| Wetted Perimeter                            | 17.89 ft             |
| Average Velocity                            | 4.75 ft/s            |
| Segment Time of Concentration               | 0.104 hours          |
| Segment #4: TR-55 Channel Flow              |                      |
| Flow Area                                   | 72.0 ft <sup>2</sup> |
| Hydraulic Length                            | 2,454.00 ft          |
| Manning's n                                 | 0.040                |
| Slope                                       | 0.006 ft/ft          |
| Wetted Perimeter                            | 36.88 ft             |
| Average Velocity                            | 4.35 ft/s            |
| Segment Time of Concentration               | 0.157 hours          |
| Time of Concentration (Composite)           |                      |
| Time of Concentration (Composite)           | 0.394 hours          |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: SubArea4

Return Event: 100 years  
 Storm Event: 100-year

### Time of Concentration Results

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#### Segment #1: TR-55 Sheet Flow

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

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#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.56 ft/s   |
| Segment Time of Concentration | 0.076 hours |

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#### Segment #3: TR-55 Channel Flow

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|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.35 ft/s            |
| Segment Time of Concentration | 0.206 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.373 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea1

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Woods - fair - Soil D   | 79.000 | 4.850           | 0.0      | 0.0       | 79.000      |
| Impervious Areas - Paved parking lots,<br>roofs, driveways, Streets and roads - Soil<br>D | 98.000 | 0.480           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.330           | (N/A)    | (N/A)     | 80.711      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea 2

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 24.640       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.760        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.400       | (N/A) | (N/A)  | 83.067      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea3

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 36.730       | 0.0   | 0.0    | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.200        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 38.930       | (N/A) | (N/A)  | 82.904      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: SubArea4

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Woods - grass combination - fair - Soil D   | 82.000 | 11.380          | 0.0      | 0.0       | 82.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 12.150          | (N/A)    | (N/A)     | 83.014      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea1

Return Event: 100 years  
 Storm Event: 100-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 100-year     |
| Return Event                      | 100 years    |
| Duration                          | 24.000 hours |
| Depth                             | 7.2 in       |
| Time of Concentration (Composite) | 0.182 hours  |
| Area (User Defined)               | 5.330 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.024 hours              |
| Time to Peak (Computed)                 | 11.982 hours             |
| Flow (Peak, Computed)                   | 34.81 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated Output)         | 34.80 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 81.000      |
| Area (User Defined)                      | 5.330 acres |
| Maximum Retention (Pervious)             | 2.3 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 5.0 in      |
| Runoff Volume (Pervious)           | 2.217 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 2.212 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.182 hours              |
| Computational Time Increment          | 0.024 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 33.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea1

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.121 hours |
| Unit receding limb, $T_r$      | 0.485 hours |
| Total unit time, $T_b$         | 0.606 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.182 hours  |
| Area (User Defined)                  | 5.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.200           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.450           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 5.700           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 5.950           | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 6.200           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 6.450           | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 6.700           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.12                         |
| 6.950           | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 7.200           | 0.14                         | 0.15                         | 0.15                         | 0.16                         | 0.16                         |
| 7.450           | 0.17                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 7.700           | 0.19                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 7.950           | 0.21                         | 0.21                         | 0.22                         | 0.22                         | 0.23                         |
| 8.200           | 0.24                         | 0.25                         | 0.26                         | 0.27                         | 0.28                         |
| 8.450           | 0.29                         | 0.30                         | 0.31                         | 0.32                         | 0.33                         |
| 8.700           | 0.34                         | 0.35                         | 0.36                         | 0.37                         | 0.39                         |
| 8.950           | 0.40                         | 0.41                         | 0.42                         | 0.43                         | 0.44                         |
| 9.200           | 0.45                         | 0.46                         | 0.47                         | 0.47                         | 0.48                         |
| 9.450           | 0.48                         | 0.49                         | 0.50                         | 0.51                         | 0.52                         |
| 9.700           | 0.53                         | 0.55                         | 0.57                         | 0.58                         | 0.60                         |
| 9.950           | 0.62                         | 0.64                         | 0.67                         | 0.69                         | 0.71                         |
| 10.200          | 0.74                         | 0.77                         | 0.80                         | 0.83                         | 0.86                         |
| 10.450          | 0.89                         | 0.93                         | 0.96                         | 1.00                         | 1.04                         |
| 10.700          | 1.09                         | 1.14                         | 1.19                         | 1.24                         | 1.30                         |
| 10.950          | 1.35                         | 1.41                         | 1.47                         | 1.55                         | 1.64                         |
| 11.200          | 1.75                         | 1.86                         | 1.99                         | 2.12                         | 2.26                         |
| 11.450          | 2.40                         | 2.55                         | 2.90                         | 3.78                         | 5.24                         |
| 11.700          | 7.54                         | 10.51                        | 14.31                        | 19.31                        | 26.50                        |
| 11.950          | 32.90                        | 34.80                        | 32.03                        | 24.81                        | 16.89                        |
| 12.200          | 11.49                        | 8.64                         | 6.98                         | 5.95                         | 5.22                         |
| 12.450          | 4.66                         | 4.18                         | 3.78                         | 3.45                         | 3.20                         |
| 12.700          | 3.01                         | 2.87                         | 2.76                         | 2.66                         | 2.56                         |
| 12.950          | 2.47                         | 2.38                         | 2.30                         | 2.22                         | 2.15                         |
| 13.200          | 2.09                         | 2.03                         | 1.98                         | 1.93                         | 1.88                         |
| 13.450          | 1.83                         | 1.79                         | 1.74                         | 1.69                         | 1.65                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea1

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.700          | 1.61                         | 1.58                         | 1.54                         | 1.51                         | 1.47                         |
| 13.950          | 1.44                         | 1.40                         | 1.37                         | 1.34                         | 1.32                         |
| 14.200          | 1.30                         | 1.28                         | 1.27                         | 1.25                         | 1.24                         |
| 14.450          | 1.23                         | 1.22                         | 1.21                         | 1.19                         | 1.18                         |
| 14.700          | 1.17                         | 1.16                         | 1.14                         | 1.13                         | 1.12                         |
| 14.950          | 1.11                         | 1.10                         | 1.08                         | 1.07                         | 1.06                         |
| 15.200          | 1.05                         | 1.04                         | 1.02                         | 1.01                         | 1.00                         |
| 15.450          | 0.99                         | 0.98                         | 0.96                         | 0.95                         | 0.94                         |
| 15.700          | 0.93                         | 0.91                         | 0.90                         | 0.89                         | 0.88                         |
| 15.950          | 0.87                         | 0.85                         | 0.84                         | 0.83                         | 0.82                         |
| 16.200          | 0.82                         | 0.81                         | 0.80                         | 0.80                         | 0.80                         |
| 16.450          | 0.79                         | 0.79                         | 0.78                         | 0.78                         | 0.77                         |
| 16.700          | 0.77                         | 0.77                         | 0.76                         | 0.76                         | 0.75                         |
| 16.950          | 0.75                         | 0.74                         | 0.74                         | 0.73                         | 0.73                         |
| 17.200          | 0.73                         | 0.72                         | 0.72                         | 0.71                         | 0.71                         |
| 17.450          | 0.70                         | 0.70                         | 0.70                         | 0.69                         | 0.69                         |
| 17.700          | 0.68                         | 0.68                         | 0.67                         | 0.67                         | 0.66                         |
| 17.950          | 0.66                         | 0.66                         | 0.65                         | 0.65                         | 0.64                         |
| 18.200          | 0.64                         | 0.63                         | 0.63                         | 0.63                         | 0.62                         |
| 18.450          | 0.62                         | 0.61                         | 0.61                         | 0.60                         | 0.60                         |
| 18.700          | 0.59                         | 0.59                         | 0.59                         | 0.58                         | 0.58                         |
| 18.950          | 0.57                         | 0.57                         | 0.56                         | 0.56                         | 0.56                         |
| 19.200          | 0.55                         | 0.55                         | 0.54                         | 0.54                         | 0.53                         |
| 19.450          | 0.53                         | 0.52                         | 0.52                         | 0.52                         | 0.51                         |
| 19.700          | 0.51                         | 0.50                         | 0.50                         | 0.49                         | 0.49                         |
| 19.950          | 0.48                         | 0.48                         | 0.48                         | 0.47                         | 0.47                         |
| 20.200          | 0.47                         | 0.47                         | 0.46                         | 0.46                         | 0.46                         |
| 20.450          | 0.46                         | 0.46                         | 0.46                         | 0.46                         | 0.46                         |
| 20.700          | 0.46                         | 0.46                         | 0.46                         | 0.45                         | 0.45                         |
| 20.950          | 0.45                         | 0.45                         | 0.45                         | 0.45                         | 0.45                         |
| 21.200          | 0.45                         | 0.45                         | 0.45                         | 0.45                         | 0.45                         |
| 21.450          | 0.44                         | 0.44                         | 0.44                         | 0.44                         | 0.44                         |
| 21.700          | 0.44                         | 0.44                         | 0.44                         | 0.44                         | 0.44                         |
| 21.950          | 0.44                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 22.200          | 0.43                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 22.450          | 0.43                         | 0.43                         | 0.43                         | 0.42                         | 0.42                         |
| 22.700          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 22.950          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.41                         |
| 23.200          | 0.41                         | 0.41                         | 0.41                         | 0.41                         | 0.41                         |
| 23.450          | 0.41                         | 0.41                         | 0.41                         | 0.41                         | 0.41                         |
| 23.700          | 0.40                         | 0.40                         | 0.40                         | 0.40                         | 0.40                         |
| 23.950          | 0.40                         | 0.40                         | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea 2

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.425 hours  |
| Area (User Defined)                  | 26.400 acres |

|  |                           |
|--|---------------------------|
| Computational Time<br>Increment            | 0.057 hours               |
| Time to Peak (Computed)                    | 12.139 hours              |
| Flow (Peak, Computed)                      | 127.15 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours               |
| Time to Flow (Peak<br>Interpolated Output) | 12.150 hours              |
| Flow (Peak Interpolated<br>Output)         | 125.85 ft <sup>3</sup> /s |

|   |              |
|---|--------------|
| <b>Drainage Area</b>                        |              |
| SCS CN (Composite)                          | 83.000       |
| Area (User Defined)                         | 26.400 acres |
| Maximum Retention<br>(Pervious)             | 2.0 in       |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in       |

|                                       |              |
|---------------------------------------|--------------|
| <b>Cumulative Runoff</b>              |              |
| Cumulative Runoff Depth<br>(Pervious) | 5.2 in       |
| Runoff Volume (Pervious)              | 11.477 ac-ft |

|  |              |
|--|--------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |              |
| Volume   | 11.420 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.425 hours              |
| Computational Time<br>Increment       | 0.057 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 70.31 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea 2

Return Event: 100 years

Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.284 hours |
| Unit receding limb, Tr         | 1.135 hours |
| Total unit time, Tb            | 1.418 hours |

---



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.425 hours  |
| Area (User Defined)                  | 26.400 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.700           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.02                         |
| 4.950           | 0.02                         | 0.03                         | 0.05                         | 0.06                         | 0.07                         |
| 5.200           | 0.09                         | 0.10                         | 0.12                         | 0.13                         | 0.15                         |
| 5.450           | 0.17                         | 0.19                         | 0.20                         | 0.22                         | 0.24                         |
| 5.700           | 0.26                         | 0.27                         | 0.29                         | 0.31                         | 0.33                         |
| 5.950           | 0.35                         | 0.37                         | 0.39                         | 0.41                         | 0.43                         |
| 6.200           | 0.45                         | 0.46                         | 0.48                         | 0.50                         | 0.52                         |
| 6.450           | 0.55                         | 0.57                         | 0.59                         | 0.61                         | 0.63                         |
| 6.700           | 0.65                         | 0.67                         | 0.69                         | 0.71                         | 0.73                         |
| 6.950           | 0.75                         | 0.78                         | 0.80                         | 0.82                         | 0.84                         |
| 7.200           | 0.86                         | 0.89                         | 0.91                         | 0.93                         | 0.95                         |
| 7.450           | 0.98                         | 1.00                         | 1.02                         | 1.04                         | 1.07                         |
| 7.700           | 1.09                         | 1.11                         | 1.14                         | 1.16                         | 1.18                         |
| 7.950           | 1.21                         | 1.23                         | 1.26                         | 1.28                         | 1.31                         |
| 8.200           | 1.34                         | 1.37                         | 1.40                         | 1.44                         | 1.49                         |
| 8.450           | 1.53                         | 1.58                         | 1.63                         | 1.68                         | 1.74                         |
| 8.700           | 1.79                         | 1.85                         | 1.91                         | 1.96                         | 2.03                         |
| 8.950           | 2.09                         | 2.15                         | 2.21                         | 2.28                         | 2.34                         |
| 9.200           | 2.40                         | 2.45                         | 2.51                         | 2.55                         | 2.59                         |
| 9.450           | 2.63                         | 2.67                         | 2.70                         | 2.74                         | 2.78                         |
| 9.700           | 2.82                         | 2.87                         | 2.93                         | 3.00                         | 3.08                         |
| 9.950           | 3.17                         | 3.26                         | 3.35                         | 3.46                         | 3.56                         |
| 10.200          | 3.68                         | 3.80                         | 3.93                         | 4.06                         | 4.21                         |
| 10.450          | 4.36                         | 4.51                         | 4.67                         | 4.84                         | 5.01                         |
| 10.700          | 5.20                         | 5.40                         | 5.62                         | 5.85                         | 6.10                         |
| 10.950          | 6.35                         | 6.62                         | 6.90                         | 7.20                         | 7.53                         |
| 11.200          | 7.89                         | 8.30                         | 8.76                         | 9.27                         | 9.82                         |
| 11.450          | 10.42                        | 11.10                        | 12.00                        | 13.42                        | 15.75                        |
| 11.700          | 19.50                        | 25.19                        | 33.14                        | 44.84                        | 60.26                        |
| 11.950          | 78.89                        | 98.25                        | 114.55                       | 124.34                       | 125.85                       |
| 12.200          | 119.27                       | 106.39                       | 91.31                        | 76.91                        | 64.46                        |
| 12.450          | 54.36                        | 46.37                        | 39.97                        | 34.71                        | 30.33                        |
| 12.700          | 26.83                        | 23.95                        | 21.59                        | 19.66                        | 18.08                        |
| 12.950          | 16.77                        | 15.67                        | 14.73                        | 13.92                        | 13.20                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea 2

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 13.200       | 12.55                     | 11.98                     | 11.49                     | 11.08                     | 10.72                     |
| 13.450       | 10.40                     | 10.11                     | 9.82                      | 9.56                      | 9.30                      |
| 13.700       | 9.05                      | 8.82                      | 8.59                      | 8.38                      | 8.18                      |
| 13.950       | 7.98                      | 7.79                      | 7.61                      | 7.43                      | 7.26                      |
| 14.200       | 7.10                      | 6.96                      | 6.83                      | 6.72                      | 6.61                      |
| 14.450       | 6.52                      | 6.44                      | 6.36                      | 6.29                      | 6.22                      |
| 14.700       | 6.15                      | 6.08                      | 6.02                      | 5.95                      | 5.89                      |
| 14.950       | 5.83                      | 5.77                      | 5.71                      | 5.64                      | 5.58                      |
| 15.200       | 5.52                      | 5.46                      | 5.40                      | 5.34                      | 5.28                      |
| 15.450       | 5.21                      | 5.15                      | 5.09                      | 5.03                      | 4.97                      |
| 15.700       | 4.91                      | 4.84                      | 4.78                      | 4.72                      | 4.66                      |
| 15.950       | 4.60                      | 4.54                      | 4.47                      | 4.41                      | 4.36                      |
| 16.200       | 4.30                      | 4.25                      | 4.21                      | 4.17                      | 4.13                      |
| 16.450       | 4.10                      | 4.07                      | 4.04                      | 4.02                      | 3.99                      |
| 16.700       | 3.97                      | 3.94                      | 3.92                      | 3.90                      | 3.87                      |
| 16.950       | 3.85                      | 3.83                      | 3.81                      | 3.78                      | 3.76                      |
| 17.200       | 3.74                      | 3.72                      | 3.70                      | 3.67                      | 3.65                      |
| 17.450       | 3.63                      | 3.61                      | 3.59                      | 3.56                      | 3.54                      |
| 17.700       | 3.52                      | 3.50                      | 3.48                      | 3.45                      | 3.43                      |
| 17.950       | 3.41                      | 3.39                      | 3.37                      | 3.34                      | 3.32                      |
| 18.200       | 3.30                      | 3.28                      | 3.26                      | 3.23                      | 3.21                      |
| 18.450       | 3.19                      | 3.17                      | 3.14                      | 3.12                      | 3.10                      |
| 18.700       | 3.08                      | 3.06                      | 3.03                      | 3.01                      | 2.99                      |
| 18.950       | 2.97                      | 2.94                      | 2.92                      | 2.90                      | 2.88                      |
| 19.200       | 2.86                      | 2.83                      | 2.81                      | 2.79                      | 2.77                      |
| 19.450       | 2.74                      | 2.72                      | 2.70                      | 2.68                      | 2.65                      |
| 19.700       | 2.63                      | 2.61                      | 2.59                      | 2.56                      | 2.54                      |
| 19.950       | 2.52                      | 2.50                      | 2.48                      | 2.45                      | 2.43                      |
| 20.200       | 2.41                      | 2.40                      | 2.38                      | 2.37                      | 2.36                      |
| 20.450       | 2.35                      | 2.34                      | 2.34                      | 2.33                      | 2.32                      |
| 20.700       | 2.32                      | 2.31                      | 2.31                      | 2.30                      | 2.30                      |
| 20.950       | 2.29                      | 2.29                      | 2.28                      | 2.28                      | 2.28                      |
| 21.200       | 2.27                      | 2.27                      | 2.26                      | 2.26                      | 2.25                      |
| 21.450       | 2.25                      | 2.25                      | 2.24                      | 2.24                      | 2.23                      |
| 21.700       | 2.23                      | 2.22                      | 2.22                      | 2.21                      | 2.21                      |
| 21.950       | 2.21                      | 2.20                      | 2.20                      | 2.19                      | 2.19                      |
| 22.200       | 2.18                      | 2.18                      | 2.17                      | 2.17                      | 2.17                      |
| 22.450       | 2.16                      | 2.16                      | 2.15                      | 2.15                      | 2.14                      |
| 22.700       | 2.14                      | 2.14                      | 2.13                      | 2.13                      | 2.12                      |
| 22.950       | 2.12                      | 2.11                      | 2.11                      | 2.10                      | 2.10                      |
| 23.200       | 2.10                      | 2.09                      | 2.09                      | 2.08                      | 2.08                      |
| 23.450       | 2.07                      | 2.07                      | 2.06                      | 2.06                      | 2.06                      |
| 23.700       | 2.05                      | 2.05                      | 2.04                      | 2.04                      | 2.03                      |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
Label: SubArea 2

Return Event: 100 years  
Storm Event: 100-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.950       | 2.03                      | 2.02                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea3

Return Event: 100 years  
 Storm Event: 100-year

|  |                           |
|--|---------------------------|
| Storm Event  | 100-year                  |
| Return Event   | 100 years                 |
| Duration   | 24.000 hours              |
| Depth  | 7.2 in                    |
| Time of Concentration<br>(Composite)                   | 0.394 hours               |
| Area (User Defined)                                    | 38.930 acres              |
| <hr/>  |                           |
| Computational Time<br>Increment                        | 0.053 hours               |
| Time to Peak (Computed)                                | 12.093 hours              |
| Flow (Peak, Computed)                                  | 194.35 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours               |
| Time to Flow (Peak<br>Interpolated Output)             | 12.100 hours              |
| Flow (Peak Interpolated<br>Output)                     | 194.08 ft <sup>3</sup> /s |
| <hr/>  |                           |
| <b>Drainage Area</b>                                   |                           |
| SCS CN (Composite)                                     | 83.000                    |
| Area (User Defined)                                    | 38.930 acres              |
| Maximum Retention<br>(Pervious)                        | 2.0 in                    |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                    |
| <hr/>  |                           |
| <b>Cumulative Runoff</b>                               |                           |
| Cumulative Runoff Depth<br>(Pervious)                  | 5.2 in                    |
| Runoff Volume (Pervious)                               | 16.924 ac-ft              |
| <hr/>  |                           |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                           |
| Volume   | 16.858 ac-ft              |
| <hr/>  |                           |
| <b>SCS Unit Hydrograph Parameters</b>                  |                           |
| Time of Concentration<br>(Composite)                   | 0.394 hours               |
| Computational Time<br>Increment                        | 0.053 hours               |
| Unit Hydrograph Shape<br>Factor                        | 483.432                   |
| K Factor   | 0.749                     |
| Receding/Rising, Tr/Tp                                 | 1.670                     |
| Unit peak, qp  | 111.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: SubArea3

Return Event: 100 years

Storm Event: 100-year

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## SCS Unit Hydrograph Parameters

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|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.263 hours |
| Unit receding limb, $T_r$ | 1.052 hours |
| Total unit time, $T_b$    | 1.314 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.394 hours  |
| Area (User Defined)                  | 38.930 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.700           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.03                         |
| 4.950           | 0.04                         | 0.06                         | 0.07                         | 0.09                         | 0.12                         |
| 5.200           | 0.14                         | 0.16                         | 0.19                         | 0.21                         | 0.23                         |
| 5.450           | 0.26                         | 0.29                         | 0.31                         | 0.34                         | 0.36                         |
| 5.700           | 0.39                         | 0.42                         | 0.44                         | 0.47                         | 0.50                         |
| 5.950           | 0.53                         | 0.56                         | 0.58                         | 0.61                         | 0.64                         |
| 6.200           | 0.67                         | 0.70                         | 0.73                         | 0.76                         | 0.79                         |
| 6.450           | 0.82                         | 0.85                         | 0.88                         | 0.91                         | 0.94                         |
| 6.700           | 0.97                         | 1.00                         | 1.03                         | 1.07                         | 1.10                         |
| 6.950           | 1.13                         | 1.16                         | 1.19                         | 1.23                         | 1.26                         |
| 7.200           | 1.29                         | 1.32                         | 1.36                         | 1.39                         | 1.42                         |
| 7.450           | 1.46                         | 1.49                         | 1.52                         | 1.56                         | 1.59                         |
| 7.700           | 1.63                         | 1.66                         | 1.69                         | 1.73                         | 1.76                         |
| 7.950           | 1.80                         | 1.83                         | 1.87                         | 1.90                         | 1.94                         |
| 8.200           | 1.99                         | 2.04                         | 2.09                         | 2.15                         | 2.22                         |
| 8.450           | 2.29                         | 2.36                         | 2.44                         | 2.52                         | 2.60                         |
| 8.700           | 2.68                         | 2.76                         | 2.85                         | 2.94                         | 3.03                         |
| 8.950           | 3.12                         | 3.21                         | 3.31                         | 3.40                         | 3.49                         |
| 9.200           | 3.58                         | 3.66                         | 3.73                         | 3.80                         | 3.86                         |
| 9.450           | 3.91                         | 3.97                         | 4.02                         | 4.07                         | 4.13                         |
| 9.700           | 4.19                         | 4.27                         | 4.37                         | 4.47                         | 4.60                         |
| 9.950           | 4.73                         | 4.86                         | 5.01                         | 5.16                         | 5.32                         |
| 10.200          | 5.49                         | 5.68                         | 5.87                         | 6.08                         | 6.30                         |
| 10.450          | 6.52                         | 6.76                         | 7.00                         | 7.25                         | 7.52                         |
| 10.700          | 7.80                         | 8.11                         | 8.44                         | 8.79                         | 9.16                         |
| 10.950          | 9.54                         | 9.95                         | 10.37                        | 10.82                        | 11.31                        |
| 11.200          | 11.86                        | 12.49                        | 13.20                        | 13.99                        | 14.85                        |
| 11.450          | 15.77                        | 16.81                        | 18.20                        | 20.45                        | 24.34                        |
| 11.700          | 30.72                        | 40.39                        | 54.25                        | 73.37                        | 98.29                        |
| 11.950          | 127.91                       | 158.26                       | 182.22                       | 194.08                       | 190.96                       |
| 12.200          | 174.71                       | 151.02                       | 126.37                       | 104.26                       | 86.56                        |
| 12.450          | 72.91                        | 62.27                        | 53.66                        | 46.65                        | 40.92                        |
| 12.700          | 36.24                        | 32.45                        | 29.40                        | 26.94                        | 24.93                        |
| 12.950          | 23.28                        | 21.88                        | 20.65                        | 19.56                        | 18.61                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea3

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.200          | 17.79                        | 17.09                        | 16.52                        | 16.00                        | 15.52                        |
| 13.450          | 15.08                        | 14.66                        | 14.26                        | 13.87                        | 13.50                        |
| 13.700          | 13.15                        | 12.82                        | 12.50                        | 12.19                        | 11.90                        |
| 13.950          | 11.62                        | 11.35                        | 11.08                        | 10.82                        | 10.58                        |
| 14.200          | 10.35                        | 10.15                        | 9.97                         | 9.81                         | 9.67                         |
| 14.450          | 9.54                         | 9.43                         | 9.32                         | 9.21                         | 9.11                         |
| 14.700          | 9.01                         | 8.92                         | 8.82                         | 8.73                         | 8.64                         |
| 14.950          | 8.55                         | 8.46                         | 8.37                         | 8.28                         | 8.19                         |
| 15.200          | 8.10                         | 8.01                         | 7.92                         | 7.83                         | 7.74                         |
| 15.450          | 7.64                         | 7.55                         | 7.46                         | 7.37                         | 7.28                         |
| 15.700          | 7.19                         | 7.10                         | 7.01                         | 6.92                         | 6.82                         |
| 15.950          | 6.73                         | 6.64                         | 6.55                         | 6.46                         | 6.38                         |
| 16.200          | 6.30                         | 6.23                         | 6.17                         | 6.11                         | 6.06                         |
| 16.450          | 6.02                         | 5.98                         | 5.94                         | 5.90                         | 5.86                         |
| 16.700          | 5.83                         | 5.79                         | 5.76                         | 5.73                         | 5.69                         |
| 16.950          | 5.66                         | 5.63                         | 5.60                         | 5.56                         | 5.53                         |
| 17.200          | 5.50                         | 5.47                         | 5.43                         | 5.40                         | 5.37                         |
| 17.450          | 5.34                         | 5.31                         | 5.27                         | 5.24                         | 5.21                         |
| 17.700          | 5.17                         | 5.14                         | 5.11                         | 5.08                         | 5.04                         |
| 17.950          | 5.01                         | 4.98                         | 4.95                         | 4.91                         | 4.88                         |
| 18.200          | 4.85                         | 4.82                         | 4.78                         | 4.75                         | 4.72                         |
| 18.450          | 4.69                         | 4.65                         | 4.62                         | 4.59                         | 4.55                         |
| 18.700          | 4.52                         | 4.49                         | 4.46                         | 4.42                         | 4.39                         |
| 18.950          | 4.36                         | 4.33                         | 4.29                         | 4.26                         | 4.23                         |
| 19.200          | 4.19                         | 4.16                         | 4.13                         | 4.10                         | 4.06                         |
| 19.450          | 4.03                         | 4.00                         | 3.96                         | 3.93                         | 3.90                         |
| 19.700          | 3.86                         | 3.83                         | 3.80                         | 3.77                         | 3.73                         |
| 19.950          | 3.70                         | 3.67                         | 3.63                         | 3.60                         | 3.57                         |
| 20.200          | 3.55                         | 3.52                         | 3.50                         | 3.48                         | 3.47                         |
| 20.450          | 3.46                         | 3.45                         | 3.44                         | 3.43                         | 3.42                         |
| 20.700          | 3.41                         | 3.41                         | 3.40                         | 3.39                         | 3.39                         |
| 20.950          | 3.38                         | 3.37                         | 3.37                         | 3.36                         | 3.35                         |
| 21.200          | 3.35                         | 3.34                         | 3.33                         | 3.33                         | 3.32                         |
| 21.450          | 3.31                         | 3.31                         | 3.30                         | 3.29                         | 3.29                         |
| 21.700          | 3.28                         | 3.28                         | 3.27                         | 3.26                         | 3.26                         |
| 21.950          | 3.25                         | 3.24                         | 3.24                         | 3.23                         | 3.22                         |
| 22.200          | 3.22                         | 3.21                         | 3.20                         | 3.20                         | 3.19                         |
| 22.450          | 3.18                         | 3.18                         | 3.17                         | 3.17                         | 3.16                         |
| 22.700          | 3.15                         | 3.15                         | 3.14                         | 3.13                         | 3.13                         |
| 22.950          | 3.12                         | 3.11                         | 3.11                         | 3.10                         | 3.09                         |
| 23.200          | 3.09                         | 3.08                         | 3.07                         | 3.07                         | 3.06                         |
| 23.450          | 3.05                         | 3.05                         | 3.04                         | 3.04                         | 3.03                         |
| 23.700          | 3.02                         | 3.02                         | 3.01                         | 3.00                         | 3.00                         |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
Label: SubArea3

Return Event: 100 years  
Storm Event: 100-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.950       | 2.99                      | 2.97                      | (N/A)                     | (N/A)                     | (N/A)                     |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: SubArea4

Return Event: 100 years  
 Storm Event: 100-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 100-year     |
| Return Event                      | 100 years    |
| Duration                          | 24.000 hours |
| Depth                             | 7.2 in       |
| Time of Concentration (Composite) | 0.373 hours  |
| Area (User Defined)               | 12.150 acres |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.050 hours              |
| Time to Peak (Computed)                 | 12.079 hours             |
| Flow (Peak, Computed)                   | 62.23 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated Output)         | 62.13 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 83.000       |
| Area (User Defined)                      | 12.150 acres |
| Maximum Retention (Pervious)             | 2.0 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 5.2 in      |
| Runoff Volume (Pervious)           | 5.282 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 5.259 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.373 hours              |
| Computational Time Increment          | 0.050 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 36.93 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: SubArea4

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.249 hours |
| Unit receding limb, Tr         | 0.994 hours |
| Total unit time, Tb            | 1.243 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.373 hours  |
| Area (User Defined)                  | 12.150 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.700           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 4.950           | 0.01                         | 0.02                         | 0.02                         | 0.03                         | 0.04                         |
| 5.200           | 0.05                         | 0.05                         | 0.06                         | 0.07                         | 0.08                         |
| 5.450           | 0.08                         | 0.09                         | 0.10                         | 0.11                         | 0.12                         |
| 5.700           | 0.12                         | 0.13                         | 0.14                         | 0.15                         | 0.16                         |
| 5.950           | 0.17                         | 0.18                         | 0.19                         | 0.19                         | 0.20                         |
| 6.200           | 0.21                         | 0.22                         | 0.23                         | 0.24                         | 0.25                         |
| 6.450           | 0.26                         | 0.27                         | 0.28                         | 0.29                         | 0.30                         |
| 6.700           | 0.31                         | 0.32                         | 0.33                         | 0.34                         | 0.35                         |
| 6.950           | 0.36                         | 0.37                         | 0.38                         | 0.39                         | 0.40                         |
| 7.200           | 0.41                         | 0.42                         | 0.43                         | 0.44                         | 0.45                         |
| 7.450           | 0.46                         | 0.47                         | 0.48                         | 0.49                         | 0.50                         |
| 7.700           | 0.51                         | 0.52                         | 0.53                         | 0.54                         | 0.55                         |
| 7.950           | 0.56                         | 0.58                         | 0.59                         | 0.60                         | 0.61                         |
| 8.200           | 0.62                         | 0.64                         | 0.66                         | 0.68                         | 0.70                         |
| 8.450           | 0.72                         | 0.74                         | 0.77                         | 0.79                         | 0.82                         |
| 8.700           | 0.84                         | 0.87                         | 0.90                         | 0.93                         | 0.95                         |
| 8.950           | 0.98                         | 1.01                         | 1.04                         | 1.07                         | 1.10                         |
| 9.200           | 1.13                         | 1.15                         | 1.17                         | 1.19                         | 1.21                         |
| 9.450           | 1.23                         | 1.24                         | 1.26                         | 1.27                         | 1.29                         |
| 9.700           | 1.31                         | 1.34                         | 1.37                         | 1.41                         | 1.45                         |
| 9.950           | 1.49                         | 1.53                         | 1.58                         | 1.63                         | 1.68                         |
| 10.200          | 1.73                         | 1.79                         | 1.85                         | 1.92                         | 1.99                         |
| 10.450          | 2.06                         | 2.13                         | 2.21                         | 2.29                         | 2.37                         |
| 10.700          | 2.46                         | 2.56                         | 2.66                         | 2.78                         | 2.89                         |
| 10.950          | 3.02                         | 3.14                         | 3.28                         | 3.42                         | 3.58                         |
| 11.200          | 3.76                         | 3.96                         | 4.19                         | 4.45                         | 4.72                         |
| 11.450          | 5.01                         | 5.34                         | 5.79                         | 6.54                         | 7.86                         |
| 11.700          | 10.03                        | 13.32                        | 17.98                        | 24.40                        | 32.74                        |
| 11.950          | 42.58                        | 52.28                        | 59.41                        | 62.13                        | 59.87                        |
| 12.200          | 53.64                        | 45.57                        | 37.58                        | 30.71                        | 25.37                        |
| 12.450          | 21.33                        | 18.19                        | 15.67                        | 13.64                        | 11.99                        |
| 12.700          | 10.65                        | 9.58                         | 8.71                         | 8.02                         | 7.46                         |
| 12.950          | 6.99                         | 6.59                         | 6.24                         | 5.93                         | 5.67                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: SubArea4

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 13.200       | 5.44                      | 5.25                      | 5.08                      | 4.93                      | 4.79                      |
| 13.450       | 4.65                      | 4.53                      | 4.40                      | 4.29                      | 4.17                      |
| 13.700       | 4.07                      | 3.96                      | 3.87                      | 3.77                      | 3.68                      |
| 13.950       | 3.60                      | 3.51                      | 3.43                      | 3.35                      | 3.27                      |
| 14.200       | 3.21                      | 3.14                      | 3.09                      | 3.04                      | 3.00                      |
| 14.450       | 2.96                      | 2.93                      | 2.89                      | 2.86                      | 2.83                      |
| 14.700       | 2.80                      | 2.77                      | 2.74                      | 2.72                      | 2.69                      |
| 14.950       | 2.66                      | 2.63                      | 2.60                      | 2.57                      | 2.55                      |
| 15.200       | 2.52                      | 2.49                      | 2.46                      | 2.43                      | 2.40                      |
| 15.450       | 2.38                      | 2.35                      | 2.32                      | 2.29                      | 2.26                      |
| 15.700       | 2.23                      | 2.21                      | 2.18                      | 2.15                      | 2.12                      |
| 15.950       | 2.09                      | 2.06                      | 2.04                      | 2.01                      | 1.98                      |
| 16.200       | 1.96                      | 1.94                      | 1.92                      | 1.90                      | 1.89                      |
| 16.450       | 1.87                      | 1.86                      | 1.85                      | 1.84                      | 1.83                      |
| 16.700       | 1.82                      | 1.80                      | 1.79                      | 1.78                      | 1.77                      |
| 16.950       | 1.76                      | 1.75                      | 1.74                      | 1.73                      | 1.72                      |
| 17.200       | 1.71                      | 1.70                      | 1.69                      | 1.68                      | 1.67                      |
| 17.450       | 1.66                      | 1.65                      | 1.64                      | 1.63                      | 1.62                      |
| 17.700       | 1.61                      | 1.60                      | 1.59                      | 1.58                      | 1.57                      |
| 17.950       | 1.56                      | 1.55                      | 1.54                      | 1.53                      | 1.52                      |
| 18.200       | 1.51                      | 1.50                      | 1.49                      | 1.48                      | 1.47                      |
| 18.450       | 1.46                      | 1.45                      | 1.44                      | 1.43                      | 1.42                      |
| 18.700       | 1.41                      | 1.40                      | 1.39                      | 1.38                      | 1.37                      |
| 18.950       | 1.36                      | 1.35                      | 1.34                      | 1.33                      | 1.32                      |
| 19.200       | 1.31                      | 1.30                      | 1.28                      | 1.27                      | 1.26                      |
| 19.450       | 1.25                      | 1.24                      | 1.23                      | 1.22                      | 1.21                      |
| 19.700       | 1.20                      | 1.19                      | 1.18                      | 1.17                      | 1.16                      |
| 19.950       | 1.15                      | 1.14                      | 1.13                      | 1.12                      | 1.11                      |
| 20.200       | 1.10                      | 1.10                      | 1.09                      | 1.09                      | 1.08                      |
| 20.450       | 1.08                      | 1.07                      | 1.07                      | 1.07                      | 1.07                      |
| 20.700       | 1.06                      | 1.06                      | 1.06                      | 1.06                      | 1.06                      |
| 20.950       | 1.05                      | 1.05                      | 1.05                      | 1.05                      | 1.05                      |
| 21.200       | 1.04                      | 1.04                      | 1.04                      | 1.04                      | 1.04                      |
| 21.450       | 1.03                      | 1.03                      | 1.03                      | 1.03                      | 1.03                      |
| 21.700       | 1.02                      | 1.02                      | 1.02                      | 1.02                      | 1.02                      |
| 21.950       | 1.01                      | 1.01                      | 1.01                      | 1.01                      | 1.01                      |
| 22.200       | 1.00                      | 1.00                      | 1.00                      | 1.00                      | 1.00                      |
| 22.450       | 0.99                      | 0.99                      | 0.99                      | 0.99                      | 0.99                      |
| 22.700       | 0.98                      | 0.98                      | 0.98                      | 0.98                      | 0.97                      |
| 22.950       | 0.97                      | 0.97                      | 0.97                      | 0.97                      | 0.96                      |
| 23.200       | 0.96                      | 0.96                      | 0.96                      | 0.96                      | 0.95                      |
| 23.450       | 0.95                      | 0.95                      | 0.95                      | 0.95                      | 0.94                      |
| 23.700       | 0.94                      | 0.94                      | 0.94                      | 0.94                      | 0.93                      |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: SubArea4

Storm Event: 100-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.950       | 0.93                      | 0.93                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 100 years  
 Storm Event: 100-year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | SubArea 2     |
| <Catchment to Outflow Node> | SubArea1      |
| <Catchment to Outflow Node> | SubArea3      |
| <Catchment to Outflow Node> | SubArea4      |

### Node Inflows

| Inflow Type | Element   | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|-----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | SubArea 2 | 11.420            | 12.150                  | 125.85                              |
| Flow (From) | SubArea1  | 2.212             | 12.000                  | 34.80                               |
| Flow (From) | SubArea3  | 16.858            | 12.100                  | 194.08                              |
| Flow (From) | SubArea4  | 5.259             | 12.100                  | 62.13                               |
| Flow (In)   | O-1       | 35.749            | 12.100                  | 405.36                              |

## **Appendix E**

### **2-Yr Proposed Hydraulic Runoff Calculations**

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Catchments Summary

| Label    | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|----------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| Basin 7  | Post-Development 2 year | 2                    | 0.369                     | 11.900               | 6.67                           |
| Basin1A  | Post-Development 2 year | 2                    | 0.430                     | 12.150               | 4.56                           |
| Basin1B  | Post-Development 2 year | 2                    | 0.064                     | 11.950               | 1.16                           |
| Basin2   | Post-Development 2 year | 2                    | 0.104                     | 11.900               | 1.82                           |
| Basin3   | Post-Development 2 year | 2                    | 0.125                     | 12.200               | 1.27                           |
| Basin4   | Post-Development 2 year | 2                    | 0.075                     | 11.900               | 1.33                           |
| Basin5   | Post-Development 2 year | 2                    | 0.200                     | 11.900               | 3.56                           |
| Bypass 4 | Post-Development 2 year | 2                    | 0.989                     | 12.100               | 12.08                          |
| Bypass1  | Post-Development 2 year | 2                    | 0.718                     | 12.000               | 11.20                          |
| Bypass2  | Post-Development 2 year | 2                    | 4.020                     | 12.150               | 45.28                          |
| Bypass3  | Post-Development 2 year | 2                    | 6.053                     | 12.100               | 71.16                          |

## Node Summary

| Label     | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| J-14      | Post-Development 2 year | 2                    | 0.367                     | 12.800               | 0.49                           |
| J-3       | Post-Development 2 year | 2                    | 0.174                     | 12.000               | 3.30                           |
| J-4       | Post-Development 2 year | 2                    | 0.806                     | 12.000               | 3.88                           |
| J-5       | Post-Development 2 year | 2                    | 0.174                     | 11.950               | 3.42                           |
| J-6       | Post-Development 2 year | 2                    | 0.278                     | 12.100               | 2.59                           |
| J-8       | Post-Development 2 year | 2                    | 0.638                     | 12.450               | 1.98                           |
| O-1       | Post-Development 2 year | 2                    | 12.566                    | 12.100               | 137.70                         |
| Outfall1B | Post-Development 2 year | 2                    | 0.225                     | 13.700               | 0.43                           |

## Pond Summary



# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Pond Summary

| Label        | Scenario                | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) | Maximum Water Surface Elevation (ft) | Maximum Pond Storage (ac-ft) |
|--------------|-------------------------|----------------------|---------------------------|----------------------|--------------------------------|--------------------------------------|------------------------------|
| Pond1A (IN)  | Post-Development 2 year | 2                    | 0.430                     | 12.150               | 4.56                           | (N/A)                                | (N/A)                        |
| Pond1A (OUT) | Post-Development 2 year | 2                    | 0.161                     | 12.900               | 0.76                           | 536.03                               | 0.271                        |
| Pond1B (IN)  | Post-Development 2 year | 2                    | 0.225                     | 11.950               | 1.16                           | (N/A)                                | (N/A)                        |
| Pond1B (OUT) | Post-Development 2 year | 2                    | 0.225                     | 13.700               | 0.43                           | 531.20                               | 0.018                        |
| Pond2 (IN)   | Post-Development 2 year | 2                    | 0.104                     | 11.900               | 1.82                           | (N/A)                                | (N/A)                        |
| Pond2 (OUT)  | Post-Development 2 year | 2                    | 0.095                     | 12.000               | 1.25                           | 554.06                               | 0.022                        |
| Pond3 (IN)   | Post-Development 2 year | 2                    | 0.125                     | 12.200               | 1.27                           | (N/A)                                | (N/A)                        |
| Pond3 (OUT)  | Post-Development 2 year | 2                    | 0.115                     | 12.250               | 1.24                           | 554.72                               | 0.016                        |
| Pond4 (IN)   | Post-Development 2 year | 2                    | 0.075                     | 11.900               | 1.33                           | (N/A)                                | (N/A)                        |
| Pond4 (OUT)  | Post-Development 2 year | 2                    | 0.068                     | 12.100               | 0.42                           | 546.65                               | 0.030                        |
| Pond5 (IN)   | Post-Development 2 year | 2                    | 0.200                     | 11.900               | 3.56                           | (N/A)                                | (N/A)                        |
| Pond5 (OUT)  | Post-Development 2 year | 2                    | 0.174                     | 11.950               | 3.42                           | 563.98                               | 0.037                        |
| Pond7 (IN)   | Post-Development 2 year | 2                    | 0.369                     | 11.900               | 6.67                           | (N/A)                                | (N/A)                        |
| Pond7 (OUT)  | Post-Development 2 year | 2                    | 0.367                     | 12.800               | 0.49                           | 530.52                               | 0.170                        |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve  
 Label: Time-Depth - 1

Return Event: 2 years  
 Storm Event: 2 year

| Time-Depth Curve: 2 year |              |
|--------------------------|--------------|
| Label                    | 2 year       |
| Start Time               | 0.000 hours  |
| Increment                | 0.100 hours  |
| End Time                 | 24.000 hours |
| Return Event             | 2 years      |

**CUMULATIVE RAINFALL (in)**  
**Output Time Increment = 0.100 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Depth (in) | Depth (in) | Depth (in) | Depth (in) | Depth (in) |
|--------------|------------|------------|------------|------------|------------|
| 0.000        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 0.500        | 0.0        | 0.0        | 0.0        | 0.0        | 0.0        |
| 1.000        | 0.0        | 0.0        | 0.0        | 0.0        | 0.1        |
| 1.500        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 2.000        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 2.500        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 3.000        | 0.1        | 0.1        | 0.1        | 0.1        | 0.1        |
| 3.500        | 0.1        | 0.1        | 0.2        | 0.2        | 0.2        |
| 4.000        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 4.500        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 5.000        | 0.2        | 0.2        | 0.2        | 0.2        | 0.2        |
| 5.500        | 0.2        | 0.3        | 0.3        | 0.3        | 0.3        |
| 6.000        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3        |
| 6.500        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3        |
| 7.000        | 0.3        | 0.4        | 0.4        | 0.4        | 0.4        |
| 7.500        | 0.4        | 0.4        | 0.4        | 0.4        | 0.4        |
| 8.000        | 0.4        | 0.4        | 0.4        | 0.4        | 0.5        |
| 8.500        | 0.5        | 0.5        | 0.5        | 0.5        | 0.5        |
| 9.000        | 0.5        | 0.5        | 0.5        | 0.5        | 0.6        |
| 9.500        | 0.6        | 0.6        | 0.6        | 0.6        | 0.6        |
| 10.000       | 0.6        | 0.6        | 0.7        | 0.7        | 0.7        |
| 10.500       | 0.7        | 0.7        | 0.8        | 0.8        | 0.8        |
| 11.000       | 0.8        | 0.8        | 0.9        | 0.9        | 1.0        |
| 11.500       | 1.0        | 1.1        | 1.2        | 1.5        | 2.0        |
| 12.000       | 2.3        | 2.4        | 2.4        | 2.5        | 2.5        |
| 12.500       | 2.6        | 2.6        | 2.6        | 2.7        | 2.7        |
| 13.000       | 2.7        | 2.7        | 2.7        | 2.8        | 2.8        |
| 13.500       | 2.8        | 2.8        | 2.8        | 2.8        | 2.9        |
| 14.000       | 2.9        | 2.9        | 2.9        | 2.9        | 2.9        |
| 14.500       | 2.9        | 2.9        | 3.0        | 3.0        | 3.0        |
| 15.000       | 3.0        | 3.0        | 3.0        | 3.0        | 3.0        |
| 15.500       | 3.0        | 3.0        | 3.1        | 3.1        | 3.1        |
| 16.000       | 3.1        | 3.1        | 3.1        | 3.1        | 3.1        |
| 16.500       | 3.1        | 3.1        | 3.1        | 3.1        | 3.1        |
| 17.000       | 3.2        | 3.2        | 3.2        | 3.2        | 3.2        |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Return Event: 2 years

Label: Time-Depth - 1

Storm Event: 2 year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           |
| 18.000          | 3.2           | 3.2           | 3.2           | 3.2           | 3.2           |
| 18.500          | 3.3           | 3.3           | 3.3           | 3.3           | 3.3           |
| 19.000          | 3.3           | 3.3           | 3.3           | 3.3           | 3.3           |
| 19.500          | 3.3           | 3.3           | 3.3           | 3.3           | 3.3           |
| 20.000          | 3.3           | 3.3           | 3.3           | 3.3           | 3.4           |
| 20.500          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 21.000          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 21.500          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 22.000          | 3.4           | 3.4           | 3.4           | 3.4           | 3.4           |
| 22.500          | 3.4           | 3.4           | 3.4           | 3.5           | 3.5           |
| 23.000          | 3.5           | 3.5           | 3.5           | 3.5           | 3.5           |
| 23.500          | 3.5           | 3.5           | 3.5           | 3.5           | 3.5           |
| 24.000          | 3.5           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin1A

Return Event: 2 years  
 Storm Event: 2 year

## Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                     |
|---|---------------------|
| Hydraulic Length                            | 240.00 ft           |
| Manning's n                                 | 0.400               |
| Slope                                       | 0.063 ft/ft         |
| 2 Year 24 Hour Depth                        | 3.5 in              |
| Average Velocity                            | 0.15 ft/s           |
| Segment Time of Concentration               | 0.437 hours         |
| Segment #2: TR-55 Channel Flow              |                     |
| Flow Area                                   | 4.0 ft <sup>2</sup> |
| Hydraulic Length                            | 286.00 ft           |
| Manning's n                                 | 0.030               |
| Slope                                       | 0.039 ft/ft         |
| Wetted Perimeter                            | 8.20 ft             |
| Average Velocity                            | 6.04 ft/s           |
| Segment Time of Concentration               | 0.013 hours         |
| Segment #3: TR-55 Channel Flow              |                     |
| Flow Area                                   | 0.8 ft <sup>2</sup> |
| Hydraulic Length                            | 65.00 ft            |
| Manning's n                                 | 0.013               |
| Slope                                       | 0.108 ft/ft         |
| Wetted Perimeter                            | 3.14 ft             |
| Average Velocity                            | 14.93 ft/s          |
| Segment Time of Concentration               | 0.001 hours         |
| Segment #4: TR-55 Shallow Concentrated Flow |                     |
| Hydraulic Length                            | 185.00 ft           |
| Is Paved?                                   | False               |
| Slope                                       | 0.070 ft/ft         |
| Average Velocity                            | 4.28 ft/s           |
| Segment Time of Concentration               | 0.012 hours         |
| Time of Concentration (Composite)           |                     |
| Time of Concentration (Composite)           | 0.463 hours         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin1B

Return Event: 2 years  
Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 94.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.188 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.56 ft/s   |
| Segment Time of Concentration | 0.017 hours |

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---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin2

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 85.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.047 ft/ft |
| Average Velocity              | 3.50 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---

---

### Segment #2: TR-55 Channel Flow

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|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 57.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 4.55 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin3

Return Event: 2 years  
 Storm Event: 2 year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 250.00 ft   |
| Manning's n                   | 0.400       |
| Slope                         | 0.048 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.14 ft/s   |
| Segment Time of Concentration | 0.502 hours |

---

#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 49.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.230 ft/ft |
| Average Velocity              | 7.74 ft/s   |
| Segment Time of Concentration | 0.002 hours |

---

#### Segment #3: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.0 ft <sup>2</sup> |
| Hydraulic Length              | 44.00 ft            |
| Manning's n                   | 0.030               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.10 ft             |
| Average Velocity              | 4.86 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

---

#### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.506 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin4

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 148.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.61 ft/s   |
| Segment Time of Concentration | 0.026 hours |

---

### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 20.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.333 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.44 ft/s   |
| Segment Time of Concentration | 0.004 hours |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---



# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin5

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 230.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.045 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.83 ft/s   |
| Segment Time of Concentration | 0.035 hours |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin 7

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 360.00 ft   |
| Manning's n                   | 0.030       |
| Slope                         | 0.060 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.29 ft/s   |
| Segment Time of Concentration | 0.078 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 64.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.063 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 11.37 ft/s          |
| Segment Time of Concentration | 0.002 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass1

Return Event: 2 years

Storm Event: 2 year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 78.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.010 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.47 ft/s   |
| Segment Time of Concentration | 0.046 hours |

---



---

#### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 154.00 ft   |
| Manning's n                   | 0.080       |
| Slope                         | 0.290 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.93 ft/s   |
| Segment Time of Concentration | 0.046 hours |

---



---

#### Segment #3: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 110.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.073 ft/ft |
| Average Velocity              | 4.36 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---



---

#### Segment #4: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,611.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.099 hours          |

---



---

#### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.198 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass2

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 287.00 ft   |
| Manning's n                   | 0.150       |
| Slope                         | 0.063 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.35 ft/s   |
| Segment Time of Concentration | 0.229 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 7.5 ft <sup>2</sup> |
| Hydraulic Length              | 1,044.00 ft         |
| Manning's n                   | 0.030               |
| Slope                         | 0.013 ft/ft         |
| Wetted Perimeter              | 15.13 ft            |
| Average Velocity              | 3.55 ft/s           |
| Segment Time of Concentration | 0.082 hours         |

---

### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 60.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,010.00 ft          |
| Manning's n                   | 0.100                |
| Slope                         | 0.049 ft/ft          |
| Wetted Perimeter              | 60.13 ft             |
| Average Velocity              | 3.29 ft/s            |
| Segment Time of Concentration | 0.085 hours          |

---

### Segment #4: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 36.0 ft <sup>2</sup> |
| Hydraulic Length              | 745.00 ft            |
| Manning's n                   | 0.045                |
| Slope                         | 0.020 ft/ft          |
| Wetted Perimeter              | 19.70 ft             |
| Average Velocity              | 7.00 ft/s            |
| Segment Time of Concentration | 0.030 hours          |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.426 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass3

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.85 ft/s   |
| Segment Time of Concentration | 0.098 hours |

---

### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 418.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.041 ft/ft |
| Average Velocity              | 3.27 ft/s   |
| Segment Time of Concentration | 0.036 hours |

---

### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 32.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,740.00 ft          |
| Manning's n                   | 0.080                |
| Slope                         | 0.030 ft/ft          |
| Wetted Perimeter              | 17.89 ft             |
| Average Velocity              | 4.75 ft/s            |
| Segment Time of Concentration | 0.102 hours          |

---

### Segment #4: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.1 ft <sup>2</sup> |
| Hydraulic Length              | 38.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.022 ft/ft         |
| Wetted Perimeter              | 6.28 ft             |
| Average Velocity              | 10.64 ft/s          |
| Segment Time of Concentration | 0.001 hours         |

---

### Segment #5: TR-55 Channel Flow

---

|                  |                      |
|------------------|----------------------|
| Flow Area        | 72.0 ft <sup>2</sup> |
| Hydraulic Length | 2,454.00 ft          |
| Manning's n      | 0.040                |
| Slope            | 0.006 ft/ft          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Bypass3

Return Event: 2 years  
Storm Event: 2 year

---

| Segment #5: TR-55 Channel Flow |             |
|--------------------------------|-------------|
| Wetted Perimeter               | 36.88 ft    |
| Average Velocity               | 4.51 ft/s   |
| Segment Time of Concentration  | 0.151 hours |

---

| Time of Concentration (Composite) |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.387 hours |

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass 4

Return Event: 2 years

Storm Event: 2 year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

---

### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.57 ft/s   |
| Segment Time of Concentration | 0.075 hours |

---

### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.199 hours          |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.366 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1A

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.060           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.140           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.200           | (N/A)    | (N/A)     | 88.673      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1B

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description   | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|--|--------|-----------------|----------|-----------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D | 80.000 | 0.470           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->  | (N/A)  | 0.470           | (N/A)    | (N/A)     | 80.000      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin2

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C | 98.000 | 0.330           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.110           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.440           | (N/A)    | (N/A)     | 93.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin3

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.460           | 0.0      | 0.0       | 80.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.260           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.720           | (N/A)    | (N/A)     | 86.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin4

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.240        | 0.0   | 0.0    | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.090        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.330        | (N/A) | (N/A)  | 93.091      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin5

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.680           | 0.0      | 0.0       | 98.000      |
| Brush - brush, weed, grass mix - good - Soil D                                      | 73.000 | 0.230           | 0.0      | 0.0       | 73.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.910           | (N/A)    | (N/A)     | 91.681      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin 7

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.230           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 2.260           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.490           | (N/A)    | (N/A)     | 81.663      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass1

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.160           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.880           | 0.0      | 0.0       | 80.000      |
| Woods - fair - Soil D   | 79.000 | 4.240           | 0.0      | 0.0       | 79.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.280           | (N/A)    | (N/A)     | 79.742      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass2

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.070           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.600           | 0.0      | 0.0       | 80.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 22.430          | 0.0      | 0.0       | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.100          | (N/A)    | (N/A)     | 83.146      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass3

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 4.210        | 0.0   | 0.0    | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 29.890       | 0.0   | 0.0    | 82.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 3.610        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 37.710       | (N/A) | (N/A)  | 83.595      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass 4

Return Event: 2 years  
 Storm Event: 2 year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770        | 0.0   | 0.0    | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 5.390        | 0.0   | 0.0    | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 6.160        | (N/A) | (N/A)  | 84.000      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1A

Return Event: 2 years  
 Storm Event: 2 year

|  |                         |
|--|-------------------------|
| Storm Event  | 2 year                  |
| Return Event   | 2 years                 |
| Duration   | 24.000 hours            |
| Depth  | 3.5 in                  |
| Time of Concentration<br>(Composite)                   | 0.463 hours             |
| Area (User Defined)                                    | 2.200 acres             |
| <hr/>  |                         |
| Computational Time<br>Increment                        | 0.062 hours             |
| Time to Peak (Computed)                                | 12.173 hours            |
| Flow (Peak, Computed)                                  | 4.59 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours            |
| Flow (Peak Interpolated<br>Output)                     | 4.56 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 89.000                  |
| Area (User Defined)                                    | 2.200 acres             |
| Maximum Retention<br>(Pervious)                        | 1.2 in                  |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.2 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth<br>(Pervious)                  | 2.4 in                  |
| Runoff Volume (Pervious)                               | 0.432 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.430 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration<br>(Composite)                   | 0.463 hours             |
| Computational Time<br>Increment                        | 0.062 hours             |
| Unit Hydrograph Shape<br>Factor                        | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 5.38 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin1A

Return Event: 2 years

Storm Event: 2 year

---

## SCS Unit Hydrograph Parameters

---

|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.309 hours |
| Unit receding limb, $T_r$ | 1.236 hours |
| Total unit time, $T_b$    | 1.545 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.463 hours  |
| Area (User Defined)                  | 2.200 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.050           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.800           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 7.050           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.300           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.550           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.800           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.050           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 8.300           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.550           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.800           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.050           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 9.300           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 9.550           | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.800           | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 10.050          | 0.11                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 10.300          | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 10.550          | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.18                         |
| 10.800          | 0.19                         | 0.19                         | 0.20                         | 0.21                         | 0.22                         |
| 11.050          | 0.23                         | 0.24                         | 0.25                         | 0.27                         | 0.28                         |
| 11.300          | 0.30                         | 0.31                         | 0.33                         | 0.35                         | 0.38                         |
| 11.550          | 0.41                         | 0.45                         | 0.53                         | 0.65                         | 0.83                         |
| 11.800          | 1.09                         | 1.49                         | 2.00                         | 2.63                         | 3.32                         |
| 12.050          | 3.98                         | 4.41                         | 4.56                         | 4.45                         | 4.14                         |
| 12.300          | 3.68                         | 3.17                         | 2.70                         | 2.30                         | 1.97                         |
| 12.550          | 1.70                         | 1.49                         | 1.31                         | 1.16                         | 1.03                         |
| 12.800          | 0.92                         | 0.83                         | 0.76                         | 0.71                         | 0.66                         |
| 13.050          | 0.61                         | 0.58                         | 0.55                         | 0.52                         | 0.49                         |
| 13.300          | 0.47                         | 0.45                         | 0.43                         | 0.42                         | 0.40                         |
| 13.550          | 0.39                         | 0.38                         | 0.37                         | 0.36                         | 0.35                         |
| 13.800          | 0.34                         | 0.33                         | 0.33                         | 0.32                         | 0.31                         |
| 14.050          | 0.30                         | 0.30                         | 0.29                         | 0.28                         | 0.28                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 2 years  
 Storm Event: 2 year

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.300       | 0.27                      | 0.27                      | 0.26                      | 0.26                      | 0.26                      |
| 14.550       | 0.25                      | 0.25                      | 0.25                      | 0.24                      | 0.24                      |
| 14.800       | 0.24                      | 0.24                      | 0.23                      | 0.23                      | 0.23                      |
| 15.050       | 0.23                      | 0.22                      | 0.22                      | 0.22                      | 0.22                      |
| 15.300       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.20                      |
| 15.550       | 0.20                      | 0.20                      | 0.20                      | 0.19                      | 0.19                      |
| 15.800       | 0.19                      | 0.19                      | 0.18                      | 0.18                      | 0.18                      |
| 16.050       | 0.18                      | 0.18                      | 0.17                      | 0.17                      | 0.17                      |
| 16.300       | 0.17                      | 0.17                      | 0.16                      | 0.16                      | 0.16                      |
| 16.550       | 0.16                      | 0.16                      | 0.16                      | 0.16                      | 0.16                      |
| 16.800       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 17.050       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 17.300       | 0.15                      | 0.15                      | 0.14                      | 0.14                      | 0.14                      |
| 17.550       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 17.800       | 0.14                      | 0.14                      | 0.14                      | 0.13                      | 0.13                      |
| 18.050       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 18.300       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 18.550       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 18.800       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 19.050       | 0.12                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 19.300       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 19.550       | 0.11                      | 0.11                      | 0.11                      | 0.10                      | 0.10                      |
| 19.800       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 20.050       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 20.300       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 20.550       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 20.800       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 21.050       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 21.300       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 21.550       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 21.800       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 22.050       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 22.300       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 22.550       | 0.09                      | 0.09                      | 0.08                      | 0.08                      | 0.08                      |
| 22.800       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 23.050       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 23.300       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 23.550       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 23.800       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1B

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.470 acres  |

|  |                         |
|--|-------------------------|
| Computational Time<br>Increment            | 0.011 hours             |
| Time to Peak (Computed)                    | 11.922 hours            |
| Flow (Peak, Computed)                      | 1.21 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output) | 11.950 hours            |
| Flow (Peak Interpolated<br>Output)         | 1.16 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 80.000      |
| Area (User Defined)                         | 0.470 acres |
| Maximum Retention<br>(Pervious)             | 2.5 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.5 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 1.6 in      |
| Runoff Volume (Pervious)              | 0.064 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.064 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration<br>(Composite)  | 0.083 hours             |
| Computational Time<br>Increment       | 0.011 hours             |
| Unit Hydrograph Shape<br>Factor       | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 6.39 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin1B

Return Event: 2 years  
Storm Event: 2 year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.470 acres  |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.150          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.400          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.650          | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 10.900          | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 11.150          | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 11.400          | 0.05                         | 0.05                         | 0.05                         | 0.08                         | 0.12                         |
| 11.650          | 0.18                         | 0.27                         | 0.38                         | 0.53                         | 0.80                         |
| 11.900          | 1.15                         | 1.16                         | 1.04                         | 0.73                         | 0.34                         |
| 12.150          | 0.23                         | 0.20                         | 0.18                         | 0.17                         | 0.16                         |
| 12.400          | 0.14                         | 0.13                         | 0.12                         | 0.11                         | 0.10                         |
| 12.650          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 12.900          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 13.150          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 13.650          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 13.900          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.03                         |
| 15.400          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.650          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.900          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.150          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.400          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.650          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.900          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.150          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 17.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.150          | 0.02                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.400          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.650          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.900          | 0.01                         | 0.01                         | 0.01                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin2

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.440 acres  |

|  |                         |
|--|-------------------------|
| Computational Time<br>Increment            | 0.011 hours             |
| Time to Peak (Computed)                    | 11.922 hours            |
| Flow (Peak, Computed)                      | 1.86 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated<br>Output)         | 1.82 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 94.000      |
| Area (User Defined)                         | 0.440 acres |
| Maximum Retention<br>(Pervious)             | 0.6 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.1 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 2.8 in      |
| Runoff Volume (Pervious)              | 0.104 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.104 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration<br>(Composite)  | 0.083 hours             |
| Computational Time<br>Increment       | 0.011 hours             |
| Unit Hydrograph Shape<br>Factor       | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 5.98 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin2

Return Event: 2 years

Storm Event: 2 year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.440 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 3.550           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.050           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.300           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.550           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.800           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.300           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.550           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.800           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.050           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.300           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.550           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 8.800           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.050           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.550           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 9.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.050          | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 10.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 10.550          | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 10.800          | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 11.050          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.11                         |
| 11.300          | 0.12                         | 0.12                         | 0.13                         | 0.14                         | 0.14                         |
| 11.550          | 0.20                         | 0.28                         | 0.42                         | 0.58                         | 0.77                         |
| 11.800          | 0.98                         | 1.37                         | 1.82                         | 1.72                         | 1.47                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.050          | 1.00                         | 0.45                         | 0.31                         | 0.26                         | 0.24                         |
| 12.300          | 0.22                         | 0.20                         | 0.19                         | 0.17                         | 0.15                         |
| 12.550          | 0.14                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 12.800          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 13.050          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 13.300          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.07                         |
| 13.550          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 14.050          | 0.06                         | 0.06                         | 0.05                         | 0.05                         | 0.05                         |
| 14.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.050          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.550          | 0.03                         | 0.03                         | 0.02                         | 0.02                         | 0.02                         |
| 18.800          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.050          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.300          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.550          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.800          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.050          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.300          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.550          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.800          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.050          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.300          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.550          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.800          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.050          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.300          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.550          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Basin2

Return Event: 2 years

Storm Event: 2 year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 22.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin3

Return Event: 2 years  
 Storm Event: 2 year

|  |                         |
|--|-------------------------|
| Storm Event  | 2 year                  |
| Return Event   | 2 years                 |
| Duration   | 24.000 hours            |
| Depth  | 3.5 in                  |
| Time of Concentration (Composite)                      | 0.506 hours             |
| Area (User Defined)                                    | 0.720 acres             |
| <hr/>  |                         |
| Computational Time Increment                           | 0.067 hours             |
| Time to Peak (Computed)                                | 12.214 hours            |
| Flow (Peak, Computed)                                  | 1.27 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak Interpolated Output)                | 12.200 hours            |
| Flow (Peak Interpolated Output)                        | 1.27 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 86.000                  |
| Area (User Defined)                                    | 0.720 acres             |
| Maximum Retention (Pervious)                           | 1.6 in                  |
| Maximum Retention (Pervious, 20 percent)               | 0.3 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth (Pervious)                     | 2.1 in                  |
| Runoff Volume (Pervious)                               | 0.126 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.125 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration (Composite)                      | 0.506 hours             |
| Computational Time Increment                           | 0.067 hours             |
| Unit Hydrograph Shape Factor                           | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 1.61 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin3

Return Event: 2 years

Storm Event: 2 year

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## SCS Unit Hydrograph Parameters

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|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.337 hours |
| Unit receding limb, $T_r$ | 1.350 hours |
| Total unit time, $T_b$    | 1.687 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.506 hours  |
| Area (User Defined)                  | 0.720 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 7.300           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.550           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 8.050           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 8.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 9.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 9.300           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.550           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.800           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 10.050          | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 10.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.550          | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.800          | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 11.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 11.300          | 0.07                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 11.550          | 0.10                         | 0.11                         | 0.13                         | 0.16                         | 0.20                         |
| 11.800          | 0.27                         | 0.37                         | 0.50                         | 0.66                         | 0.85                         |
| 12.050          | 1.02                         | 1.17                         | 1.26                         | 1.27                         | 1.21                         |
| 12.300          | 1.12                         | 1.00                         | 0.87                         | 0.75                         | 0.65                         |
| 12.550          | 0.56                         | 0.50                         | 0.44                         | 0.39                         | 0.34                         |
| 12.800          | 0.31                         | 0.28                         | 0.25                         | 0.23                         | 0.22                         |
| 13.050          | 0.20                         | 0.19                         | 0.18                         | 0.17                         | 0.16                         |
| 13.300          | 0.15                         | 0.15                         | 0.14                         | 0.13                         | 0.13                         |
| 13.550          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 13.800          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.050          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 14.300          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.800          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.050          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.300          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 15.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 15.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.050          | 0.06                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.050          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.300          | 0.05                         | 0.05                         | 0.05                         | 0.04                         | 0.04                         |
| 17.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin4

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.330 acres  |

|  |                         |
|--|-------------------------|
| Computational Time<br>Increment            | 0.011 hours             |
| Time to Peak (Computed)                    | 11.922 hours            |
| Flow (Peak, Computed)                      | 1.36 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated<br>Output)         | 1.33 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 93.000      |
| Area (User Defined)                         | 0.330 acres |
| Maximum Retention<br>(Pervious)             | 0.8 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.2 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 2.7 in      |
| Runoff Volume (Pervious)              | 0.075 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.075 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration<br>(Composite)  | 0.083 hours             |
| Computational Time<br>Increment       | 0.011 hours             |
| Unit Hydrograph Shape<br>Factor       | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 4.49 ft <sup>3</sup> /s |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin4

Return Event: 2 years

Storm Event: 2 year

---

### SCS Unit Hydrograph Parameters

---

|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.056 hours |
| Unit receding limb, $T_r$ | 0.222 hours |
| Total unit time, $T_b$    | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.330 acres  |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.200           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.450           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.700           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.950           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.200           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.450           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.700           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.450           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.700           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.450           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.700           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.450           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.700           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.950           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.200           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.450           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.700           | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.03                         |
| 9.950           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.200          | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 10.450          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.700          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 11.200          | 0.07                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 11.450          | 0.10                         | 0.10                         | 0.15                         | 0.20                         | 0.30                         |
| 11.700          | 0.42                         | 0.56                         | 0.71                         | 1.00                         | 1.33                         |
| 11.950          | 1.26                         | 1.08                         | 0.73                         | 0.33                         | 0.23                         |
| 12.200          | 0.19                         | 0.17                         | 0.16                         | 0.15                         | 0.14                         |
| 12.450          | 0.12                         | 0.11                         | 0.10                         | 0.10                         | 0.09                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.700          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 12.950          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.200          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 13.450          | 0.06                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 13.700          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.04                         |
| 13.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.450          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.03                         |
| 14.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.200          | 0.03                         | 0.03                         | 0.03                         | 0.02                         | 0.02                         |
| 16.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 16.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 16.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 20.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 20.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 20.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 20.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 23.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.950          | 0.01                         | 0.01                         | (N/A)                        | (N/A)                        | (N/A)                        |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin5

Return Event: 2 years  
 Storm Event: 2 year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 2 year       |
| Return Event                      | 2 years      |
| Duration                          | 24.000 hours |
| Depth                             | 3.5 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 0.910 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.011 hours             |
| Time to Peak (Computed)                 | 11.922 hours            |
| Flow (Peak, Computed)                   | 3.65 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated Output)         | 3.56 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 92.000      |
| Area (User Defined)                      | 0.910 acres |
| Maximum Retention (Pervious)             | 0.9 in      |
| Maximum Retention (Pervious, 20 percent) | 0.2 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 2.6 in      |
| Runoff Volume (Pervious)           | 0.200 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.200 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.083 hours              |
| Computational Time Increment          | 0.011 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 12.37 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin5

Return Event: 2 years  
Storm Event: 2 year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.910 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.350           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.600           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.850           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.850           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.350           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 6.600           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.850           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.350           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.600           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 7.850           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.350           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 8.600           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.850           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.100           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.350           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.600           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.850           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 10.350          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 10.600          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.13                         |
| 10.850          | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.16                         |
| 11.100          | 0.16                         | 0.18                         | 0.19                         | 0.20                         | 0.21                         |
| 11.350          | 0.23                         | 0.24                         | 0.25                         | 0.26                         | 0.38                         |
| 11.600          | 0.53                         | 0.79                         | 1.09                         | 1.47                         | 1.89                         |
| 11.850          | 2.66                         | 3.56                         | 3.39                         | 2.92                         | 1.99                         |
| 12.100          | 0.90                         | 0.61                         | 0.52                         | 0.47                         | 0.44                         |
| 12.350          | 0.40                         | 0.37                         | 0.34                         | 0.30                         | 0.28                         |
| 12.600          | 0.26                         | 0.25                         | 0.24                         | 0.23                         | 0.22                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.850          | 0.22                         | 0.21                         | 0.20                         | 0.19                         | 0.19                         |
| 13.100          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.16                         |
| 13.350          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.14                         |
| 13.600          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 13.850          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 14.100          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 14.350          | 0.11                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 14.600          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 14.850          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.100          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.350          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.600          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 16.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.600          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.350          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
Label: Basin5

Return Event: 2 years  
Storm Event: 2 year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin 7

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 2.490 acres  |

|  |                         |
|--|-------------------------|
| Computational Time<br>Increment            | 0.011 hours             |
| Time to Peak (Computed)                    | 11.922 hours            |
| Flow (Peak, Computed)                      | 7.01 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated<br>Output)         | 6.67 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 82.000      |
| Area (User Defined)                         | 2.490 acres |
| Maximum Retention<br>(Pervious)             | 2.2 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 1.8 in      |
| Runoff Volume (Pervious)              | 0.370 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.369 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.083 hours              |
| Computational Time<br>Increment       | 0.011 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 33.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin 7

Return Event: 2 years

Storm Event: 2 year

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## SCS Unit Hydrograph Parameters

---

|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.056 hours |
| Unit receding limb, $T_r$ | 0.222 hours |
| Total unit time, $T_b$    | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 2.490 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.350           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 8.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.850           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 9.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.350           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.600           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 9.850           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.100          | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 10.350          | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.10                         |
| 10.600          | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.13                         |
| 10.850          | 0.14                         | 0.15                         | 0.15                         | 0.16                         | 0.17                         |
| 11.100          | 0.19                         | 0.20                         | 0.22                         | 0.24                         | 0.26                         |
| 11.350          | 0.28                         | 0.30                         | 0.32                         | 0.35                         | 0.51                         |
| 11.600          | 0.73                         | 1.13                         | 1.64                         | 2.33                         | 3.15                         |
| 11.850          | 4.71                         | 6.67                         | 6.67                         | 5.96                         | 4.13                         |
| 12.100          | 1.90                         | 1.30                         | 1.11                         | 1.02                         | 0.95                         |
| 12.350          | 0.88                         | 0.81                         | 0.74                         | 0.66                         | 0.61                         |
| 12.600          | 0.57                         | 0.54                         | 0.53                         | 0.51                         | 0.49                         |
| 12.850          | 0.48                         | 0.46                         | 0.44                         | 0.43                         | 0.41                         |
| 13.100          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.350          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 13.600          | 0.31                         | 0.31                         | 0.30                         | 0.29                         | 0.29                         |
| 13.850          | 0.28                         | 0.27                         | 0.27                         | 0.26                         | 0.26                         |
| 14.100          | 0.25                         | 0.25                         | 0.25                         | 0.24                         | 0.24                         |
| 14.350          | 0.24                         | 0.24                         | 0.23                         | 0.23                         | 0.23                         |
| 14.600          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.22                         |
| 14.850          | 0.22                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 15.100          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 15.350          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 15.600          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 15.850          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 16.100          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 16.350          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 16.600          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 16.850          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.14                         |
| 17.100          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 17.350          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 17.600          | 0.14                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 17.850          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 18.100          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 18.350          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 18.600          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 18.850          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 19.100          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 19.350          | 0.11                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 19.600          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 19.850          | 0.10                         | 0.10                         | 0.10                         | 0.09                         | 0.09                         |
| 20.100          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 20.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 20.600          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 20.850          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.100          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.600          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.850          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 22.100          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 22.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 22.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass1

Return Event: 2 years  
 Storm Event: 2 year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 2 year       |
| Return Event                      | 2 years      |
| Duration                          | 24.000 hours |
| Depth                             | 3.5 in       |
| Time of Concentration (Composite) | 0.198 hours  |
| Area (User Defined)               | 5.280 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.026 hours              |
| Time to Peak (Computed)                 | 12.020 hours             |
| Flow (Peak, Computed)                   | 11.34 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated Output)         | 11.20 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 80.000      |
| Area (User Defined)                      | 5.280 acres |
| Maximum Retention (Pervious)             | 2.5 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 1.6 in      |
| Runoff Volume (Pervious)           | 0.720 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.718 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.198 hours              |
| Computational Time Increment          | 0.026 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 30.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass1

Return Event: 2 years  
Storm Event: 2 year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.132 hours |
| Unit receding limb, $T_r$      | 0.528 hours |
| Total unit time, $T_b$         | 0.660 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass1

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.198 hours  |
| Area (User Defined)                  | 5.280 acres  |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.000           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 9.250           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 9.500           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 9.750           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 10.000          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.08                         |
| 10.250          | 0.09                         | 0.09                         | 0.10                         | 0.11                         | 0.11                         |
| 10.500          | 0.12                         | 0.13                         | 0.14                         | 0.15                         | 0.16                         |
| 10.750          | 0.17                         | 0.18                         | 0.20                         | 0.21                         | 0.22                         |
| 11.000          | 0.24                         | 0.26                         | 0.27                         | 0.30                         | 0.32                         |
| 11.250          | 0.35                         | 0.38                         | 0.42                         | 0.45                         | 0.49                         |
| 11.500          | 0.54                         | 0.62                         | 0.81                         | 1.14                         | 1.70                         |
| 11.750          | 2.49                         | 3.60                         | 5.15                         | 7.47                         | 9.87                         |
| 12.000          | 11.20                        | 10.96                        | 9.05                         | 6.54                         | 4.57                         |
| 12.250          | 3.44                         | 2.77                         | 2.34                         | 2.04                         | 1.82                         |
| 12.500          | 1.63                         | 1.47                         | 1.33                         | 1.23                         | 1.16                         |
| 12.750          | 1.11                         | 1.06                         | 1.02                         | 0.99                         | 0.95                         |
| 13.000          | 0.92                         | 0.89                         | 0.86                         | 0.83                         | 0.81                         |
| 13.250          | 0.79                         | 0.77                         | 0.75                         | 0.73                         | 0.71                         |
| 13.500          | 0.69                         | 0.68                         | 0.66                         | 0.64                         | 0.63                         |
| 13.750          | 0.62                         | 0.60                         | 0.59                         | 0.58                         | 0.56                         |
| 14.000          | 0.55                         | 0.54                         | 0.53                         | 0.52                         | 0.51                         |
| 14.250          | 0.50                         | 0.50                         | 0.49                         | 0.49                         | 0.48                         |
| 14.500          | 0.48                         | 0.47                         | 0.47                         | 0.46                         | 0.46                         |
| 14.750          | 0.46                         | 0.45                         | 0.45                         | 0.44                         | 0.44                         |
| 15.000          | 0.43                         | 0.43                         | 0.42                         | 0.42                         | 0.41                         |
| 15.250          | 0.41                         | 0.41                         | 0.40                         | 0.40                         | 0.39                         |
| 15.500          | 0.39                         | 0.38                         | 0.38                         | 0.37                         | 0.37                         |
| 15.750          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.34                         |
| 16.000          | 0.34                         | 0.34                         | 0.33                         | 0.33                         | 0.32                         |
| 16.250          | 0.32                         | 0.32                         | 0.32                         | 0.32                         | 0.32                         |
| 16.500          | 0.31                         | 0.31                         | 0.31                         | 0.31                         | 0.31                         |
| 16.750          | 0.31                         | 0.30                         | 0.30                         | 0.30                         | 0.30                         |
| 17.000          | 0.30                         | 0.30                         | 0.29                         | 0.29                         | 0.29                         |
| 17.250          | 0.29                         | 0.29                         | 0.29                         | 0.28                         | 0.28                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass1

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.500       | 0.28                      | 0.28                      | 0.28                      | 0.28                      | 0.27                      |
| 17.750       | 0.27                      | 0.27                      | 0.27                      | 0.27                      | 0.27                      |
| 18.000       | 0.26                      | 0.26                      | 0.26                      | 0.26                      | 0.26                      |
| 18.250       | 0.26                      | 0.25                      | 0.25                      | 0.25                      | 0.25                      |
| 18.500       | 0.25                      | 0.25                      | 0.24                      | 0.24                      | 0.24                      |
| 18.750       | 0.24                      | 0.24                      | 0.23                      | 0.23                      | 0.23                      |
| 19.000       | 0.23                      | 0.23                      | 0.23                      | 0.22                      | 0.22                      |
| 19.250       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.21                      |
| 19.500       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 19.750       | 0.20                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 20.000       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 20.250       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 20.500       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 20.750       | 0.19                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 21.000       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 21.250       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 21.500       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 21.750       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 22.000       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 22.250       | 0.18                      | 0.18                      | 0.17                      | 0.17                      | 0.17                      |
| 22.500       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 22.750       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.000       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.250       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.500       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 23.750       | 0.17                      | 0.17                      | 0.16                      | 0.16                      | 0.16                      |
| 24.000       | 0.16                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass2

Return Event: 2 years  
 Storm Event: 2 year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 2 year       |
| Return Event                      | 2 years      |
| Duration                          | 24.000 hours |
| Depth                             | 3.5 in       |
| Time of Concentration (Composite) | 0.426 hours  |
| Area (User Defined)               | 26.100 acres |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.057 hours              |
| Time to Peak (Computed)                 | 12.151 hours             |
| Flow (Peak, Computed)                   | 45.31 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.150 hours             |
| Flow (Peak Interpolated Output)         | 45.28 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 83.000       |
| Area (User Defined)                      | 26.100 acres |
| Maximum Retention (Pervious)             | 2.0 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 1.9 in      |
| Runoff Volume (Pervious)           | 4.042 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 4.020 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.426 hours              |
| Computational Time Increment          | 0.057 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 69.44 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass2

Return Event: 2 years  
Storm Event: 2 year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.284 hours |
| Unit receding limb, $T_r$      | 1.136 hours |
| Total unit time, $T_b$         | 1.420 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass2

Return Event: 2 years

Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.426 hours  |
| Area (User Defined)                  | 26.100 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.000           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 8.250           | 0.02                         | 0.02                         | 0.03                         | 0.04                         | 0.04                         |
| 8.500           | 0.05                         | 0.06                         | 0.07                         | 0.08                         | 0.09                         |
| 8.750           | 0.11                         | 0.12                         | 0.13                         | 0.14                         | 0.16                         |
| 9.000           | 0.17                         | 0.19                         | 0.20                         | 0.22                         | 0.23                         |
| 9.250           | 0.25                         | 0.26                         | 0.28                         | 0.29                         | 0.31                         |
| 9.500           | 0.32                         | 0.34                         | 0.35                         | 0.36                         | 0.38                         |
| 9.750           | 0.40                         | 0.42                         | 0.44                         | 0.46                         | 0.48                         |
| 10.000          | 0.50                         | 0.53                         | 0.56                         | 0.59                         | 0.62                         |
| 10.250          | 0.65                         | 0.68                         | 0.72                         | 0.76                         | 0.80                         |
| 10.500          | 0.84                         | 0.88                         | 0.93                         | 0.98                         | 1.03                         |
| 10.750          | 1.09                         | 1.15                         | 1.22                         | 1.29                         | 1.36                         |
| 11.000          | 1.44                         | 1.52                         | 1.61                         | 1.71                         | 1.82                         |
| 11.250          | 1.94                         | 2.08                         | 2.23                         | 2.40                         | 2.58                         |
| 11.500          | 2.80                         | 3.08                         | 3.49                         | 4.18                         | 5.26                         |
| 11.750          | 7.05                         | 9.74                         | 13.71                        | 19.09                        | 25.78                        |
| 12.000          | 33.05                        | 39.62                        | 44.07                        | 45.28                        | 43.10                        |
| 12.250          | 38.88                        | 33.79                        | 28.69                        | 24.18                        | 20.51                        |
| 12.500          | 17.61                        | 15.28                        | 13.38                        | 11.81                        | 10.49                        |
| 12.750          | 9.40                         | 8.51                         | 7.78                         | 7.18                         | 6.68                         |
| 13.000          | 6.27                         | 5.92                         | 5.61                         | 5.33                         | 5.08                         |
| 13.250          | 4.85                         | 4.66                         | 4.50                         | 4.36                         | 4.24                         |
| 13.500          | 4.12                         | 4.01                         | 3.90                         | 3.80                         | 3.70                         |
| 13.750          | 3.60                         | 3.52                         | 3.43                         | 3.35                         | 3.27                         |
| 14.000          | 3.20                         | 3.12                         | 3.05                         | 2.98                         | 2.92                         |
| 14.250          | 2.86                         | 2.81                         | 2.77                         | 2.73                         | 2.69                         |
| 14.500          | 2.66                         | 2.62                         | 2.59                         | 2.57                         | 2.54                         |
| 14.750          | 2.51                         | 2.49                         | 2.46                         | 2.44                         | 2.41                         |
| 15.000          | 2.39                         | 2.36                         | 2.34                         | 2.31                         | 2.29                         |
| 15.250          | 2.26                         | 2.24                         | 2.22                         | 2.19                         | 2.17                         |
| 15.500          | 2.14                         | 2.12                         | 2.09                         | 2.07                         | 2.04                         |
| 15.750          | 2.02                         | 1.99                         | 1.97                         | 1.94                         | 1.92                         |
| 16.000          | 1.89                         | 1.87                         | 1.84                         | 1.82                         | 1.80                         |
| 16.250          | 1.77                         | 1.76                         | 1.74                         | 1.73                         | 1.71                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass2

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.500       | 1.70                      | 1.69                      | 1.68                      | 1.67                      | 1.66                      |
| 16.750       | 1.65                      | 1.64                      | 1.63                      | 1.62                      | 1.61                      |
| 17.000       | 1.60                      | 1.59                      | 1.59                      | 1.58                      | 1.57                      |
| 17.250       | 1.56                      | 1.55                      | 1.54                      | 1.53                      | 1.52                      |
| 17.500       | 1.51                      | 1.51                      | 1.50                      | 1.49                      | 1.48                      |
| 17.750       | 1.47                      | 1.46                      | 1.45                      | 1.44                      | 1.43                      |
| 18.000       | 1.42                      | 1.42                      | 1.41                      | 1.40                      | 1.39                      |
| 18.250       | 1.38                      | 1.37                      | 1.36                      | 1.35                      | 1.34                      |
| 18.500       | 1.33                      | 1.33                      | 1.32                      | 1.31                      | 1.30                      |
| 18.750       | 1.29                      | 1.28                      | 1.27                      | 1.26                      | 1.25                      |
| 19.000       | 1.24                      | 1.23                      | 1.22                      | 1.21                      | 1.21                      |
| 19.250       | 1.20                      | 1.19                      | 1.18                      | 1.17                      | 1.16                      |
| 19.500       | 1.15                      | 1.14                      | 1.13                      | 1.12                      | 1.11                      |
| 19.750       | 1.10                      | 1.09                      | 1.09                      | 1.08                      | 1.07                      |
| 20.000       | 1.06                      | 1.05                      | 1.04                      | 1.03                      | 1.02                      |
| 20.250       | 1.02                      | 1.01                      | 1.00                      | 1.00                      | 1.00                      |
| 20.500       | 0.99                      | 0.99                      | 0.99                      | 0.99                      | 0.98                      |
| 20.750       | 0.98                      | 0.98                      | 0.98                      | 0.97                      | 0.97                      |
| 21.000       | 0.97                      | 0.97                      | 0.97                      | 0.97                      | 0.96                      |
| 21.250       | 0.96                      | 0.96                      | 0.96                      | 0.96                      | 0.96                      |
| 21.500       | 0.95                      | 0.95                      | 0.95                      | 0.95                      | 0.95                      |
| 21.750       | 0.94                      | 0.94                      | 0.94                      | 0.94                      | 0.94                      |
| 22.000       | 0.94                      | 0.93                      | 0.93                      | 0.93                      | 0.93                      |
| 22.250       | 0.93                      | 0.93                      | 0.92                      | 0.92                      | 0.92                      |
| 22.500       | 0.92                      | 0.92                      | 0.91                      | 0.91                      | 0.91                      |
| 22.750       | 0.91                      | 0.91                      | 0.91                      | 0.90                      | 0.90                      |
| 23.000       | 0.90                      | 0.90                      | 0.90                      | 0.90                      | 0.89                      |
| 23.250       | 0.89                      | 0.89                      | 0.89                      | 0.89                      | 0.88                      |
| 23.500       | 0.88                      | 0.88                      | 0.88                      | 0.88                      | 0.88                      |
| 23.750       | 0.87                      | 0.87                      | 0.87                      | 0.87                      | 0.87                      |
| 24.000       | 0.86                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass3

Return Event: 2 years  
 Storm Event: 2 year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 2 year       |
| Return Event                      | 2 years      |
| Duration                          | 24.000 hours |
| Depth                             | 3.5 in       |
| Time of Concentration (Composite) | 0.387 hours  |
| Area (User Defined)               | 37.710 acres |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.052 hours              |
| Time to Peak (Computed)                 | 12.141 hours             |
| Flow (Peak, Computed)                   | 71.47 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated Output)         | 71.16 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 84.000       |
| Area (User Defined)                      | 37.710 acres |
| Maximum Retention (Pervious)             | 1.9 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 1.9 in      |
| Runoff Volume (Pervious)           | 6.085 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 6.053 ac-ft |

|                                       |                           |
|---------------------------------------|---------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                           |
| Time of Concentration (Composite)     | 0.387 hours               |
| Computational Time Increment          | 0.052 hours               |
| Unit Hydrograph Shape Factor          | 483.432                   |
| K Factor                              | 0.749                     |
| Receding/Rising, Tr/Tp                | 1.670                     |
| Unit peak, qp                         | 110.27 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass3

Return Event: 2 years  
Storm Event: 2 year

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| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.258 hours |
| Unit receding limb, $T_r$      | 1.033 hours |
| Total unit time, $T_b$         | 1.292 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 2 years

Label: Bypass3

Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.387 hours  |
| Area (User Defined)                  | 37.710 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 7.600           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.02                         |
| 7.850           | 0.02                         | 0.03                         | 0.04                         | 0.05                         | 0.06                         |
| 8.100           | 0.07                         | 0.08                         | 0.09                         | 0.11                         | 0.12                         |
| 8.350           | 0.13                         | 0.15                         | 0.16                         | 0.18                         | 0.20                         |
| 8.600           | 0.21                         | 0.23                         | 0.25                         | 0.27                         | 0.29                         |
| 8.850           | 0.31                         | 0.34                         | 0.36                         | 0.38                         | 0.41                         |
| 9.100           | 0.43                         | 0.46                         | 0.48                         | 0.50                         | 0.53                         |
| 9.350           | 0.55                         | 0.57                         | 0.59                         | 0.61                         | 0.63                         |
| 9.600           | 0.66                         | 0.68                         | 0.70                         | 0.73                         | 0.76                         |
| 9.850           | 0.79                         | 0.83                         | 0.86                         | 0.90                         | 0.94                         |
| 10.100          | 0.99                         | 1.03                         | 1.08                         | 1.14                         | 1.19                         |
| 10.350          | 1.25                         | 1.31                         | 1.38                         | 1.45                         | 1.52                         |
| 10.600          | 1.59                         | 1.67                         | 1.76                         | 1.85                         | 1.95                         |
| 10.850          | 2.05                         | 2.17                         | 2.29                         | 2.41                         | 2.55                         |
| 11.100          | 2.69                         | 2.85                         | 3.02                         | 3.22                         | 3.45                         |
| 11.350          | 3.70                         | 3.98                         | 4.27                         | 4.61                         | 5.07                         |
| 11.600          | 5.80                         | 7.06                         | 9.14                         | 12.37                        | 17.13                        |
| 11.850          | 23.93                        | 33.14                        | 44.46                        | 56.36                        | 66.05                        |
| 12.100          | 71.16                        | 70.51                        | 64.79                        | 56.22                        | 47.13                        |
| 12.350          | 38.93                        | 32.41                        | 27.46                        | 23.62                        | 20.48                        |
| 12.600          | 17.91                        | 15.80                        | 14.07                        | 12.66                        | 11.54                        |
| 12.850          | 10.63                        | 9.88                         | 9.27                         | 8.74                         | 8.28                         |
| 13.100          | 7.86                         | 7.50                         | 7.19                         | 6.93                         | 6.71                         |
| 13.350          | 6.50                         | 6.32                         | 6.14                         | 5.98                         | 5.82                         |
| 13.600          | 5.67                         | 5.52                         | 5.38                         | 5.25                         | 5.12                         |
| 13.850          | 5.00                         | 4.88                         | 4.77                         | 4.66                         | 4.55                         |
| 14.100          | 4.45                         | 4.35                         | 4.26                         | 4.18                         | 4.10                         |
| 14.350          | 4.04                         | 3.99                         | 3.94                         | 3.89                         | 3.85                         |
| 14.600          | 3.81                         | 3.77                         | 3.73                         | 3.69                         | 3.65                         |
| 14.850          | 3.61                         | 3.58                         | 3.54                         | 3.50                         | 3.47                         |
| 15.100          | 3.43                         | 3.40                         | 3.36                         | 3.32                         | 3.29                         |
| 15.350          | 3.25                         | 3.21                         | 3.18                         | 3.14                         | 3.10                         |
| 15.600          | 3.07                         | 3.03                         | 2.99                         | 2.95                         | 2.92                         |
| 15.850          | 2.88                         | 2.84                         | 2.80                         | 2.77                         | 2.73                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass3

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.100       | 2.69                      | 2.66                      | 2.63                      | 2.60                      | 2.57                      |
| 16.350       | 2.55                      | 2.53                      | 2.51                      | 2.50                      | 2.48                      |
| 16.600       | 2.47                      | 2.45                      | 2.44                      | 2.42                      | 2.41                      |
| 16.850       | 2.40                      | 2.38                      | 2.37                      | 2.36                      | 2.34                      |
| 17.100       | 2.33                      | 2.32                      | 2.30                      | 2.29                      | 2.28                      |
| 17.350       | 2.26                      | 2.25                      | 2.24                      | 2.23                      | 2.21                      |
| 17.600       | 2.20                      | 2.19                      | 2.17                      | 2.16                      | 2.15                      |
| 17.850       | 2.13                      | 2.12                      | 2.11                      | 2.09                      | 2.08                      |
| 18.100       | 2.07                      | 2.05                      | 2.04                      | 2.03                      | 2.01                      |
| 18.350       | 2.00                      | 1.99                      | 1.97                      | 1.96                      | 1.94                      |
| 18.600       | 1.93                      | 1.92                      | 1.90                      | 1.89                      | 1.88                      |
| 18.850       | 1.86                      | 1.85                      | 1.84                      | 1.82                      | 1.81                      |
| 19.100       | 1.80                      | 1.78                      | 1.77                      | 1.75                      | 1.74                      |
| 19.350       | 1.73                      | 1.71                      | 1.70                      | 1.69                      | 1.67                      |
| 19.600       | 1.66                      | 1.64                      | 1.63                      | 1.62                      | 1.60                      |
| 19.850       | 1.59                      | 1.58                      | 1.56                      | 1.55                      | 1.54                      |
| 20.100       | 1.52                      | 1.51                      | 1.50                      | 1.49                      | 1.48                      |
| 20.350       | 1.47                      | 1.47                      | 1.46                      | 1.46                      | 1.45                      |
| 20.600       | 1.45                      | 1.45                      | 1.44                      | 1.44                      | 1.44                      |
| 20.850       | 1.44                      | 1.43                      | 1.43                      | 1.43                      | 1.43                      |
| 21.100       | 1.42                      | 1.42                      | 1.42                      | 1.42                      | 1.41                      |
| 21.350       | 1.41                      | 1.41                      | 1.40                      | 1.40                      | 1.40                      |
| 21.600       | 1.40                      | 1.39                      | 1.39                      | 1.39                      | 1.39                      |
| 21.850       | 1.38                      | 1.38                      | 1.38                      | 1.38                      | 1.37                      |
| 22.100       | 1.37                      | 1.37                      | 1.37                      | 1.36                      | 1.36                      |
| 22.350       | 1.36                      | 1.36                      | 1.35                      | 1.35                      | 1.35                      |
| 22.600       | 1.34                      | 1.34                      | 1.34                      | 1.34                      | 1.33                      |
| 22.850       | 1.33                      | 1.33                      | 1.33                      | 1.32                      | 1.32                      |
| 23.100       | 1.32                      | 1.32                      | 1.31                      | 1.31                      | 1.31                      |
| 23.350       | 1.30                      | 1.30                      | 1.30                      | 1.30                      | 1.29                      |
| 23.600       | 1.29                      | 1.29                      | 1.29                      | 1.28                      | 1.28                      |
| 23.850       | 1.28                      | 1.28                      | 1.27                      | 1.27                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Bypass 4

Return Event: 2 years

Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.049 hours              |
| Time to Peak (Computed)                    | 12.087 hours             |
| Flow (Peak, Computed)                      | 12.11 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)         | 12.08 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 84.000      |
| Area (User Defined)                         | 6.160 acres |
| Maximum Retention<br>(Pervious)             | 1.9 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 1.9 in      |
| Runoff Volume (Pervious)              | 0.994 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.989 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.366 hours              |
| Computational Time<br>Increment       | 0.049 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 19.09 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass 4

Return Event: 2 years  
Storm Event: 2 year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.244 hours |
| Unit receding limb, Tr         | 0.975 hours |
| Total unit time, Tb            | 1.218 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass 4

Return Event: 2 years  
 Storm Event: 2 year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 2 year       |
| Return Event                         | 2 years      |
| Duration                             | 24.000 hours |
| Depth                                | 3.5 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 7.700           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 7.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.200           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.450           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 8.700           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 8.950           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.08                         |
| 9.200           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 9.450           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 9.700           | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 9.950           | 0.14                         | 0.15                         | 0.16                         | 0.16                         | 0.17                         |
| 10.200          | 0.18                         | 0.19                         | 0.20                         | 0.21                         | 0.22                         |
| 10.450          | 0.23                         | 0.24                         | 0.25                         | 0.26                         | 0.28                         |
| 10.700          | 0.29                         | 0.31                         | 0.32                         | 0.34                         | 0.36                         |
| 10.950          | 0.38                         | 0.40                         | 0.42                         | 0.45                         | 0.47                         |
| 11.200          | 0.50                         | 0.54                         | 0.57                         | 0.62                         | 0.66                         |
| 11.450          | 0.71                         | 0.77                         | 0.84                         | 0.95                         | 1.17                         |
| 11.700          | 1.53                         | 2.11                         | 2.94                         | 4.14                         | 5.78                         |
| 11.950          | 7.79                         | 9.87                         | 11.43                        | 12.08                        | 11.69                        |
| 12.200          | 10.46                        | 8.87                         | 7.31                         | 5.99                         | 4.98                         |
| 12.450          | 4.21                         | 3.62                         | 3.14                         | 2.75                         | 2.43                         |
| 12.700          | 2.17                         | 1.96                         | 1.79                         | 1.66                         | 1.55                         |
| 12.950          | 1.46                         | 1.38                         | 1.31                         | 1.25                         | 1.20                         |
| 13.200          | 1.15                         | 1.12                         | 1.08                         | 1.05                         | 1.02                         |
| 13.450          | 0.99                         | 0.97                         | 0.94                         | 0.92                         | 0.89                         |
| 13.700          | 0.87                         | 0.85                         | 0.83                         | 0.81                         | 0.79                         |
| 13.950          | 0.77                         | 0.75                         | 0.74                         | 0.72                         | 0.70                         |
| 14.200          | 0.69                         | 0.68                         | 0.67                         | 0.66                         | 0.65                         |
| 14.450          | 0.64                         | 0.63                         | 0.63                         | 0.62                         | 0.61                         |
| 14.700          | 0.61                         | 0.60                         | 0.59                         | 0.59                         | 0.58                         |
| 14.950          | 0.58                         | 0.57                         | 0.56                         | 0.56                         | 0.55                         |
| 15.200          | 0.55                         | 0.54                         | 0.53                         | 0.53                         | 0.52                         |
| 15.450          | 0.52                         | 0.51                         | 0.50                         | 0.50                         | 0.49                         |
| 15.700          | 0.49                         | 0.48                         | 0.47                         | 0.47                         | 0.46                         |
| 15.950          | 0.46                         | 0.45                         | 0.44                         | 0.44                         | 0.43                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 2 years

Label: Bypass 4

Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.200       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | 0.41                      |
| 16.450       | 0.41                      | 0.41                      | 0.40                      | 0.40                      | 0.40                      |
| 16.700       | 0.40                      | 0.40                      | 0.39                      | 0.39                      | 0.39                      |
| 16.950       | 0.39                      | 0.38                      | 0.38                      | 0.38                      | 0.38                      |
| 17.200       | 0.38                      | 0.37                      | 0.37                      | 0.37                      | 0.37                      |
| 17.450       | 0.36                      | 0.36                      | 0.36                      | 0.36                      | 0.36                      |
| 17.700       | 0.35                      | 0.35                      | 0.35                      | 0.35                      | 0.35                      |
| 17.950       | 0.34                      | 0.34                      | 0.34                      | 0.34                      | 0.33                      |
| 18.200       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.32                      |
| 18.450       | 0.32                      | 0.32                      | 0.32                      | 0.31                      | 0.31                      |
| 18.700       | 0.31                      | 0.31                      | 0.31                      | 0.30                      | 0.30                      |
| 18.950       | 0.30                      | 0.30                      | 0.29                      | 0.29                      | 0.29                      |
| 19.200       | 0.29                      | 0.29                      | 0.28                      | 0.28                      | 0.28                      |
| 19.450       | 0.28                      | 0.27                      | 0.27                      | 0.27                      | 0.27                      |
| 19.700       | 0.27                      | 0.26                      | 0.26                      | 0.26                      | 0.26                      |
| 19.950       | 0.25                      | 0.25                      | 0.25                      | 0.25                      | 0.25                      |
| 20.200       | 0.24                      | 0.24                      | 0.24                      | 0.24                      | 0.24                      |
| 20.450       | 0.24                      | 0.24                      | 0.24                      | 0.24                      | 0.24                      |
| 20.700       | 0.24                      | 0.24                      | 0.23                      | 0.23                      | 0.23                      |
| 20.950       | 0.23                      | 0.23                      | 0.23                      | 0.23                      | 0.23                      |
| 21.200       | 0.23                      | 0.23                      | 0.23                      | 0.23                      | 0.23                      |
| 21.450       | 0.23                      | 0.23                      | 0.23                      | 0.23                      | 0.23                      |
| 21.700       | 0.23                      | 0.23                      | 0.23                      | 0.23                      | 0.23                      |
| 21.950       | 0.23                      | 0.22                      | 0.22                      | 0.22                      | 0.22                      |
| 22.200       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.22                      |
| 22.450       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.22                      |
| 22.700       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.22                      |
| 22.950       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.21                      |
| 23.200       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 23.450       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 23.700       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 23.950       | 0.21                      | 0.21                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 2 years  
 Storm Event: 2 year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link                       | Upstream Node  |
|-------------------------------------|----------------|
| <Catchment to Outflow Node><br>CO-4 | Bypass2<br>J-4 |
| <Catchment to Outflow Node>         | Bypass 4       |
| <Catchment to Outflow Node>         | Bypass1        |
| <Catchment to Outflow Node>         | Bypass3        |

### Node Inflows

| Inflow Type | Element  | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Bypass2  | 4.020             | 12.150                  | 45.28                               |
| Flow (From) | CO-4     | 0.786             | 12.750                  | 2.11                                |
| Flow (From) | Bypass 4 | 0.989             | 12.100                  | 12.08                               |
| Flow (From) | Bypass1  | 0.718             | 12.000                  | 11.20                               |
| Flow (From) | Bypass3  | 6.053             | 12.100                  | 71.16                               |
| Flow (In)   | O-1      | 12.566            | 12.100                  | 137.70                              |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 5.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 5.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 5.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 5.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 6.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 6.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 6.500           | 533.00            | 533.00            | 533.01            | 533.01            | 533.01            |
| 6.750           | 533.01            | 533.01            | 533.01            | 533.01            | 533.01            |
| 7.000           | 533.01            | 533.01            | 533.01            | 533.02            | 533.02            |
| 7.250           | 533.02            | 533.02            | 533.02            | 533.02            | 533.02            |
| 7.500           | 533.03            | 533.03            | 533.03            | 533.03            | 533.03            |
| 7.750           | 533.03            | 533.04            | 533.04            | 533.04            | 533.04            |
| 8.000           | 533.04            | 533.05            | 533.05            | 533.05            | 533.05            |
| 8.250           | 533.05            | 533.06            | 533.06            | 533.06            | 533.07            |
| 8.500           | 533.07            | 533.07            | 533.07            | 533.08            | 533.08            |
| 8.750           | 533.08            | 533.09            | 533.09            | 533.09            | 533.10            |
| 9.000           | 533.10            | 533.11            | 533.11            | 533.11            | 533.12            |
| 9.250           | 533.12            | 533.13            | 533.13            | 533.14            | 533.14            |
| 9.500           | 533.15            | 533.15            | 533.16            | 533.16            | 533.17            |
| 9.750           | 533.18            | 533.18            | 533.19            | 533.19            | 533.20            |
| 10.000          | 533.21            | 533.21            | 533.22            | 533.23            | 533.23            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 533.24            | 533.25            | 533.25            | 533.26            | 533.27            |
| 10.500          | 533.28            | 533.29            | 533.30            | 533.31            | 533.32            |
| 10.750          | 533.33            | 533.34            | 533.35            | 533.36            | 533.38            |
| 11.000          | 533.39            | 533.40            | 533.42            | 533.43            | 533.45            |
| 11.250          | 533.46            | 533.48            | 533.50            | 533.51            | 533.53            |
| 11.500          | 533.55            | 533.58            | 533.60            | 533.63            | 533.66            |
| 11.750          | 533.70            | 533.76            | 533.83            | 533.92            | 534.04            |
| 12.000          | 534.19            | 534.37            | 534.56            | 534.76            | 534.96            |
| 12.250          | 535.14            | 535.30            | 535.43            | 535.55            | 535.64            |
| 12.500          | 535.72            | 535.79            | 535.85            | 535.90            | 535.94            |
| 12.750          | 535.98            | 536.01            | 536.02            | 536.03            | 536.03            |
| 13.000          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 13.250          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 13.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 13.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 14.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 14.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 14.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 14.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.500          | 536.01            | 536.01            | 536.01            | 536.00            | 536.00            |
| 17.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 18.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 18.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 18.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 18.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 19.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 19.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 19.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 19.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 20.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 20.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 20.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 21.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 21.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 21.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 21.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 22.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 22.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 22.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 22.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 24.000          | 536.00            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 7.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 7.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 7.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 7.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 8.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 8.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 8.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 8.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 9.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.01            |
| 9.250           | 530.01            | 530.01            | 530.01            | 530.01            | 530.01            |
| 9.500           | 530.01            | 530.01            | 530.02            | 530.02            | 530.02            |
| 9.750           | 530.02            | 530.02            | 530.02            | 530.03            | 530.03            |
| 10.000          | 530.03            | 530.03            | 530.04            | 530.04            | 530.04            |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 530.04            | 530.05            | 530.05            | 530.05            | 530.06            |
| 10.500          | 530.06            | 530.07            | 530.07            | 530.08            | 530.08            |
| 10.750          | 530.09            | 530.09            | 530.10            | 530.10            | 530.11            |
| 11.000          | 530.11            | 530.11            | 530.12            | 530.12            | 530.13            |
| 11.250          | 530.13            | 530.14            | 530.15            | 530.15            | 530.16            |
| 11.500          | 530.17            | 530.20            | 530.24            | 530.31            | 530.37            |
| 11.750          | 530.46            | 530.56            | 530.69            | 530.84            | 530.97            |
| 12.000          | 531.06            | 531.11            | 531.12            | 531.11            | 531.09            |
| 12.250          | 531.07            | 531.04            | 531.01            | 530.98            | 530.95            |
| 12.500          | 530.91            | 530.87            | 530.83            | 530.78            | 530.72            |
| 12.750          | 530.67            | 530.64            | 530.72            | 530.82            | 530.91            |
| 13.000          | 530.97            | 531.02            | 531.06            | 531.09            | 531.12            |
| 13.250          | 531.13            | 531.15            | 531.16            | 531.17            | 531.18            |
| 13.500          | 531.19            | 531.19            | 531.20            | 531.20            | 531.20            |
| 13.750          | 531.20            | 531.20            | 531.19            | 531.19            | 531.18            |
| 14.000          | 531.18            | 531.17            | 531.17            | 531.16            | 531.15            |
| 14.250          | 531.14            | 531.13            | 531.12            | 531.11            | 531.10            |
| 14.500          | 531.09            | 531.08            | 531.07            | 531.05            | 531.04            |
| 14.750          | 531.03            | 531.02            | 531.00            | 530.99            | 530.97            |
| 15.000          | 530.96            | 530.94            | 530.93            | 530.91            | 530.90            |
| 15.250          | 530.88            | 530.86            | 530.84            | 530.82            | 530.81            |
| 15.500          | 530.79            | 530.77            | 530.75            | 530.73            | 530.71            |
| 15.750          | 530.69            | 530.66            | 530.64            | 530.62            | 530.60            |
| 16.000          | 530.57            | 530.55            | 530.53            | 530.51            | 530.49            |
| 16.250          | 530.47            | 530.45            | 530.43            | 530.42            | 530.41            |
| 16.500          | 530.40            | 530.39            | 530.38            | 530.38            | 530.38            |
| 16.750          | 530.37            | 530.37            | 530.37            | 530.37            | 530.37            |
| 17.000          | 530.36            | 530.36            | 530.36            | 530.36            | 530.36            |
| 17.250          | 530.36            | 530.35            | 530.35            | 530.35            | 530.35            |
| 17.500          | 530.35            | 530.35            | 530.34            | 530.34            | 530.34            |
| 17.750          | 530.34            | 530.34            | 530.34            | 530.34            | 530.33            |
| 18.000          | 530.33            | 530.33            | 530.33            | 530.33            | 530.33            |
| 18.250          | 530.32            | 530.32            | 530.32            | 530.32            | 530.32            |
| 18.500          | 530.32            | 530.31            | 530.31            | 530.31            | 530.31            |
| 18.750          | 530.31            | 530.31            | 530.30            | 530.30            | 530.30            |
| 19.000          | 530.30            | 530.30            | 530.30            | 530.29            | 530.29            |
| 19.250          | 530.29            | 530.29            | 530.29            | 530.29            | 530.29            |
| 19.500          | 530.28            | 530.28            | 530.28            | 530.28            | 530.28            |
| 19.750          | 530.28            | 530.28            | 530.27            | 530.27            | 530.27            |
| 20.000          | 530.27            | 530.27            | 530.27            | 530.27            | 530.26            |
| 20.250          | 530.26            | 530.26            | 530.26            | 530.26            | 530.26            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 530.26            | 530.26            | 530.26            | 530.26            | 530.26            |
| 20.750          | 530.26            | 530.26            | 530.26            | 530.26            | 530.26            |
| 21.000          | 530.25            | 530.25            | 530.25            | 530.25            | 530.25            |
| 21.250          | 530.25            | 530.25            | 530.25            | 530.25            | 530.25            |
| 21.500          | 530.25            | 530.25            | 530.25            | 530.25            | 530.25            |
| 21.750          | 530.25            | 530.25            | 530.25            | 530.25            | 530.25            |
| 22.000          | 530.25            | 530.25            | 530.25            | 530.25            | 530.25            |
| 22.250          | 530.25            | 530.25            | 530.25            | 530.25            | 530.25            |
| 22.500          | 530.25            | 530.25            | 530.25            | 530.25            | 530.24            |
| 22.750          | 530.24            | 530.24            | 530.24            | 530.24            | 530.24            |
| 23.000          | 530.24            | 530.24            | 530.24            | 530.24            | 530.24            |
| 23.250          | 530.24            | 530.24            | 530.24            | 530.24            | 530.24            |
| 23.500          | 530.24            | 530.24            | 530.24            | 530.24            | 530.24            |
| 23.750          | 530.24            | 530.24            | 530.24            | 530.24            | 530.24            |
| 24.000          | 530.24            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 3.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 3.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 3.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 3.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 4.000           | 553.00            | 553.01            | 553.01            | 553.01            | 553.01            |
| 4.250           | 553.01            | 553.01            | 553.01            | 553.01            | 553.01            |
| 4.500           | 553.01            | 553.01            | 553.02            | 553.02            | 553.02            |
| 4.750           | 553.02            | 553.02            | 553.02            | 553.02            | 553.02            |
| 5.000           | 553.03            | 553.03            | 553.03            | 553.03            | 553.03            |
| 5.250           | 553.03            | 553.04            | 553.04            | 553.04            | 553.04            |
| 5.500           | 553.04            | 553.05            | 553.05            | 553.05            | 553.05            |
| 5.750           | 553.05            | 553.06            | 553.06            | 553.06            | 553.06            |
| 6.000           | 553.07            | 553.07            | 553.07            | 553.07            | 553.08            |
| 6.250           | 553.08            | 553.08            | 553.09            | 553.09            | 553.09            |
| 6.500           | 553.09            | 553.10            | 553.10            | 553.10            | 553.11            |
| 6.750           | 553.11            | 553.11            | 553.12            | 553.12            | 553.12            |
| 7.000           | 553.13            | 553.13            | 553.13            | 553.14            | 553.14            |
| 7.250           | 553.14            | 553.15            | 553.15            | 553.15            | 553.16            |
| 7.500           | 553.16            | 553.17            | 553.17            | 553.17            | 553.18            |
| 7.750           | 553.18            | 553.19            | 553.19            | 553.20            | 553.20            |
| 8.000           | 553.20            | 553.21            | 553.21            | 553.22            | 553.22            |
| 8.250           | 553.23            | 553.23            | 553.24            | 553.24            | 553.25            |
| 8.500           | 553.25            | 553.26            | 553.26            | 553.27            | 553.27            |
| 8.750           | 553.28            | 553.29            | 553.29            | 553.30            | 553.31            |
| 9.000           | 553.31            | 553.32            | 553.33            | 553.33            | 553.34            |
| 9.250           | 553.35            | 553.35            | 553.36            | 553.37            | 553.37            |
| 9.500           | 553.38            | 553.39            | 553.39            | 553.40            | 553.41            |
| 9.750           | 553.42            | 553.42            | 553.43            | 553.44            | 553.45            |
| 10.000          | 553.46            | 553.47            | 553.47            | 553.48            | 553.49            |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 553.50            | 553.51            | 553.51            | 553.52            | 553.52            |
| 10.500          | 553.52            | 553.53            | 553.53            | 553.53            | 553.53            |
| 10.750          | 553.53            | 553.53            | 553.53            | 553.54            | 553.54            |
| 11.000          | 553.54            | 553.54            | 553.54            | 553.54            | 553.55            |
| 11.250          | 553.55            | 553.55            | 553.55            | 553.56            | 553.56            |
| 11.500          | 553.56            | 553.57            | 553.59            | 553.61            | 553.65            |
| 11.750          | 553.69            | 553.74            | 553.80            | 553.90            | 554.00            |
| 12.000          | 554.06            | 554.06            | 553.98            | 553.87            | 553.76            |
| 12.250          | 553.69            | 553.65            | 553.63            | 553.61            | 553.60            |
| 12.500          | 553.60            | 553.59            | 553.58            | 553.58            | 553.57            |
| 12.750          | 553.57            | 553.56            | 553.56            | 553.56            | 553.56            |
| 13.000          | 553.55            | 553.55            | 553.55            | 553.55            | 553.55            |
| 13.250          | 553.55            | 553.54            | 553.54            | 553.54            | 553.54            |
| 13.500          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 13.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 14.000          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 14.250          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 14.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 14.750          | 553.53            | 553.52            | 553.52            | 553.52            | 553.52            |
| 15.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 15.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 15.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 15.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 16.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 16.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 16.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 16.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 17.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 17.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 17.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 17.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 18.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 18.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 18.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 18.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 19.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 19.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 19.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 19.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 20.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 20.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 20.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 21.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 21.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 21.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 21.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 24.000          | 553.51            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 6.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 6.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 6.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 6.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 7.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 7.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 7.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 7.750           | 554.01            | 554.01            | 554.01            | 554.01            | 554.01            |
| 8.000           | 554.01            | 554.01            | 554.01            | 554.01            | 554.01            |
| 8.250           | 554.01            | 554.02            | 554.02            | 554.02            | 554.02            |
| 8.500           | 554.02            | 554.02            | 554.03            | 554.03            | 554.03            |
| 8.750           | 554.03            | 554.03            | 554.04            | 554.04            | 554.04            |
| 9.000           | 554.04            | 554.05            | 554.05            | 554.05            | 554.06            |
| 9.250           | 554.06            | 554.06            | 554.07            | 554.07            | 554.08            |
| 9.500           | 554.08            | 554.08            | 554.09            | 554.09            | 554.10            |
| 9.750           | 554.10            | 554.11            | 554.11            | 554.11            | 554.12            |
| 10.000          | 554.12            | 554.13            | 554.13            | 554.14            | 554.15            |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 554.15            | 554.16            | 554.16            | 554.17            | 554.18            |
| 10.500          | 554.18            | 554.19            | 554.20            | 554.21            | 554.22            |
| 10.750          | 554.22            | 554.23            | 554.24            | 554.25            | 554.26            |
| 11.000          | 554.27            | 554.28            | 554.29            | 554.31            | 554.32            |
| 11.250          | 554.33            | 554.34            | 554.36            | 554.37            | 554.39            |
| 11.500          | 554.40            | 554.42            | 554.44            | 554.46            | 554.49            |
| 11.750          | 554.51            | 554.54            | 554.56            | 554.59            | 554.61            |
| 12.000          | 554.64            | 554.67            | 554.69            | 554.71            | 554.72            |
| 12.250          | 554.72            | 554.71            | 554.70            | 554.69            | 554.67            |
| 12.500          | 554.66            | 554.64            | 554.63            | 554.62            | 554.61            |
| 12.750          | 554.60            | 554.60            | 554.59            | 554.58            | 554.57            |
| 13.000          | 554.57            | 554.56            | 554.56            | 554.55            | 554.55            |
| 13.250          | 554.55            | 554.55            | 554.54            | 554.54            | 554.54            |
| 13.500          | 554.54            | 554.54            | 554.53            | 554.53            | 554.53            |
| 13.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 14.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.52            |
| 14.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 14.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 14.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 15.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 15.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 15.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 15.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 16.000          | 554.52            | 554.52            | 554.52            | 554.51            | 554.51            |
| 16.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 16.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 16.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 17.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 17.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 17.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 17.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 18.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 18.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 18.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 18.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 19.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 19.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 19.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 19.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 24.000          | 554.51            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 3.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 3.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 3.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 3.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 4.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 4.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 4.500           | 545.01            | 545.01            | 545.01            | 545.01            | 545.01            |
| 4.750           | 545.01            | 545.01            | 545.01            | 545.01            | 545.01            |
| 5.000           | 545.01            | 545.02            | 545.02            | 545.02            | 545.02            |
| 5.250           | 545.02            | 545.02            | 545.02            | 545.02            | 545.03            |
| 5.500           | 545.03            | 545.03            | 545.03            | 545.03            | 545.03            |
| 5.750           | 545.04            | 545.04            | 545.04            | 545.04            | 545.04            |
| 6.000           | 545.05            | 545.05            | 545.05            | 545.05            | 545.06            |
| 6.250           | 545.06            | 545.06            | 545.06            | 545.07            | 545.07            |
| 6.500           | 545.07            | 545.07            | 545.08            | 545.08            | 545.08            |
| 6.750           | 545.08            | 545.09            | 545.09            | 545.09            | 545.10            |
| 7.000           | 545.10            | 545.10            | 545.11            | 545.11            | 545.11            |
| 7.250           | 545.12            | 545.12            | 545.12            | 545.13            | 545.13            |
| 7.500           | 545.13            | 545.14            | 545.14            | 545.14            | 545.15            |
| 7.750           | 545.15            | 545.16            | 545.16            | 545.16            | 545.17            |
| 8.000           | 545.17            | 545.18            | 545.18            | 545.19            | 545.19            |
| 8.250           | 545.19            | 545.20            | 545.20            | 545.21            | 545.21            |
| 8.500           | 545.22            | 545.22            | 545.23            | 545.23            | 545.24            |
| 8.750           | 545.25            | 545.25            | 545.26            | 545.26            | 545.27            |
| 9.000           | 545.28            | 545.28            | 545.29            | 545.30            | 545.30            |
| 9.250           | 545.31            | 545.32            | 545.32            | 545.33            | 545.34            |
| 9.500           | 545.34            | 545.35            | 545.36            | 545.36            | 545.37            |
| 9.750           | 545.38            | 545.39            | 545.39            | 545.40            | 545.41            |
| 10.000          | 545.42            | 545.43            | 545.44            | 545.44            | 545.45            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 545.46            | 545.47            | 545.48            | 545.49            | 545.50            |
| 10.500          | 545.51            | 545.52            | 545.53            | 545.54            | 545.55            |
| 10.750          | 545.56            | 545.57            | 545.58            | 545.59            | 545.60            |
| 11.000          | 545.61            | 545.62            | 545.63            | 545.64            | 545.64            |
| 11.250          | 545.65            | 545.66            | 545.67            | 545.68            | 545.69            |
| 11.500          | 545.70            | 545.71            | 545.73            | 545.77            | 545.82            |
| 11.750          | 545.89            | 545.98            | 546.10            | 546.26            | 546.43            |
| 12.000          | 546.55            | 546.63            | 546.65            | 546.63            | 546.60            |
| 12.250          | 546.57            | 546.53            | 546.49            | 546.45            | 546.42            |
| 12.500          | 546.37            | 546.33            | 546.29            | 546.25            | 546.21            |
| 12.750          | 546.17            | 546.13            | 546.09            | 546.05            | 546.02            |
| 13.000          | 545.98            | 545.95            | 545.92            | 545.89            | 545.86            |
| 13.250          | 545.83            | 545.81            | 545.79            | 545.78            | 545.76            |
| 13.500          | 545.75            | 545.74            | 545.73            | 545.72            | 545.71            |
| 13.750          | 545.71            | 545.70            | 545.70            | 545.69            | 545.69            |
| 14.000          | 545.68            | 545.68            | 545.67            | 545.67            | 545.67            |
| 14.250          | 545.66            | 545.66            | 545.66            | 545.66            | 545.65            |
| 14.500          | 545.65            | 545.65            | 545.65            | 545.65            | 545.65            |
| 14.750          | 545.65            | 545.64            | 545.64            | 545.64            | 545.64            |
| 15.000          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 15.250          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 15.500          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 15.750          | 545.63            | 545.62            | 545.62            | 545.62            | 545.62            |
| 16.000          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 16.250          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 16.500          | 545.62            | 545.61            | 545.61            | 545.61            | 545.61            |
| 16.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 17.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 17.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 17.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 17.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 18.000          | 545.61            | 545.61            | 545.60            | 545.60            | 545.60            |
| 18.250          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 18.500          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 18.750          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 19.000          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 19.250          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 19.500          | 545.60            | 545.60            | 545.59            | 545.59            | 545.59            |
| 19.750          | 545.59            | 545.59            | 545.59            | 545.59            | 545.59            |
| 20.000          | 545.59            | 545.59            | 545.59            | 545.59            | 545.59            |
| 20.250          | 545.59            | 545.59            | 545.59            | 545.59            | 545.59            |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 545.59            | 545.58            | 545.58            | 545.58            | 545.58            |
| 20.750          | 545.58            | 545.58            | 545.58            | 545.58            | 545.58            |
| 21.000          | 545.58            | 545.58            | 545.58            | 545.58            | 545.58            |
| 21.250          | 545.58            | 545.58            | 545.58            | 545.58            | 545.58            |
| 21.500          | 545.58            | 545.58            | 545.58            | 545.58            | 545.58            |
| 21.750          | 545.58            | 545.58            | 545.58            | 545.58            | 545.58            |
| 22.000          | 545.58            | 545.58            | 545.58            | 545.58            | 545.58            |
| 22.250          | 545.58            | 545.58            | 545.57            | 545.57            | 545.57            |
| 22.500          | 545.57            | 545.57            | 545.57            | 545.57            | 545.57            |
| 22.750          | 545.57            | 545.57            | 545.57            | 545.57            | 545.57            |
| 23.000          | 545.57            | 545.57            | 545.57            | 545.57            | 545.57            |
| 23.250          | 545.57            | 545.57            | 545.57            | 545.57            | 545.57            |
| 23.500          | 545.57            | 545.57            | 545.57            | 545.57            | 545.57            |
| 23.750          | 545.57            | 545.57            | 545.57            | 545.57            | 545.57            |
| 24.000          | 545.57            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 4.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 4.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 4.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 4.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.01            |
| 5.000           | 563.01            | 563.01            | 563.01            | 563.01            | 563.01            |
| 5.250           | 563.01            | 563.01            | 563.01            | 563.01            | 563.02            |
| 5.500           | 563.02            | 563.02            | 563.02            | 563.02            | 563.02            |
| 5.750           | 563.02            | 563.03            | 563.03            | 563.03            | 563.03            |
| 6.000           | 563.03            | 563.03            | 563.04            | 563.04            | 563.04            |
| 6.250           | 563.04            | 563.05            | 563.05            | 563.05            | 563.05            |
| 6.500           | 563.06            | 563.06            | 563.06            | 563.06            | 563.07            |
| 6.750           | 563.07            | 563.07            | 563.07            | 563.08            | 563.08            |
| 7.000           | 563.08            | 563.09            | 563.09            | 563.09            | 563.10            |
| 7.250           | 563.10            | 563.10            | 563.11            | 563.11            | 563.11            |
| 7.500           | 563.12            | 563.12            | 563.12            | 563.13            | 563.13            |
| 7.750           | 563.14            | 563.14            | 563.14            | 563.15            | 563.15            |
| 8.000           | 563.16            | 563.16            | 563.16            | 563.17            | 563.17            |
| 8.250           | 563.18            | 563.18            | 563.19            | 563.19            | 563.20            |
| 8.500           | 563.20            | 563.21            | 563.21            | 563.22            | 563.22            |
| 8.750           | 563.23            | 563.24            | 563.24            | 563.25            | 563.25            |
| 9.000           | 563.26            | 563.27            | 563.27            | 563.28            | 563.29            |
| 9.250           | 563.29            | 563.30            | 563.31            | 563.31            | 563.32            |
| 9.500           | 563.33            | 563.33            | 563.34            | 563.35            | 563.36            |
| 9.750           | 563.36            | 563.37            | 563.38            | 563.39            | 563.40            |
| 10.000          | 563.40            | 563.41            | 563.42            | 563.43            | 563.44            |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 563.45            | 563.46            | 563.47            | 563.48            | 563.49            |
| 10.500          | 563.50            | 563.51            | 563.52            | 563.53            | 563.54            |
| 10.750          | 563.56            | 563.57            | 563.58            | 563.60            | 563.61            |
| 11.000          | 563.62            | 563.64            | 563.65            | 563.67            | 563.69            |
| 11.250          | 563.71            | 563.73            | 563.75            | 563.76            | 563.77            |
| 11.500          | 563.78            | 563.79            | 563.80            | 563.82            | 563.83            |
| 11.750          | 563.86            | 563.88            | 563.91            | 563.96            | 563.98            |
| 12.000          | 563.96            | 563.93            | 563.88            | 563.84            | 563.82            |
| 12.250          | 563.81            | 563.81            | 563.81            | 563.80            | 563.80            |
| 12.500          | 563.80            | 563.80            | 563.79            | 563.79            | 563.79            |
| 12.750          | 563.79            | 563.78            | 563.78            | 563.78            | 563.78            |
| 13.000          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 13.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 13.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 13.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 14.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 14.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.76            |
| 14.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 14.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 15.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 15.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 15.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 15.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 16.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 16.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 16.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 16.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.250          | 563.76            | 563.76            | 563.75            | 563.75            | 563.75            |
| 23.500          | 563.75            | 563.75            | 563.75            | 563.75            | 563.75            |
| 23.750          | 563.75            | 563.75            | 563.75            | 563.75            | 563.75            |
| 24.000          | 563.75            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 7.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 7.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 7.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 7.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 8.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 8.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 8.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.01            |
| 8.750           | 529.01            | 529.01            | 529.01            | 529.01            | 529.01            |
| 9.000           | 529.02            | 529.02            | 529.02            | 529.02            | 529.03            |
| 9.250           | 529.03            | 529.03            | 529.03            | 529.04            | 529.04            |
| 9.500           | 529.04            | 529.04            | 529.05            | 529.05            | 529.05            |
| 9.750           | 529.05            | 529.06            | 529.06            | 529.06            | 529.07            |
| 10.000          | 529.07            | 529.08            | 529.08            | 529.09            | 529.09            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 529.10            | 529.10            | 529.11            | 529.11            | 529.12            |
| 10.500          | 529.13            | 529.14            | 529.14            | 529.15            | 529.16            |
| 10.750          | 529.17            | 529.18            | 529.19            | 529.20            | 529.22            |
| 11.000          | 529.23            | 529.24            | 529.26            | 529.27            | 529.29            |
| 11.250          | 529.31            | 529.34            | 529.36            | 529.39            | 529.42            |
| 11.500          | 529.45            | 529.50            | 529.51            | 529.54            | 529.58            |
| 11.750          | 529.64            | 529.73            | 529.86            | 530.03            | 530.16            |
| 12.000          | 530.28            | 530.37            | 530.43            | 530.45            | 530.47            |
| 12.250          | 530.48            | 530.49            | 530.50            | 530.50            | 530.51            |
| 12.500          | 530.51            | 530.52            | 530.52            | 530.52            | 530.52            |
| 12.750          | 530.52            | 530.52            | 530.52            | 530.52            | 530.52            |
| 13.000          | 530.52            | 530.52            | 530.52            | 530.51            | 530.51            |
| 13.250          | 530.51            | 530.51            | 530.51            | 530.50            | 530.50            |
| 13.500          | 530.50            | 530.49            | 530.49            | 530.49            | 530.48            |
| 13.750          | 530.48            | 530.48            | 530.47            | 530.47            | 530.46            |
| 14.000          | 530.46            | 530.45            | 530.45            | 530.45            | 530.44            |
| 14.250          | 530.44            | 530.43            | 530.43            | 530.42            | 530.42            |
| 14.500          | 530.41            | 530.41            | 530.40            | 530.40            | 530.39            |
| 14.750          | 530.39            | 530.38            | 530.38            | 530.37            | 530.37            |
| 15.000          | 530.36            | 530.36            | 530.35            | 530.35            | 530.34            |
| 15.250          | 530.34            | 530.33            | 530.33            | 530.32            | 530.32            |
| 15.500          | 530.31            | 530.31            | 530.30            | 530.30            | 530.29            |
| 15.750          | 530.28            | 530.28            | 530.27            | 530.27            | 530.26            |
| 16.000          | 530.26            | 530.25            | 530.25            | 530.24            | 530.23            |
| 16.250          | 530.23            | 530.22            | 530.22            | 530.21            | 530.21            |
| 16.500          | 530.20            | 530.20            | 530.19            | 530.18            | 530.18            |
| 16.750          | 530.17            | 530.17            | 530.16            | 530.16            | 530.15            |
| 17.000          | 530.15            | 530.14            | 530.14            | 530.13            | 530.12            |
| 17.250          | 530.12            | 530.11            | 530.11            | 530.10            | 530.10            |
| 17.500          | 530.09            | 530.09            | 530.08            | 530.08            | 530.07            |
| 17.750          | 530.06            | 530.06            | 530.05            | 530.05            | 530.04            |
| 18.000          | 530.04            | 530.03            | 530.03            | 530.02            | 530.02            |
| 18.250          | 530.01            | 530.01            | 530.00            | 529.99            | 529.98            |
| 18.500          | 529.97            | 529.96            | 529.95            | 529.94            | 529.94            |
| 18.750          | 529.93            | 529.92            | 529.91            | 529.90            | 529.89            |
| 19.000          | 529.88            | 529.87            | 529.86            | 529.86            | 529.85            |
| 19.250          | 529.84            | 529.83            | 529.82            | 529.81            | 529.81            |
| 19.500          | 529.80            | 529.79            | 529.78            | 529.77            | 529.77            |
| 19.750          | 529.76            | 529.75            | 529.74            | 529.73            | 529.73            |
| 20.000          | 529.72            | 529.71            | 529.70            | 529.70            | 529.69            |
| 20.250          | 529.68            | 529.67            | 529.67            | 529.66            | 529.65            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 529.64            | 529.64            | 529.63            | 529.62            | 529.62            |
| 20.750          | 529.61            | 529.60            | 529.60            | 529.59            | 529.58            |
| 21.000          | 529.58            | 529.57            | 529.57            | 529.56            | 529.55            |
| 21.250          | 529.55            | 529.54            | 529.53            | 529.53            | 529.52            |
| 21.500          | 529.52            | 529.51            | 529.51            | 529.50            | 529.46            |
| 21.750          | 529.43            | 529.40            | 529.38            | 529.35            | 529.33            |
| 22.000          | 529.31            | 529.30            | 529.28            | 529.27            | 529.26            |
| 22.250          | 529.25            | 529.24            | 529.23            | 529.23            | 529.22            |
| 22.500          | 529.22            | 529.21            | 529.21            | 529.20            | 529.20            |
| 22.750          | 529.20            | 529.19            | 529.19            | 529.19            | 529.19            |
| 23.000          | 529.19            | 529.18            | 529.18            | 529.18            | 529.18            |
| 23.250          | 529.18            | 529.18            | 529.18            | 529.18            | 529.18            |
| 23.500          | 529.17            | 529.17            | 529.17            | 529.17            | 529.17            |
| 23.750          | 529.17            | 529.17            | 529.17            | 529.17            | 529.17            |
| 24.000          | 529.17            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 7.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.750           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 8.000           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 8.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 8.500           | 0.004             | 0.005             | 0.005             | 0.005             | 0.005             |
| 8.750           | 0.005             | 0.006             | 0.006             | 0.006             | 0.006             |
| 9.000           | 0.007             | 0.007             | 0.007             | 0.007             | 0.008             |
| 9.250           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 9.500           | 0.010             | 0.010             | 0.010             | 0.011             | 0.011             |
| 9.750           | 0.011             | 0.012             | 0.012             | 0.013             | 0.013             |
| 10.000          | 0.013             | 0.014             | 0.014             | 0.015             | 0.015             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.016             | 0.016             | 0.017             | 0.017             | 0.018             |
| 10.500          | 0.019             | 0.019             | 0.020             | 0.020             | 0.021             |
| 10.750          | 0.022             | 0.023             | 0.023             | 0.024             | 0.025             |
| 11.000          | 0.026             | 0.027             | 0.028             | 0.029             | 0.030             |
| 11.250          | 0.031             | 0.032             | 0.034             | 0.035             | 0.036             |
| 11.500          | 0.038             | 0.040             | 0.041             | 0.043             | 0.046             |
| 11.750          | 0.049             | 0.053             | 0.058             | 0.065             | 0.075             |
| 12.000          | 0.087             | 0.102             | 0.120             | 0.138             | 0.157             |
| 12.250          | 0.174             | 0.191             | 0.205             | 0.217             | 0.227             |
| 12.500          | 0.236             | 0.244             | 0.250             | 0.256             | 0.261             |
| 12.750          | 0.266             | 0.269             | 0.271             | 0.271             | 0.271             |
| 13.000          | 0.271             | 0.271             | 0.271             | 0.270             | 0.270             |
| 13.250          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 13.500          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 13.750          | 0.270             | 0.270             | 0.269             | 0.269             | 0.269             |
| 14.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 14.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 14.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 14.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 15.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 15.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 15.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 15.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.750          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 20.000          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 20.250          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 20.750          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 21.000          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 21.250          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 21.500          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 21.750          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 22.000          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 22.250          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 22.500          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 22.750          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 23.000          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 23.250          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 23.500          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 23.750          | 0.268             | 0.268             | 0.268             | 0.268             | 0.268             |
| 24.000          | 0.268             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.001             |
| 11.750          | 0.001             | 0.002             | 0.003             | 0.006             | 0.009             |
| 12.000          | 0.012             | 0.014             | 0.015             | 0.014             | 0.014             |
| 12.250          | 0.013             | 0.012             | 0.011             | 0.010             | 0.009             |
| 12.500          | 0.008             | 0.007             | 0.006             | 0.005             | 0.004             |
| 12.750          | 0.003             | 0.003             | 0.004             | 0.006             | 0.008             |
| 13.000          | 0.010             | 0.011             | 0.012             | 0.014             | 0.014             |
| 13.250          | 0.015             | 0.016             | 0.016             | 0.017             | 0.017             |
| 13.500          | 0.017             | 0.018             | 0.018             | 0.018             | 0.018             |
| 13.750          | 0.018             | 0.018             | 0.018             | 0.017             | 0.017             |
| 14.000          | 0.017             | 0.017             | 0.017             | 0.016             | 0.016             |
| 14.250          | 0.016             | 0.015             | 0.015             | 0.014             | 0.014             |
| 14.500          | 0.014             | 0.013             | 0.013             | 0.012             | 0.012             |
| 14.750          | 0.011             | 0.011             | 0.011             | 0.010             | 0.010             |
| 15.000          | 0.009             | 0.009             | 0.008             | 0.008             | 0.008             |
| 15.250          | 0.007             | 0.007             | 0.006             | 0.006             | 0.005             |
| 15.500          | 0.005             | 0.005             | 0.004             | 0.004             | 0.004             |
| 15.750          | 0.003             | 0.003             | 0.003             | 0.002             | 0.002             |
| 16.000          | 0.002             | 0.002             | 0.002             | 0.001             | 0.001             |
| 16.250          | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 16.500          | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 16.750          | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 17.000          | 0.001             | 0.001             | 0.000             | 0.000             | 0.000             |
| 17.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 17.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 17.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 18.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 18.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 18.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 18.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 19.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 19.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 19.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 19.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 20.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 20.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 20.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 21.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 21.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 21.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 21.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 22.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 22.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 22.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 22.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 24.000          | 0.000             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.500           | 0.001             | 0.001             | 0.002             | 0.002             | 0.002             |
| 6.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.250           | 0.002             | 0.002             | 0.002             | 0.002             | 0.003             |
| 7.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 7.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 8.000           | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |
| 8.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 8.500           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 8.750           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 9.000           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 9.250           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 9.500           | 0.006             | 0.007             | 0.007             | 0.007             | 0.007             |
| 9.750           | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 10.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.009             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.750          | 0.009             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.500          | 0.010             | 0.010             | 0.011             | 0.011             | 0.012             |
| 11.750          | 0.013             | 0.014             | 0.016             | 0.018             | 0.021             |
| 12.000          | 0.022             | 0.022             | 0.020             | 0.017             | 0.015             |
| 12.250          | 0.013             | 0.012             | 0.012             | 0.011             | 0.011             |
| 12.500          | 0.011             | 0.011             | 0.011             | 0.010             | 0.010             |
| 12.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.009             |
| 14.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 14.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 14.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 14.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 24.000          | 0.009             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.500           | 0.001             | 0.001             | 0.001             | 0.002             | 0.002             |
| 9.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 10.000          | 0.002             | 0.002             | 0.002             | 0.002             | 0.003             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 10.500          | 0.003             | 0.003             | 0.004             | 0.004             | 0.004             |
| 10.750          | 0.004             | 0.004             | 0.004             | 0.005             | 0.005             |
| 11.000          | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 11.250          | 0.006             | 0.006             | 0.007             | 0.007             | 0.007             |
| 11.500          | 0.008             | 0.008             | 0.009             | 0.009             | 0.010             |
| 11.750          | 0.010             | 0.011             | 0.012             | 0.012             | 0.013             |
| 12.000          | 0.014             | 0.015             | 0.015             | 0.016             | 0.016             |
| 12.250          | 0.016             | 0.016             | 0.016             | 0.015             | 0.015             |
| 12.500          | 0.014             | 0.014             | 0.014             | 0.013             | 0.013             |
| 12.750          | 0.013             | 0.013             | 0.012             | 0.012             | 0.012             |
| 13.000          | 0.012             | 0.012             | 0.012             | 0.012             | 0.011             |
| 13.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.010             |
| 16.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 17.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 17.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 17.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 17.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 18.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 18.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 18.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 18.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 19.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 19.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 19.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 19.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 20.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 20.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 20.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 24.000          | 0.010             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.500           | 0.001             | 0.001             | 0.002             | 0.002             | 0.002             |
| 7.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 8.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 8.250           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 8.500           | 0.002             | 0.003             | 0.003             | 0.003             | 0.003             |
| 8.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 9.000           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 9.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 9.500           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 9.750           | 0.004             | 0.005             | 0.005             | 0.005             | 0.005             |
| 10.000          | 0.005             | 0.005             | 0.005             | 0.005             | 0.006             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 10.500          | 0.006             | 0.007             | 0.007             | 0.007             | 0.007             |
| 10.750          | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 11.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 11.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 11.500          | 0.009             | 0.009             | 0.010             | 0.010             | 0.011             |
| 11.750          | 0.013             | 0.014             | 0.017             | 0.020             | 0.024             |
| 12.000          | 0.028             | 0.030             | 0.030             | 0.030             | 0.029             |
| 12.250          | 0.028             | 0.027             | 0.026             | 0.025             | 0.024             |
| 12.500          | 0.023             | 0.022             | 0.021             | 0.020             | 0.019             |
| 12.750          | 0.018             | 0.017             | 0.017             | 0.016             | 0.015             |
| 13.000          | 0.014             | 0.014             | 0.013             | 0.013             | 0.012             |
| 13.250          | 0.012             | 0.011             | 0.011             | 0.011             | 0.010             |
| 13.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 14.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 14.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 14.500          | 0.009             | 0.009             | 0.008             | 0.008             | 0.008             |
| 14.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 15.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 15.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 15.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 15.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 16.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 16.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 16.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 16.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.250          | 0.008             | 0.008             | 0.008             | 0.007             | 0.007             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 20.750          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 21.000          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 21.250          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 21.500          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 21.750          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 22.000          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 22.250          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 22.500          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 22.750          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 23.000          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 23.250          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 23.500          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 23.750          | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 24.000          | 0.007             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 5.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.500           | 0.001             | 0.001             | 0.001             | 0.002             | 0.002             |
| 6.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.250           | 0.002             | 0.003             | 0.003             | 0.003             | 0.003             |
| 7.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 7.750           | 0.003             | 0.003             | 0.004             | 0.004             | 0.004             |
| 8.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 8.250           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 8.500           | 0.005             | 0.005             | 0.006             | 0.006             | 0.006             |
| 8.750           | 0.006             | 0.006             | 0.006             | 0.007             | 0.007             |
| 9.000           | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 9.250           | 0.008             | 0.008             | 0.008             | 0.009             | 0.009             |
| 9.500           | 0.009             | 0.009             | 0.010             | 0.010             | 0.010             |
| 9.750           | 0.010             | 0.011             | 0.011             | 0.011             | 0.011             |
| 10.000          | 0.012             | 0.012             | 0.012             | 0.013             | 0.013             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.013             | 0.014             | 0.014             | 0.014             | 0.015             |
| 10.500          | 0.015             | 0.016             | 0.016             | 0.016             | 0.017             |
| 10.750          | 0.017             | 0.018             | 0.018             | 0.019             | 0.020             |
| 11.000          | 0.020             | 0.021             | 0.021             | 0.022             | 0.023             |
| 11.250          | 0.024             | 0.025             | 0.025             | 0.026             | 0.027             |
| 11.500          | 0.027             | 0.027             | 0.028             | 0.029             | 0.030             |
| 11.750          | 0.031             | 0.032             | 0.034             | 0.036             | 0.037             |
| 12.000          | 0.037             | 0.035             | 0.032             | 0.030             | 0.029             |
| 12.250          | 0.029             | 0.029             | 0.028             | 0.028             | 0.028             |
| 12.500          | 0.028             | 0.028             | 0.028             | 0.028             | 0.027             |
| 12.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 13.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 13.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 13.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 13.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.000          | 0.027             | 0.027             | 0.026             | 0.026             | 0.026             |
| 14.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 14.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 14.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 15.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 15.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 15.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 15.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 24.000          | 0.026             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 2 years  
 Storm Event: 2 year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 10.500       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 10.750       | 0.000          | 0.000          | 0.000          | 0.001          | 0.001          |
| 11.000       | 0.001          | 0.001          | 0.001          | 0.001          | 0.002          |
| 11.250       | 0.002          | 0.002          | 0.003          | 0.004          | 0.005          |
| 11.500       | 0.006          | 0.008          | 0.009          | 0.010          | 0.013          |
| 11.750       | 0.017          | 0.025          | 0.042          | 0.071          | 0.096          |
| 12.000       | 0.120          | 0.140          | 0.150          | 0.155          | 0.158          |
| 12.250       | 0.161          | 0.163          | 0.165          | 0.166          | 0.167          |
| 12.500       | 0.168          | 0.169          | 0.169          | 0.170          | 0.170          |
| 12.750       | 0.170          | 0.170          | 0.170          | 0.170          | 0.170          |
| 13.000       | 0.170          | 0.169          | 0.169          | 0.169          | 0.168          |
| 13.250       | 0.168          | 0.167          | 0.167          | 0.166          | 0.166          |
| 13.500       | 0.165          | 0.164          | 0.164          | 0.163          | 0.162          |
| 13.750       | 0.161          | 0.161          | 0.160          | 0.159          | 0.158          |
| 14.000       | 0.157          | 0.156          | 0.155          | 0.154          | 0.153          |
| 14.250       | 0.152          | 0.151          | 0.150          | 0.149          | 0.148          |
| 14.500       | 0.147          | 0.146          | 0.145          | 0.144          | 0.143          |
| 14.750       | 0.142          | 0.141          | 0.140          | 0.139          | 0.138          |
| 15.000       | 0.137          | 0.136          | 0.135          | 0.134          | 0.133          |
| 15.250       | 0.132          | 0.131          | 0.130          | 0.129          | 0.128          |
| 15.500       | 0.127          | 0.125          | 0.124          | 0.123          | 0.122          |
| 15.750       | 0.121          | 0.120          | 0.119          | 0.118          | 0.117          |
| 16.000       | 0.116          | 0.114          | 0.113          | 0.112          | 0.111          |
| 16.250       | 0.110          | 0.109          | 0.108          | 0.107          | 0.105          |
| 16.500       | 0.104          | 0.103          | 0.102          | 0.101          | 0.100          |
| 16.750       | 0.099          | 0.098          | 0.097          | 0.096          | 0.094          |
| 17.000       | 0.093          | 0.092          | 0.091          | 0.090          | 0.089          |
| 17.250       | 0.088          | 0.087          | 0.086          | 0.085          | 0.084          |
| 17.500       | 0.083          | 0.081          | 0.080          | 0.079          | 0.078          |
| 17.750       | 0.077          | 0.076          | 0.075          | 0.074          | 0.073          |
| 18.000       | 0.072          | 0.071          | 0.070          | 0.069          | 0.068          |
| 18.250       | 0.067          | 0.066          | 0.065          | 0.063          | 0.061          |
| 18.500       | 0.059          | 0.058          | 0.056          | 0.054          | 0.053          |
| 18.750       | 0.051          | 0.050          | 0.048          | 0.047          | 0.046          |
| 19.000       | 0.044          | 0.043          | 0.042          | 0.041          | 0.039          |
| 19.250       | 0.038          | 0.037          | 0.036          | 0.035          | 0.034          |
| 19.500       | 0.033          | 0.032          | 0.031          | 0.030          | 0.029          |
| 19.750       | 0.028          | 0.027          | 0.026          | 0.026          | 0.025          |
| 20.000       | 0.024          | 0.023          | 0.022          | 0.022          | 0.021          |
| 20.250       | 0.020          | 0.020          | 0.019          | 0.019          | 0.018          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 2 years  
 Storm Event: 2 year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.017             | 0.017             | 0.016             | 0.016             | 0.015             |
| 20.750          | 0.015             | 0.014             | 0.014             | 0.013             | 0.013             |
| 21.000          | 0.012             | 0.012             | 0.012             | 0.011             | 0.011             |
| 21.250          | 0.011             | 0.010             | 0.010             | 0.010             | 0.009             |
| 21.500          | 0.009             | 0.009             | 0.008             | 0.008             | 0.006             |
| 21.750          | 0.005             | 0.004             | 0.003             | 0.003             | 0.002             |
| 22.000          | 0.002             | 0.002             | 0.001             | 0.001             | 0.001             |
| 22.250          | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 22.500          | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 22.750          | 0.001             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 23.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 24.000          | 0.000             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond1A

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 533.00            | 0.0                              | 0.064           | 0.000                          | 0.000             | 0.000                     |
| 534.00            | 0.0                              | 0.080           | 0.216                          | 0.072             | 0.072                     |
| 535.00            | 0.0                              | 0.098           | 0.267                          | 0.089             | 0.161                     |
| 536.00            | 0.0                              | 0.117           | 0.322                          | 0.107             | 0.268                     |
| 537.00            | 0.0                              | 0.138           | 0.382                          | 0.127             | 0.395                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond1B

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 530.00            | 0.0                              | 0.000           | 0.000                          | 0.000             | 0.000                     |
| 531.00            | 0.0                              | 0.031           | 0.031                          | 0.010             | 0.010                     |
| 532.00            | 0.0                              | 0.125           | 0.125                          | 0.083             | 0.083                     |
| 533.00            | 0.0                              | 0.174           | 0.446                          | 0.149             | 0.232                     |
| 534.00            | 0.0                              | 0.200           | 0.561                          | 0.187             | 0.419                     |
| 535.00            | 0.0                              | 0.228           | 0.642                          | 0.214             | 0.633                     |
| 536.00            | 0.0                              | 0.257           | 0.727                          | 0.242             | 0.875                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond2

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 553.00            | 0.0                              | 0.015           | 0.000                          | 0.000             | 0.000                     |
| 554.00            | 0.0                              | 0.027           | 0.062                          | 0.021             | 0.021                     |
| 555.00            | 0.0                              | 0.041           | 0.101                          | 0.034             | 0.054                     |
| 556.00            | 0.0                              | 0.056           | 0.145                          | 0.048             | 0.102                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond3

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 554.00            | 0.0                              | 0.016           | 0.000                          | 0.000             | 0.000                     |
| 555.00            | 0.0                              | 0.036           | 0.076                          | 0.025             | 0.025                     |
| 556.00            | 0.0                              | 0.058           | 0.140                          | 0.047             | 0.072                     |



## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond4

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 545.00            | 0.0                              | 0.010           | 0.000                          | 0.000             | 0.000                     |
| 546.00            | 0.0                              | 0.020           | 0.044                          | 0.015             | 0.015                     |
| 547.00            | 0.0                              | 0.032           | 0.077                          | 0.026             | 0.041                     |
| 548.00            | 0.0                              | 0.046           | 0.116                          | 0.039             | 0.079                     |
| 549.00            | 0.0                              | 0.057           | 0.154                          | 0.051             | 0.131                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond5

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 563.00            | 0.0                              | 0.023           | 0.000                          | 0.000             | 0.000                     |
| 564.00            | 0.0                              | 0.056           | 0.116                          | 0.039             | 0.039                     |
| 565.00            | 0.0                              | 0.096           | 0.226                          | 0.075             | 0.114                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 2 years

Label: Pond7

Storm Event: 2 year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 529.00            | 0.0                              | 0.000           | 0.000                          | 0.000             | 0.000                     |
| 530.00            | 0.0                              | 0.194           | 0.194                          | 0.065             | 0.065                     |
| 531.00            | 0.0                              | 0.227           | 0.631                          | 0.210             | 0.275                     |
| 532.00            | 0.0                              | 0.261           | 0.731                          | 0.244             | 0.519                     |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 533.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 537.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 536.00     | 537.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 2 years  
 Storm Event: 2 year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 536.00 ft                   |
| Weir Length                                 | 30.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.10                             | 2.85                         | (N/A)                       | 0.00                      |
| 536.20                             | 8.05                         | (N/A)                       | 0.00                      |
| 536.30                             | 14.79                        | (N/A)                       | 0.00                      |
| 536.40                             | 22.77                        | (N/A)                       | 0.00                      |
| 536.50                             | 31.82                        | (N/A)                       | 0.00                      |
| 536.60                             | 41.83                        | (N/A)                       | 0.00                      |
| 536.70                             | 52.71                        | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 536.80                       | 64.40                     | (N/A)                    | 0.00                   |
| 536.90                       | 76.84                     | (N/A)                    | 0.00                   |
| 537.00                       | 90.00                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=2.85;
H=.20; Htw=.00; Qfree=8.05;
H=.30; Htw=.00; Qfree=14.79;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1A

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H= .40; Htw=.00; Qfree=22.77; |
| H= .50; Htw=.00; Qfree=31.82; |
| H= .60; Htw=.00; Qfree=41.83; |
| H= .70; Htw=.00; Qfree=52.71; |
| H= .80; Htw=.00; Qfree=64.40; |
| H= .90; Htw=.00; Qfree=76.84; |
| H=1.00; Htw=.00; Qfree=90.00; |



# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1A

Return Event: 2 years  
 Storm Event: 2 year

## Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.10                             | 2.85                         | (N/A)                       | 0.00                      |
| 536.20                             | 8.05                         | (N/A)                       | 0.00                      |
| 536.30                             | 14.79                        | (N/A)                       | 0.00                      |
| 536.40                             | 22.77                        | (N/A)                       | 0.00                      |
| 536.50                             | 31.82                        | (N/A)                       | 0.00                      |
| 536.60                             | 41.83                        | (N/A)                       | 0.00                      |
| 536.70                             | 52.71                        | (N/A)                       | 0.00                      |
| 536.80                             | 64.40                        | (N/A)                       | 0.00                      |
| 536.90                             | 76.84                        | (N/A)                       | 0.00                      |
| 537.00                             | 90.00                        | (N/A)                       | 0.00                      |

### Contributing Structures

None Contributing



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 530.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 536.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 530.00     | 536.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 534.00     | 536.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 534.00 ft                   |
| Weir Length                                 | 9.00 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 530.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.85                      | (N/A)                    | 0.00                   |
| 534.20                       | 2.41                      | (N/A)                    | 0.00                   |
| 534.30                       | 4.44                      | (N/A)                    | 0.00                   |
| 534.40                       | 6.83                      | (N/A)                    | 0.00                   |
| 534.50                       | 9.55                      | (N/A)                    | 0.00                   |
| 534.60                       | 12.55                     | (N/A)                    | 0.00                   |
| 534.70                       | 15.81                     | (N/A)                    | 0.00                   |
| 534.80                       | 19.32                     | (N/A)                    | 0.00                   |
| 534.90                       | 23.05                     | (N/A)                    | 0.00                   |
| 535.00                       | 27.00                     | (N/A)                    | 0.00                   |
| 535.10                       | 31.15                     | (N/A)                    | 0.00                   |
| 535.20                       | 35.49                     | (N/A)                    | 0.00                   |
| 535.30                       | 40.02                     | (N/A)                    | 0.00                   |
| 535.40                       | 44.73                     | (N/A)                    | 0.00                   |
| 535.50                       | 49.60                     | (N/A)                    | 0.00                   |
| 535.60                       | 54.64                     | (N/A)                    | 0.00                   |
| 535.70                       | 59.85                     | (N/A)                    | 0.00                   |
| 535.80                       | 65.20                     | (N/A)                    | 0.00                   |
| 535.90                       | 70.71                     | (N/A)                    | 0.00                   |
| 536.00                       | 76.37                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| H=.00; Htw=.00; Qfree=.00;    |
| H=.10; Htw=.00; Qfree=.85;    |
| H=.20; Htw=.00; Qfree=2.41;   |
| H=.30; Htw=.00; Qfree=4.44;   |
| H=.40; Htw=.00; Qfree=6.83;   |
| H=.50; Htw=.00; Qfree=9.55;   |
| H=.60; Htw=.00; Qfree=12.55;  |
| H=.70; Htw=.00; Qfree=15.81;  |
| H=.80; Htw=.00; Qfree=19.32;  |
| H=.90; Htw=.00; Qfree=23.05;  |
| H=1.00; Htw=.00; Qfree=27.00; |
| H=1.10; Htw=.00; Qfree=31.15; |
| H=1.20; Htw=.00; Qfree=35.49; |
| H=1.30; Htw=.00; Qfree=40.02; |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=1.40; Htw=.00; Qfree=44.73; |
| H=1.50; Htw=.00; Qfree=49.60; |
| H=1.60; Htw=.00; Qfree=54.64; |
| H=1.70; Htw=.00; Qfree=59.85; |
| H=1.80; Htw=.00; Qfree=65.20; |
| H=1.90; Htw=.00; Qfree=70.71; |
| H=2.00; Htw=.00; Qfree=76.37; |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.02                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.07                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.14                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.20                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.24                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.28                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.31                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.33                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.36                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.38                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.41                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.43                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.45                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.47                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.48                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.50                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.52                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.54                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.55                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.57                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.58                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.60                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.61                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.63                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.64                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.66                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.67                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.68                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.69                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.71                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.72                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.73                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.74                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.76                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.77                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.78                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.79                         | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.80                       | 0.80                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.81                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.82                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.83                      | (N/A)                    | 0.00                   |
| 534.20                       | 0.84                      | (N/A)                    | 0.00                   |
| 534.30                       | 0.85                      | (N/A)                    | 0.00                   |
| 534.40                       | 0.86                      | (N/A)                    | 0.00                   |
| 534.50                       | 0.87                      | (N/A)                    | 0.00                   |
| 534.60                       | 0.88                      | (N/A)                    | 0.00                   |
| 534.70                       | 0.89                      | (N/A)                    | 0.00                   |
| 534.80                       | 0.90                      | (N/A)                    | 0.00                   |
| 534.90                       | 0.91                      | (N/A)                    | 0.00                   |
| 535.00                       | 0.92                      | (N/A)                    | 0.00                   |
| 535.10                       | 0.93                      | (N/A)                    | 0.00                   |
| 535.20                       | 0.94                      | (N/A)                    | 0.00                   |
| 535.30                       | 0.95                      | (N/A)                    | 0.00                   |
| 535.40                       | 0.96                      | (N/A)                    | 0.00                   |
| 535.50                       | 0.97                      | (N/A)                    | 0.00                   |
| 535.60                       | 0.98                      | (N/A)                    | 0.00                   |
| 535.70                       | 0.99                      | (N/A)                    | 0.00                   |
| 535.80                       | 1.00                      | (N/A)                    | 0.00                   |
| 535.90                       | 1.01                      | (N/A)                    | 0.00                   |
| 536.00                       | 1.01                      | (N/A)                    | 0.00                   |

Computation Messages

```

Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H = .93              |
| H = 1.03             |
| H = 1.13             |
| H = 1.23             |
| H = 1.33             |
| H = 1.43             |
| H = 1.53             |
| H = 1.63             |
| H = 1.73             |
| H = 1.83             |
| H = 1.93             |
| H = 2.03             |
| H = 2.13             |
| H = 2.23             |
| H = 2.33             |
| H = 2.43             |
| H = 2.53             |
| H = 2.63             |
| H = 2.73             |
| H = 2.83             |
| H = 2.93             |
| H = 3.03             |
| H = 3.13             |
| H = 3.23             |
| H = 3.33             |
| H = 3.43             |
| H = 3.53             |
| H = 3.63             |
| H = 3.73             |
| H = 3.83             |
| H = 3.93             |
| H = 4.03             |
| H = 4.13             |
| H = 4.23             |
| H = 4.33             |
| H = 4.43             |
| H = 4.53             |
| H = 4.63             |
| H = 4.73             |
| H = 4.83             |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =4.93              |
| H =5.03              |
| H =5.13              |
| H =5.23              |
| H =5.33              |
| H =5.43              |
| H =5.53              |
| H =5.63              |
| H =5.73              |
| H =5.83              |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1B

Return Event: 2 years  
 Storm Event: 2 year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.10                       | 0.02                      | (N/A)                    | 0.00                   |
| 530.20                       | 0.07                      | (N/A)                    | 0.00                   |
| 530.30                       | 0.14                      | (N/A)                    | 0.00                   |
| 530.40                       | 0.20                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.60                       | 0.28                      | (N/A)                    | 0.00                   |
| 530.70                       | 0.31                      | (N/A)                    | 0.00                   |
| 530.80                       | 0.33                      | (N/A)                    | 0.00                   |
| 530.90                       | 0.36                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 531.10                       | 0.41                      | (N/A)                    | 0.00                   |
| 531.20                       | 0.43                      | (N/A)                    | 0.00                   |
| 531.30                       | 0.45                      | (N/A)                    | 0.00                   |
| 531.40                       | 0.47                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.60                       | 0.50                      | (N/A)                    | 0.00                   |
| 531.70                       | 0.52                      | (N/A)                    | 0.00                   |
| 531.80                       | 0.54                      | (N/A)                    | 0.00                   |
| 531.90                       | 0.55                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 532.10                       | 0.58                      | (N/A)                    | 0.00                   |
| 532.20                       | 0.60                      | (N/A)                    | 0.00                   |
| 532.30                       | 0.61                      | (N/A)                    | 0.00                   |
| 532.40                       | 0.63                      | (N/A)                    | 0.00                   |
| 532.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.60                       | 0.66                      | (N/A)                    | 0.00                   |
| 532.70                       | 0.67                      | (N/A)                    | 0.00                   |
| 532.80                       | 0.68                      | (N/A)                    | 0.00                   |
| 532.90                       | 0.69                      | (N/A)                    | 0.00                   |
| 533.00                       | 0.71                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.72                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.73                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.74                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.76                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.77                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.78                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.79                      | (N/A)                    | 0.00                   |
| 533.80                       | 0.80                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.81                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.82                      | (N/A)                    | 0.00                   |
| 534.10                       | 1.69                      | (N/A)                    | 0.00                   |
| 534.20                       | 3.26                      | (N/A)                    | 0.00                   |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 1B

Return Event: 2 years  
Storm Event: 2 year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 534.30                       | 5.29                      | (N/A)                    | 0.00                   |
| 534.40                       | 7.69                      | (N/A)                    | 0.00                   |
| 534.50                       | 10.42                     | (N/A)                    | 0.00                   |
| 534.60                       | 13.43                     | (N/A)                    | 0.00                   |
| 534.70                       | 16.71                     | (N/A)                    | 0.00                   |
| 534.80                       | 20.22                     | (N/A)                    | 0.00                   |
| 534.90                       | 23.97                     | (N/A)                    | 0.00                   |
| 535.00                       | 27.92                     | (N/A)                    | 0.00                   |
| 535.10                       | 32.08                     | (N/A)                    | 0.00                   |
| 535.20                       | 36.43                     | (N/A)                    | 0.00                   |
| 535.30                       | 40.97                     | (N/A)                    | 0.00                   |
| 535.40                       | 45.69                     | (N/A)                    | 0.00                   |
| 535.50                       | 50.57                     | (N/A)                    | 0.00                   |
| 535.60                       | 55.62                     | (N/A)                    | 0.00                   |
| 535.70                       | 60.83                     | (N/A)                    | 0.00                   |
| 535.80                       | 66.20                     | (N/A)                    | 0.00                   |
| 535.90                       | 71.72                     | (N/A)                    | 0.00                   |
| 536.00                       | 77.38                     | (N/A)                    | 0.00                   |

### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
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| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 553.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 553.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 2 years  
 Storm Event: 2 year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 553.50 ft                   |
| Diameter                                    | 8.0 in                      |
| Orifice Area                                | 0.3 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 2.09 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 2

Return Event: 2 years  
 Storm Event: 2 year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 553.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.60                             | 0.20                         | (N/A)                       | 0.00                      |
| 553.70                             | 0.56                         | (N/A)                       | 0.00                      |
| 553.80                             | 0.92                         | (N/A)                       | 0.00                      |
| 553.90                             | 1.06                         | (N/A)                       | 0.00                      |
| 554.00                             | 1.19                         | (N/A)                       | 0.00                      |
| 554.10                             | 1.30                         | (N/A)                       | 0.00                      |
| 554.20                             | 1.41                         | (N/A)                       | 0.00                      |
| 554.30                             | 1.50                         | (N/A)                       | 0.00                      |
| 554.40                             | 1.59                         | (N/A)                       | 0.00                      |
| 554.50                             | 1.68                         | (N/A)                       | 0.00                      |
| 554.60                             | 1.76                         | (N/A)                       | 0.00                      |
| 554.70                             | 1.84                         | (N/A)                       | 0.00                      |
| 554.80                             | 1.92                         | (N/A)                       | 0.00                      |
| 554.90                             | 1.99                         | (N/A)                       | 0.00                      |
| 555.00                             | 2.06                         | (N/A)                       | 0.00                      |
| 555.10                             | 2.13                         | (N/A)                       | 0.00                      |
| 555.20                             | 2.19                         | (N/A)                       | 0.00                      |
| 555.30                             | 2.25                         | (N/A)                       | 0.00                      |
| 555.40                             | 2.32                         | (N/A)                       | 0.00                      |
| 555.50                             | 2.38                         | (N/A)                       | 0.00                      |
| 555.60                             | 2.43                         | (N/A)                       | 0.00                      |
| 555.70                             | 2.49                         | (N/A)                       | 0.00                      |
| 555.80                             | 2.55                         | (N/A)                       | 0.00                      |
| 555.90                             | 2.60                         | (N/A)                       | 0.00                      |
| 556.00                             | 2.66                         | (N/A)                       | 0.00                      |

Computation Messages

```

HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
Weir: H =0ft
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                  |
|---|
| Weir: H =0.1ft  |
| Weir: H =0.2ft  |
| Orifice: H =.30; Riser orifice equation controlling.  |
| Orifice: H =.40; Riser orifice equation controlling.  |
| Orifice: H =.50; Riser orifice equation controlling.  |
| Orifice: H =.60; Riser orifice equation controlling.  |
| Orifice: H =.70; Riser orifice equation controlling.  |
| Orifice: H =.80; Riser orifice equation controlling.  |
| Orifice: H =.90; Riser orifice equation controlling.  |
| Orifice: H =1.00; Riser orifice equation controlling. |
| Orifice: H =1.10; Riser orifice equation controlling. |
| Orifice: H =1.20; Riser orifice equation controlling. |
| Orifice: H =1.30; Riser orifice equation controlling. |
| Orifice: H =1.40; Riser orifice equation controlling. |
| Orifice: H =1.50; Riser orifice equation controlling. |
| Orifice: H =1.60; Riser orifice equation controlling. |
| Orifice: H =1.70; Riser orifice equation controlling. |
| Orifice: H =1.80; Riser orifice equation controlling. |
| Orifice: H =1.90; Riser orifice equation controlling. |
| Orifice: H =2.00; Riser orifice equation controlling. |
| Orifice: H =2.10; Riser orifice equation controlling. |
| Orifice: H =2.20; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 2 years  
Storm Event: 2 year

## RATING TABLE FOR ONE OUTLET TYPE

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

### Computation Messages

Orifice: H =2.30; Riser orifice equation controlling.

Orifice: H =2.40; Riser orifice equation controlling.

Orifice: H =2.50; Riser orifice equation controlling.

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 2

Return Event: 2 years  
 Storm Event: 2 year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 553.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.60                       | 0.20                      | (N/A)                    | 0.00                   |
| 553.70                       | 0.56                      | (N/A)                    | 0.00                   |
| 553.80                       | 0.92                      | (N/A)                    | 0.00                   |
| 553.90                       | 1.06                      | (N/A)                    | 0.00                   |
| 554.00                       | 1.19                      | (N/A)                    | 0.00                   |
| 554.10                       | 1.30                      | (N/A)                    | 0.00                   |
| 554.20                       | 1.41                      | (N/A)                    | 0.00                   |
| 554.30                       | 1.50                      | (N/A)                    | 0.00                   |
| 554.40                       | 1.59                      | (N/A)                    | 0.00                   |
| 554.50                       | 1.68                      | (N/A)                    | 0.00                   |
| 554.60                       | 1.76                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.84                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.92                      | (N/A)                    | 0.00                   |
| 554.90                       | 1.99                      | (N/A)                    | 0.00                   |
| 555.00                       | 2.06                      | (N/A)                    | 0.00                   |
| 555.10                       | 2.13                      | (N/A)                    | 0.00                   |
| 555.20                       | 2.19                      | (N/A)                    | 0.00                   |
| 555.30                       | 2.25                      | (N/A)                    | 0.00                   |
| 555.40                       | 2.32                      | (N/A)                    | 0.00                   |
| 555.50                       | 2.38                      | (N/A)                    | 0.00                   |
| 555.60                       | 2.43                      | (N/A)                    | 0.00                   |
| 555.70                       | 2.49                      | (N/A)                    | 0.00                   |
| 555.80                       | 2.55                      | (N/A)                    | 0.00                   |
| 555.90                       | 2.60                      | (N/A)                    | 0.00                   |
| 556.00                       | 2.66                      | (N/A)                    | 0.00                   |

### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 2

Return Event: 2 years  
Storm Event: 2 year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 554.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 554.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 2 years  
 Storm Event: 2 year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 554.50 ft                   |
| Diameter                                    | 15.0 in                     |
| Orifice Area                                | 1.2 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 3.93 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 3

Return Event: 2 years  
 Storm Event: 2 year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 554.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.60                       | 0.37                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.05                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.94                      | (N/A)                    | 0.00                   |
| 554.90                       | 2.98                      | (N/A)                    | 0.00                   |
| 555.00                       | 4.17                      | (N/A)                    | 0.00                   |
| 555.10                       | 4.58                      | (N/A)                    | 0.00                   |
| 555.20                       | 4.94                      | (N/A)                    | 0.00                   |
| 555.30                       | 5.28                      | (N/A)                    | 0.00                   |
| 555.40                       | 5.60                      | (N/A)                    | 0.00                   |
| 555.50                       | 5.91                      | (N/A)                    | 0.00                   |
| 555.60                       | 6.19                      | (N/A)                    | 0.00                   |
| 555.70                       | 6.47                      | (N/A)                    | 0.00                   |
| 555.80                       | 6.73                      | (N/A)                    | 0.00                   |
| 555.90                       | 6.99                      | (N/A)                    | 0.00                   |
| 556.00                       | 7.23                      | (N/A)                    | 0.00                   |

Computation Messages

HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 Weir: H =0ft  
 Weir: H =0.1ft  
 Weir: H =0.2ft  
 Weir: H =0.3ft  
 Weir: H =0.4ft  
 Weir: H =0.5ft  
 Orifice: H =.60; Riser orifice equation controlling.  
 Orifice: H =.70; Riser orifice equation controlling.

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 3

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                   |
|--|
| Orifice: H = .80; Riser orifice equation controlling.  |
| Orifice: H = .90; Riser orifice equation controlling.  |
| Orifice: H = 1.00; Riser orifice equation controlling. |
| Orifice: H = 1.10; Riser orifice equation controlling. |
| Orifice: H = 1.20; Riser orifice equation controlling. |
| Orifice: H = 1.30; Riser orifice equation controlling. |
| Orifice: H = 1.40; Riser orifice equation controlling. |
| Orifice: H = 1.50; Riser orifice equation controlling. |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 3

Return Event: 2 years  
 Storm Event: 2 year

### Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 554.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 554.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 554.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 554.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 554.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 554.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 554.60                             | 0.37                         | (N/A)                       | 0.00                      |
| 554.70                             | 1.05                         | (N/A)                       | 0.00                      |
| 554.80                             | 1.94                         | (N/A)                       | 0.00                      |
| 554.90                             | 2.98                         | (N/A)                       | 0.00                      |
| 555.00                             | 4.17                         | (N/A)                       | 0.00                      |
| 555.10                             | 4.58                         | (N/A)                       | 0.00                      |
| 555.20                             | 4.94                         | (N/A)                       | 0.00                      |
| 555.30                             | 5.28                         | (N/A)                       | 0.00                      |
| 555.40                             | 5.60                         | (N/A)                       | 0.00                      |
| 555.50                             | 5.91                         | (N/A)                       | 0.00                      |
| 555.60                             | 6.19                         | (N/A)                       | 0.00                      |
| 555.70                             | 6.47                         | (N/A)                       | 0.00                      |
| 555.80                             | 6.73                         | (N/A)                       | 0.00                      |
| 555.90                             | 6.99                         | (N/A)                       | 0.00                      |
| 556.00                             | 7.23                         | (N/A)                       | 0.00                      |

#### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
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| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 545.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 549.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 545.50     | 549.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 547.50     | 549.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

---

|   |           |
|---|-----------|
| <b>Structure ID: Orifice - 1</b>        |           |
| <b>Structure Type: Orifice-Circular</b> |           |
| Number of Openings                      | 1         |
| Elevation                               | 545.50 ft |
| Orifice Diameter                        | 4.0 in    |
| Orifice Coefficient                     | 0.600     |

---



---

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>           |                             |
| <b>Structure Type: Rectangular Weir</b> |                             |
| Number of Openings                      | 1                           |
| Elevation                               | 547.50 ft                   |
| Weir Length                             | 3.50 ft                     |
| Weir Coefficient                        | 3.00 (ft <sup>0.5</sup> )/s |

---



---

|   |              |
|---|--------------|
| <b>Structure ID: TW</b>                     |              |
| <b>Structure Type: TW Setup, DS Channel</b> |              |
| Tailwater Type                              | Free Outfall |

---



---

|                               |                           |
|-------------------------------|---------------------------|
| <b>Convergence Tolerances</b> |                           |
| Maximum Iterations            | 30                        |
| Tailwater Tolerance (Minimum) | 0.01 ft                   |
| Tailwater Tolerance (Maximum) | 0.50 ft                   |
| Headwater Tolerance (Minimum) | 0.01 ft                   |
| Headwater Tolerance (Maximum) | 0.50 ft                   |
| Flow Tolerance (Minimum)      | 0.001 ft <sup>3</sup> /s  |
| Flow Tolerance (Maximum)      | 10.000 ft <sup>3</sup> /s |

---

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.02                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.07                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.14                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.20                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.24                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.28                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.31                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.33                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.36                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.38                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.41                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.43                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.45                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.47                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.48                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.50                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.52                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.54                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.55                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.57                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.58                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.60                         | (N/A)                       | 0.00                      |
| 547.80                             | 0.61                         | (N/A)                       | 0.00                      |
| 547.90                             | 0.63                         | (N/A)                       | 0.00                      |
| 548.00                             | 0.64                         | (N/A)                       | 0.00                      |
| 548.10                             | 0.66                         | (N/A)                       | 0.00                      |
| 548.20                             | 0.67                         | (N/A)                       | 0.00                      |
| 548.30                             | 0.68                         | (N/A)                       | 0.00                      |
| 548.40                             | 0.69                         | (N/A)                       | 0.00                      |
| 548.50                             | 0.71                         | (N/A)                       | 0.00                      |
| 548.60                             | 0.72                         | (N/A)                       | 0.00                      |
| 548.70                             | 0.73                         | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 0.74                      | (N/A)                    | 0.00                   |
| 548.90                       | 0.76                      | (N/A)                    | 0.00                   |
| 549.00                       | 0.77                      | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
H =.93
H =1.03
H =1.13
H =1.23
H =1.33
H =1.43
H =1.53
H =1.63
H =1.73
H =1.83
H =1.93
H =2.03
H =2.13
H =2.23
H =2.33
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =2.43              |
| H =2.53              |
| H =2.63              |
| H =2.73              |
| H =2.83              |
| H =2.93              |
| H =3.03              |
| H =3.13              |
| H =3.23              |
| H =3.33              |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.33                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.94                         | (N/A)                       | 0.00                      |
| 547.80                             | 1.73                         | (N/A)                       | 0.00                      |
| 547.90                             | 2.66                         | (N/A)                       | 0.00                      |
| 548.00                             | 3.71                         | (N/A)                       | 0.00                      |
| 548.10                             | 4.88                         | (N/A)                       | 0.00                      |
| 548.20                             | 6.15                         | (N/A)                       | 0.00                      |
| 548.30                             | 7.51                         | (N/A)                       | 0.00                      |
| 548.40                             | 8.97                         | (N/A)                       | 0.00                      |
| 548.50                             | 10.50                        | (N/A)                       | 0.00                      |
| 548.60                             | 12.11                        | (N/A)                       | 0.00                      |
| 548.70                             | 13.80                        | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 15.56                     | (N/A)                    | 0.00                   |
| 548.90                       | 17.39                     | (N/A)                    | 0.00                   |
| 549.00                       | 19.29                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=.33;
H=.20; Htw=.00; Qfree=.94;
H=.30; Htw=.00; Qfree=1.73;
H=.40; Htw=.00; Qfree=2.66;
H=.50; Htw=.00; Qfree=3.71;
H=.60; Htw=.00; Qfree=4.88;
H=.70; Htw=.00; Qfree=6.15;
H=.80; Htw=.00; Qfree=7.51;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.90; Htw=.00; Qfree=8.97;   |
| H=1.00; Htw=.00; Qfree=10.50; |
| H=1.10; Htw=.00; Qfree=12.11; |
| H=1.20; Htw=.00; Qfree=13.80; |
| H=1.30; Htw=.00; Qfree=15.56; |
| H=1.40; Htw=.00; Qfree=17.39; |
| H=1.50; Htw=.00; Qfree=19.29; |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 4

Return Event: 2 years  
 Storm Event: 2 year

## Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.02                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.07                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.14                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.20                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.24                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.28                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.31                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.33                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.36                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.38                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.41                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.43                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.45                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.47                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.48                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.50                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.52                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.54                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.55                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.57                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.92                         | (N/A)                       | 0.00                      |
| 547.70                             | 1.54                         | (N/A)                       | 0.00                      |
| 547.80                             | 2.34                         | (N/A)                       | 0.00                      |
| 547.90                             | 3.28                         | (N/A)                       | 0.00                      |
| 548.00                             | 4.35                         | (N/A)                       | 0.00                      |
| 548.10                             | 5.54                         | (N/A)                       | 0.00                      |
| 548.20                             | 6.82                         | (N/A)                       | 0.00                      |
| 548.30                             | 8.19                         | (N/A)                       | 0.00                      |
| 548.40                             | 9.66                         | (N/A)                       | 0.00                      |
| 548.50                             | 11.21                        | (N/A)                       | 0.00                      |
| 548.60                             | 12.83                        | (N/A)                       | 0.00                      |
| 548.70                             | 14.53                        | (N/A)                       | 0.00                      |
| 548.80                             | 16.31                        | (N/A)                       | 0.00                      |
| 548.90                             | 18.15                        | (N/A)                       | 0.00                      |
| 549.00                             | 20.06                        | (N/A)                       | 0.00                      |

### Contributing Structures

None Contributing

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 4

Return Event: 2 years  
Storm Event: 2 year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 563.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 565.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 563.75     | 565.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 2 years  
 Storm Event: 2 year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 563.75 ft                   |
| Weir Length                                 | 10.50 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 5

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 563.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.75                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.80                       | 0.35                      | (N/A)                    | 0.00                   |
| 563.90                       | 1.83                      | (N/A)                    | 0.00                   |
| 564.00                       | 3.94                      | (N/A)                    | 0.00                   |
| 564.10                       | 6.52                      | (N/A)                    | 0.00                   |
| 564.20                       | 9.51                      | (N/A)                    | 0.00                   |
| 564.30                       | 12.85                     | (N/A)                    | 0.00                   |
| 564.40                       | 16.51                     | (N/A)                    | 0.00                   |
| 564.50                       | 20.46                     | (N/A)                    | 0.00                   |
| 564.60                       | 24.69                     | (N/A)                    | 0.00                   |
| 564.70                       | 29.17                     | (N/A)                    | 0.00                   |
| 564.80                       | 33.89                     | (N/A)                    | 0.00                   |
| 564.90                       | 38.85                     | (N/A)                    | 0.00                   |
| 565.00                       | 44.02                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
H=.00; Htw=.00; Qfree=.00;
H=.05; Htw=.00; Qfree=.35;
H=.15; Htw=.00; Qfree=1.83;
H=.25; Htw=.00; Qfree=3.94;
H=.35; Htw=.00; Qfree=6.52;
H=.45; Htw=.00; Qfree=9.51;
H=.55; Htw=.00; Qfree=12.85;
    
```



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 5

Return Event: 2 years  
Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H= .65; Htw=.00; Qfree=16.51; |
| H= .75; Htw=.00; Qfree=20.46; |
| H= .85; Htw=.00; Qfree=24.69; |
| H= .95; Htw=.00; Qfree=29.17; |
| H=1.05; Htw=.00; Qfree=33.89; |
| H=1.15; Htw=.00; Qfree=38.85; |
| H=1.25; Htw=.00; Qfree=44.02; |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 5

Return Event: 2 years  
 Storm Event: 2 year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 563.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.75                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.80                       | 0.35                      | (N/A)                    | 0.00                   |
| 563.90                       | 1.83                      | (N/A)                    | 0.00                   |
| 564.00                       | 3.94                      | (N/A)                    | 0.00                   |
| 564.10                       | 6.52                      | (N/A)                    | 0.00                   |
| 564.20                       | 9.51                      | (N/A)                    | 0.00                   |
| 564.30                       | 12.85                     | (N/A)                    | 0.00                   |
| 564.40                       | 16.51                     | (N/A)                    | 0.00                   |
| 564.50                       | 20.46                     | (N/A)                    | 0.00                   |
| 564.60                       | 24.69                     | (N/A)                    | 0.00                   |
| 564.70                       | 29.17                     | (N/A)                    | 0.00                   |
| 564.80                       | 33.89                     | (N/A)                    | 0.00                   |
| 564.90                       | 38.85                     | (N/A)                    | 0.00                   |
| 565.00                       | 44.02                     | (N/A)                    | 0.00                   |

#### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 5

Return Event: 2 years  
Storm Event: 2 year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Weir - 1                |
| Weir - 1                |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 2 years  
 Storm Event: 2 year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 529.00 ft |
| Increment (Headwater)                   | 0.50 ft   |
| Maximum (Headwater)                     | 532.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 529.00     | 532.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 531.00     | 532.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 2 years  
 Storm Event: 2 year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 529.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 531.00 ft                   |
| Weir Length                                 | 14.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.71                      | (N/A)                    | 0.00                   |

Computation Messages

Upstream HW & DNstream TW < Inv.El  
 H =.33  
 H =.83  
 H =1.33  
 H =1.83  
 H =2.33  
 H =2.83

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 2 years  
 Storm Event: 2 year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.50                       | 14.85                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.00                     | (N/A)                    | 0.00                   |

Computation Messages

HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 H=.00; Htw=.00; Qfree=.00;  
 H=.50; Htw=.00; Qfree=14.85;  
 H=1.00; Htw=.00; Qfree=42.00;

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 7

Return Event: 2 years  
 Storm Event: 2 year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 15.49                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.71                     | (N/A)                    | 0.00                   |

#### Contributing Structures

|                        |
|------------------------|
| None Contributing      |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |



# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.76 ft <sup>3</sup> /s |
| Time to Peak      | 12.900 hours            |
| Hydrograph Volume | 0.161 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.750          | 0.00                         | 0.27                         | 0.67                         | 0.76                         | 0.74                         |
| 13.000          | 0.70                         | 0.66                         | 0.62                         | 0.58                         | 0.55                         |
| 13.250          | 0.52                         | 0.49                         | 0.47                         | 0.45                         | 0.43                         |
| 13.500          | 0.42                         | 0.41                         | 0.39                         | 0.38                         | 0.37                         |
| 13.750          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.33                         |
| 14.000          | 0.32                         | 0.31                         | 0.30                         | 0.30                         | 0.29                         |
| 14.250          | 0.28                         | 0.28                         | 0.27                         | 0.27                         | 0.26                         |
| 14.500          | 0.26                         | 0.26                         | 0.25                         | 0.25                         | 0.25                         |
| 14.750          | 0.24                         | 0.24                         | 0.24                         | 0.24                         | 0.23                         |
| 15.000          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 15.250          | 0.22                         | 0.22                         | 0.21                         | 0.21                         | 0.21                         |
| 15.500          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 15.750          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 16.000          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 16.250          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.16                         |
| 16.500          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 16.750          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 17.000          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 17.250          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.14                         |
| 17.500          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 17.750          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 18.000          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 18.250          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 18.500          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 18.750          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 19.000          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 19.250          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 19.500          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 19.750          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 20.000          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 20.250          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 20.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 20.750          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.000          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.750          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 22.000          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 22.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 22.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 22.750          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.000          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.250          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.500          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.750          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 24.000          | 0.08                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.43 ft <sup>3</sup> /s |
| Time to Peak      | 13.700 hours            |
| Hydrograph Volume | 0.225 ac-ft             |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.900           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.150          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.400          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.650          | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 10.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 11.150          | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 11.400          | 0.04                         | 0.05                         | 0.05                         | 0.07                         | 0.10                         |
| 11.650          | 0.14                         | 0.19                         | 0.23                         | 0.26                         | 0.30                         |
| 11.900          | 0.34                         | 0.38                         | 0.40                         | 0.41                         | 0.41                         |
| 12.150          | 0.41                         | 0.40                         | 0.40                         | 0.39                         | 0.39                         |
| 12.400          | 0.38                         | 0.37                         | 0.36                         | 0.35                         | 0.34                         |
| 12.650          | 0.33                         | 0.31                         | 0.30                         | 0.29                         | 0.31                         |
| 12.900          | 0.34                         | 0.36                         | 0.38                         | 0.39                         | 0.40                         |
| 13.150          | 0.40                         | 0.41                         | 0.41                         | 0.42                         | 0.42                         |
| 13.400          | 0.42                         | 0.42                         | 0.42                         | 0.43                         | 0.43                         |
| 13.650          | 0.43                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 13.900          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 14.150          | 0.42                         | 0.42                         | 0.41                         | 0.41                         | 0.41                         |
| 14.400          | 0.41                         | 0.41                         | 0.40                         | 0.40                         | 0.40                         |
| 14.650          | 0.40                         | 0.39                         | 0.39                         | 0.39                         | 0.38                         |
| 14.900          | 0.38                         | 0.38                         | 0.37                         | 0.37                         | 0.37                         |
| 15.150          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.34                         |
| 15.400          | 0.34                         | 0.34                         | 0.33                         | 0.33                         | 0.32                         |
| 15.650          | 0.31                         | 0.31                         | 0.30                         | 0.30                         | 0.29                         |
| 15.900          | 0.28                         | 0.28                         | 0.27                         | 0.26                         | 0.25                         |
| 16.150          | 0.25                         | 0.24                         | 0.23                         | 0.22                         | 0.22                         |
| 16.400          | 0.21                         | 0.21                         | 0.20                         | 0.20                         | 0.19                         |
| 16.650          | 0.19                         | 0.19                         | 0.19                         | 0.18                         | 0.18                         |
| 16.900          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 17.150          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.17                         |
| 17.400          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 17.650          | 0.17                         | 0.17                         | 0.16                         | 0.16                         | 0.16                         |
| 17.900          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 18.150          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 18.400          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 18.650       | 0.15                      | 0.15                      | 0.14                      | 0.14                      | 0.14                      |
| 18.900       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 19.150       | 0.14                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 19.400       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 19.650       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 19.900       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 20.150       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 20.400       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 20.650       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 20.900       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 21.150       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 21.400       | 0.11                      | 0.11                      | 0.11                      | 0.10                      | 0.10                      |
| 21.650       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 21.900       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.150       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.400       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.650       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.900       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.150       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.400       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.650       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.900       | 0.10                      | 0.10                      | 0.10                      | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.25 ft <sup>3</sup> /s |
| Time to Peak      | 12.000 hours            |
| Hydrograph Volume | 0.095 ac-ft             |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.200          | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.04                         |
| 10.450          | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 10.700          | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 10.950          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 11.200          | 0.09                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 11.450          | 0.12                         | 0.13                         | 0.14                         | 0.18                         | 0.25                         |
| 11.700          | 0.38                         | 0.53                         | 0.70                         | 0.92                         | 1.06                         |
| 11.950          | 1.19                         | 1.25                         | 1.25                         | 1.17                         | 1.02                         |
| 12.200          | 0.79                         | 0.53                         | 0.38                         | 0.29                         | 0.24                         |
| 12.450          | 0.21                         | 0.19                         | 0.18                         | 0.16                         | 0.15                         |
| 12.700          | 0.14                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 12.950          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 13.200          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 13.450          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 13.700          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 14.200          | 0.06                         | 0.06                         | 0.05                         | 0.05                         | 0.05                         |
| 14.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.700          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.950          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.450          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.700          | 0.03                         | 0.03                         | 0.02                         | 0.02                         | 0.02                         |
| 18.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 19.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.950       | 0.02                      | 0.02                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.24 ft <sup>3</sup> /s |
| Time to Peak      | 12.250 hours            |
| Hydrograph Volume | 0.115 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.700          | 0.00                         | 0.05                         | 0.13                         | 0.22                         | 0.32                         |
| 11.950          | 0.47                         | 0.66                         | 0.84                         | 1.01                         | 1.16                         |
| 12.200          | 1.24                         | 1.24                         | 1.18                         | 1.09                         | 0.98                         |
| 12.450          | 0.87                         | 0.76                         | 0.66                         | 0.57                         | 0.50                         |
| 12.700          | 0.44                         | 0.39                         | 0.36                         | 0.33                         | 0.30                         |
| 12.950          | 0.27                         | 0.25                         | 0.23                         | 0.22                         | 0.20                         |
| 13.200          | 0.19                         | 0.18                         | 0.17                         | 0.16                         | 0.15                         |
| 13.450          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.12                         |
| 13.700          | 0.12                         | 0.12                         | 0.11                         | 0.11                         | 0.11                         |
| 13.950          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.09                         |
| 14.200          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 14.450          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.700          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 14.950          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.200          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.450          | 0.07                         | 0.07                         | 0.06                         | 0.06                         | 0.06                         |
| 15.700          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.200          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.700          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.950          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.200          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.450          | 0.05                         | 0.05                         | 0.04                         | 0.04                         | 0.04                         |
| 17.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.450          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.03                         |
| 19.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.950          | 0.03                         | 0.03                         | (N/A)                        | (N/A)                        | (N/A)                        |



# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.42 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.068 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.450          | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 10.700          | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 10.950          | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.04                         |
| 11.200          | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.06                         |
| 11.450          | 0.06                         | 0.07                         | 0.07                         | 0.09                         | 0.12                         |
| 11.700          | 0.15                         | 0.20                         | 0.23                         | 0.28                         | 0.32                         |
| 11.950          | 0.37                         | 0.40                         | 0.41                         | 0.42                         | 0.41                         |
| 12.200          | 0.41                         | 0.40                         | 0.39                         | 0.38                         | 0.37                         |
| 12.450          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 12.700          | 0.31                         | 0.30                         | 0.28                         | 0.27                         | 0.26                         |
| 12.950          | 0.25                         | 0.23                         | 0.22                         | 0.21                         | 0.19                         |
| 13.200          | 0.18                         | 0.16                         | 0.15                         | 0.14                         | 0.12                         |
| 13.450          | 0.11                         | 0.10                         | 0.10                         | 0.09                         | 0.08                         |
| 13.700          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.05                         |
| 14.200          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.450          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.200          | 0.04                         | 0.04                         | 0.04                         | 0.03                         | 0.03                         |
| 15.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.700          | 0.03                         | 0.03                         | 0.03                         | 0.02                         | 0.02                         |
| 16.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 19.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.200          | 0.02                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.950          | 0.01                         | 0.01                         | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 3.42 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.174 ac-ft             |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.350          | 0.00                         | 0.08                         | 0.16                         | 0.21                         | 0.26                         |
| 11.600          | 0.35                         | 0.58                         | 0.85                         | 1.18                         | 1.56                         |
| 11.850          | 2.15                         | 3.00                         | 3.42                         | 3.19                         | 2.53                         |
| 12.100          | 1.60                         | 0.97                         | 0.66                         | 0.54                         | 0.48                         |
| 12.350          | 0.43                         | 0.40                         | 0.37                         | 0.34                         | 0.32                         |
| 12.600          | 0.29                         | 0.28                         | 0.26                         | 0.25                         | 0.24                         |
| 12.850          | 0.23                         | 0.22                         | 0.21                         | 0.21                         | 0.20                         |
| 13.100          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 13.350          | 0.17                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 13.600          | 0.15                         | 0.14                         | 0.14                         | 0.14                         | 0.13                         |
| 13.850          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 14.100          | 0.12                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 14.350          | 0.11                         | 0.11                         | 0.11                         | 0.10                         | 0.10                         |
| 14.600          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 14.850          | 0.10                         | 0.10                         | 0.10                         | 0.09                         | 0.09                         |
| 15.100          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.350          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 15.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.850          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 16.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.600          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.100          | 0.06                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.350          | 0.05                         | 0.05                         | 0.05                         | 0.04                         | 0.04                         |
| 19.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 20.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.350          | 0.04                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
Label: Outlet7

Return Event: 2 years  
Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.49 ft <sup>3</sup> /s |
| Time to Peak      | 12.800 hours            |
| Hydrograph Volume | 0.367 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.500           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 8.750           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.01                         |
| 9.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 9.250           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 9.500           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.750           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.000          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.250          | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 10.500          | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 10.750          | 0.08                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 11.000          | 0.11                         | 0.12                         | 0.12                         | 0.13                         | 0.14                         |
| 11.250          | 0.15                         | 0.16                         | 0.18                         | 0.19                         | 0.20                         |
| 11.500          | 0.22                         | 0.24                         | 0.25                         | 0.25                         | 0.27                         |
| 11.750          | 0.28                         | 0.31                         | 0.34                         | 0.39                         | 0.42                         |
| 12.000          | 0.44                         | 0.46                         | 0.47                         | 0.47                         | 0.48                         |
| 12.250          | 0.48                         | 0.48                         | 0.48                         | 0.49                         | 0.49                         |
| 12.500          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 12.750          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 13.000          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 13.250          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.48                         |
| 13.500          | 0.48                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |
| 13.750          | 0.48                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |
| 14.000          | 0.48                         | 0.48                         | 0.47                         | 0.47                         | 0.47                         |
| 14.250          | 0.47                         | 0.47                         | 0.47                         | 0.47                         | 0.47                         |
| 14.500          | 0.47                         | 0.47                         | 0.47                         | 0.46                         | 0.46                         |
| 14.750          | 0.46                         | 0.46                         | 0.46                         | 0.46                         | 0.46                         |
| 15.000          | 0.46                         | 0.46                         | 0.46                         | 0.45                         | 0.45                         |
| 15.250          | 0.45                         | 0.45                         | 0.45                         | 0.45                         | 0.45                         |
| 15.500          | 0.45                         | 0.45                         | 0.44                         | 0.44                         | 0.44                         |
| 15.750          | 0.44                         | 0.44                         | 0.44                         | 0.44                         | 0.44                         |
| 16.000          | 0.44                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 16.250          | 0.43                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 16.500          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 16.750          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.41                         |
| 17.000          | 0.41                         | 0.41                         | 0.41                         | 0.41                         | 0.41                         |
| 17.250          | 0.41                         | 0.41                         | 0.41                         | 0.40                         | 0.40                         |
| 17.500          | 0.40                         | 0.40                         | 0.40                         | 0.40                         | 0.40                         |
| 17.750          | 0.40                         | 0.40                         | 0.39                         | 0.39                         | 0.39                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 18.000       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 18.250       | 0.39                      | 0.38                      | 0.38                      | 0.38                      | 0.38                      |
| 18.500       | 0.38                      | 0.37                      | 0.37                      | 0.37                      | 0.37                      |
| 18.750       | 0.36                      | 0.36                      | 0.36                      | 0.36                      | 0.35                      |
| 19.000       | 0.35                      | 0.35                      | 0.35                      | 0.34                      | 0.34                      |
| 19.250       | 0.34                      | 0.34                      | 0.33                      | 0.33                      | 0.33                      |
| 19.500       | 0.33                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 19.750       | 0.32                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 20.000       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 20.250       | 0.29                      | 0.29                      | 0.29                      | 0.29                      | 0.29                      |
| 20.500       | 0.28                      | 0.28                      | 0.28                      | 0.28                      | 0.28                      |
| 20.750       | 0.27                      | 0.27                      | 0.27                      | 0.27                      | 0.27                      |
| 21.000       | 0.26                      | 0.26                      | 0.26                      | 0.26                      | 0.26                      |
| 21.250       | 0.26                      | 0.25                      | 0.25                      | 0.25                      | 0.25                      |
| 21.500       | 0.25                      | 0.25                      | 0.24                      | 0.24                      | 0.22                      |
| 21.750       | 0.21                      | 0.19                      | 0.18                      | 0.17                      | 0.16                      |
| 22.000       | 0.15                      | 0.14                      | 0.14                      | 0.13                      | 0.13                      |
| 22.250       | 0.12                      | 0.12                      | 0.11                      | 0.11                      | 0.11                      |
| 22.500       | 0.11                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.750       | 0.10                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 23.000       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 23.250       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.08                      |
| 23.500       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 23.750       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 24.000       | 0.08                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond1A

Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 533.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.00                         | 0.000           | 0.064        | 0.00                              | 0.00                              | 0.00                          |
| 533.10         | 0.00                         | 0.006           | 0.066        | 0.00                              | 0.00                              | 3.13                          |
| 533.20         | 0.00                         | 0.013           | 0.067        | 0.00                              | 0.00                              | 6.34                          |
| 533.30         | 0.00                         | 0.020           | 0.069        | 0.00                              | 0.00                              | 9.63                          |
| 533.40         | 0.00                         | 0.027           | 0.070        | 0.00                              | 0.00                              | 12.98                         |
| 533.50         | 0.00                         | 0.034           | 0.072        | 0.00                              | 0.00                              | 16.42                         |
| 533.60         | 0.00                         | 0.041           | 0.073        | 0.00                              | 0.00                              | 19.93                         |
| 533.70         | 0.00                         | 0.049           | 0.075        | 0.00                              | 0.00                              | 23.52                         |
| 533.80         | 0.00                         | 0.056           | 0.077        | 0.00                              | 0.00                              | 27.19                         |
| 533.90         | 0.00                         | 0.064           | 0.078        | 0.00                              | 0.00                              | 30.94                         |
| 534.00         | 0.00                         | 0.072           | 0.080        | 0.00                              | 0.00                              | 34.78                         |
| 534.10         | 0.00                         | 0.080           | 0.082        | 0.00                              | 0.00                              | 38.69                         |
| 534.20         | 0.00                         | 0.088           | 0.083        | 0.00                              | 0.00                              | 42.69                         |
| 534.30         | 0.00                         | 0.097           | 0.085        | 0.00                              | 0.00                              | 46.77                         |
| 534.40         | 0.00                         | 0.105           | 0.087        | 0.00                              | 0.00                              | 50.94                         |
| 534.50         | 0.00                         | 0.114           | 0.089        | 0.00                              | 0.00                              | 55.19                         |
| 534.60         | 0.00                         | 0.123           | 0.091        | 0.00                              | 0.00                              | 59.53                         |
| 534.70         | 0.00                         | 0.132           | 0.092        | 0.00                              | 0.00                              | 63.96                         |
| 534.80         | 0.00                         | 0.141           | 0.094        | 0.00                              | 0.00                              | 68.47                         |
| 534.90         | 0.00                         | 0.151           | 0.096        | 0.00                              | 0.00                              | 73.08                         |
| 535.00         | 0.00                         | 0.161           | 0.098        | 0.00                              | 0.00                              | 77.78                         |
| 535.10         | 0.00                         | 0.171           | 0.100        | 0.00                              | 0.00                              | 82.57                         |
| 535.20         | 0.00                         | 0.181           | 0.102        | 0.00                              | 0.00                              | 87.44                         |
| 535.30         | 0.00                         | 0.191           | 0.104        | 0.00                              | 0.00                              | 92.41                         |
| 535.40         | 0.00                         | 0.201           | 0.105        | 0.00                              | 0.00                              | 97.46                         |
| 535.50         | 0.00                         | 0.212           | 0.107        | 0.00                              | 0.00                              | 102.61                        |
| 535.60         | 0.00                         | 0.223           | 0.109        | 0.00                              | 0.00                              | 107.85                        |
| 535.70         | 0.00                         | 0.234           | 0.111        | 0.00                              | 0.00                              | 113.18                        |
| 535.80         | 0.00                         | 0.245           | 0.113        | 0.00                              | 0.00                              | 118.61                        |
| 535.90         | 0.00                         | 0.256           | 0.115        | 0.00                              | 0.00                              | 124.13                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond1A

Storm Event: 2 year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 536.00            | 0.00                            | 0.268              | 0.117           | 0.00                                 | 0.00                                 | 129.74                           |
| 536.10            | 2.85                            | 0.280              | 0.119           | 0.00                                 | 2.85                                 | 138.30                           |
| 536.20            | 8.05                            | 0.292              | 0.121           | 0.00                                 | 8.05                                 | 149.31                           |
| 536.30            | 14.79                           | 0.304              | 0.123           | 0.00                                 | 14.79                                | 161.96                           |
| 536.40            | 22.77                           | 0.316              | 0.125           | 0.00                                 | 22.77                                | 175.95                           |
| 536.50            | 31.82                           | 0.329              | 0.127           | 0.00                                 | 31.82                                | 191.11                           |
| 536.60            | 41.83                           | 0.342              | 0.129           | 0.00                                 | 41.83                                | 207.33                           |
| 536.70            | 52.71                           | 0.355              | 0.132           | 0.00                                 | 52.71                                | 224.53                           |
| 536.80            | 64.40                           | 0.368              | 0.134           | 0.00                                 | 64.40                                | 242.63                           |
| 536.90            | 76.84                           | 0.382              | 0.136           | 0.00                                 | 76.84                                | 261.60                           |
| 537.00            | 90.00                           | 0.395              | 0.138           | 0.00                                 | 90.00                                | 281.38                           |



## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1A (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 533.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 4.56 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 0.76 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.900 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 536.03 ft               |                             |              |
| Volume (Peak)                      | 0.271 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.430 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.161 ac-ft             |                             |              |
| Volume (Retained)                  | 0.268 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.76 ft <sup>3</sup> /s |
| Time to Peak      | 12.900 hours            |
| Hydrograph Volume | 0.161 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.750          | 0.00                         | 0.27                         | 0.67                         | 0.76                         | 0.74                         |
| 13.000          | 0.70                         | 0.66                         | 0.62                         | 0.58                         | 0.55                         |
| 13.250          | 0.52                         | 0.49                         | 0.47                         | 0.45                         | 0.43                         |
| 13.500          | 0.42                         | 0.41                         | 0.39                         | 0.38                         | 0.37                         |
| 13.750          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.33                         |
| 14.000          | 0.32                         | 0.31                         | 0.30                         | 0.30                         | 0.29                         |
| 14.250          | 0.28                         | 0.28                         | 0.27                         | 0.27                         | 0.26                         |
| 14.500          | 0.26                         | 0.26                         | 0.25                         | 0.25                         | 0.25                         |
| 14.750          | 0.24                         | 0.24                         | 0.24                         | 0.24                         | 0.23                         |
| 15.000          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 15.250          | 0.22                         | 0.22                         | 0.21                         | 0.21                         | 0.21                         |
| 15.500          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 15.750          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 16.000          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 16.250          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.16                         |
| 16.500          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 16.750          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 17.000          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 17.250          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.14                         |
| 17.500          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 17.750          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 18.000          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 18.250          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 18.500          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 18.750          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 19.000          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 19.250          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 19.500          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 19.750          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 20.000          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 20.250          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 20.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 20.750          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.000          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 21.750          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 22.000          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 22.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 22.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 22.750          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.000          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.250          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.500          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.750          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 24.000          | 0.08                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1A (IN)

Return Event: 2 years

Storm Event: 2 year

## Summary for Hydrograph Addition at 'Pond1A'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin1A       |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin1A | 0.430          | 12.150               | 4.56                             |
| Flow (In)   | Pond1A  | 0.430          | 12.150               | 4.56                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)  
 Label: Pond1B

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 530.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 530.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 530.10         | 0.02                         | 0.000           | 0.000        | 0.00                              | 0.02                              | 0.02                          |
| 530.20         | 0.07                         | 0.000           | 0.001        | 0.00                              | 0.07                              | 0.11                          |
| 530.30         | 0.14                         | 0.000           | 0.003        | 0.00                              | 0.14                              | 0.28                          |
| 530.40         | 0.20                         | 0.001           | 0.005        | 0.00                              | 0.20                              | 0.53                          |
| 530.50         | 0.24                         | 0.001           | 0.008        | 0.00                              | 0.24                              | 0.87                          |
| 530.60         | 0.28                         | 0.002           | 0.011        | 0.00                              | 0.28                              | 1.37                          |
| 530.70         | 0.31                         | 0.004           | 0.015        | 0.00                              | 0.31                              | 2.04                          |
| 530.80         | 0.33                         | 0.005           | 0.020        | 0.00                              | 0.33                              | 2.92                          |
| 530.90         | 0.36                         | 0.008           | 0.025        | 0.00                              | 0.36                              | 4.04                          |
| 531.00         | 0.38                         | 0.010           | 0.031        | 0.00                              | 0.38                              | 5.43                          |
| 531.10         | 0.41                         | 0.014           | 0.038        | 0.00                              | 0.41                              | 7.12                          |
| 531.20         | 0.43                         | 0.018           | 0.045        | 0.00                              | 0.43                              | 9.14                          |
| 531.30         | 0.45                         | 0.023           | 0.053        | 0.00                              | 0.45                              | 11.52                         |
| 531.40         | 0.47                         | 0.029           | 0.061        | 0.00                              | 0.47                              | 14.30                         |
| 531.50         | 0.48                         | 0.035           | 0.070        | 0.00                              | 0.48                              | 17.50                         |
| 531.60         | 0.50                         | 0.043           | 0.080        | 0.00                              | 0.50                              | 21.15                         |
| 531.70         | 0.52                         | 0.051           | 0.090        | 0.00                              | 0.52                              | 25.29                         |
| 531.80         | 0.54                         | 0.061           | 0.101        | 0.00                              | 0.54                              | 29.94                         |
| 531.90         | 0.55                         | 0.071           | 0.113        | 0.00                              | 0.55                              | 35.13                         |
| 532.00         | 0.57                         | 0.083           | 0.125        | 0.00                              | 0.57                              | 40.90                         |
| 532.10         | 0.58                         | 0.096           | 0.130        | 0.00                              | 0.58                              | 47.08                         |
| 532.20         | 0.60                         | 0.109           | 0.134        | 0.00                              | 0.60                              | 53.47                         |
| 532.30         | 0.61                         | 0.123           | 0.139        | 0.00                              | 0.61                              | 60.09                         |
| 532.40         | 0.63                         | 0.137           | 0.144        | 0.00                              | 0.63                              | 66.94                         |
| 532.50         | 0.64                         | 0.152           | 0.148        | 0.00                              | 0.64                              | 74.03                         |
| 532.60         | 0.66                         | 0.167           | 0.153        | 0.00                              | 0.66                              | 81.35                         |
| 532.70         | 0.67                         | 0.182           | 0.158        | 0.00                              | 0.67                              | 88.91                         |
| 532.80         | 0.68                         | 0.198           | 0.164        | 0.00                              | 0.68                              | 96.71                         |
| 532.90         | 0.69                         | 0.215           | 0.169        | 0.00                              | 0.69                              | 104.77                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond1B

Storm Event: 2 year

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.71                         | 0.232           | 0.174        | 0.00                              | 0.71                              | 113.07                        |
| 533.10         | 0.72                         | 0.250           | 0.177        | 0.00                              | 0.72                              | 121.57                        |
| 533.20         | 0.73                         | 0.267           | 0.179        | 0.00                              | 0.73                              | 130.18                        |
| 533.30         | 0.74                         | 0.285           | 0.182        | 0.00                              | 0.74                              | 138.92                        |
| 533.40         | 0.76                         | 0.304           | 0.184        | 0.00                              | 0.76                              | 147.79                        |
| 533.50         | 0.77                         | 0.322           | 0.187        | 0.00                              | 0.77                              | 156.78                        |
| 533.60         | 0.78                         | 0.341           | 0.189        | 0.00                              | 0.78                              | 165.89                        |
| 533.70         | 0.79                         | 0.360           | 0.192        | 0.00                              | 0.79                              | 175.13                        |
| 533.80         | 0.80                         | 0.380           | 0.195        | 0.00                              | 0.80                              | 184.50                        |
| 533.90         | 0.81                         | 0.399           | 0.197        | 0.00                              | 0.81                              | 194.00                        |
| 534.00         | 0.82                         | 0.419           | 0.200        | 0.00                              | 0.82                              | 203.62                        |
| 534.10         | 1.69                         | 0.439           | 0.203        | 0.00                              | 1.69                              | 214.23                        |
| 534.20         | 3.26                         | 0.460           | 0.205        | 0.00                              | 3.26                              | 225.68                        |
| 534.30         | 5.29                         | 0.480           | 0.208        | 0.00                              | 5.29                              | 237.72                        |
| 534.40         | 7.69                         | 0.501           | 0.211        | 0.00                              | 7.69                              | 250.27                        |
| 534.50         | 10.42                        | 0.522           | 0.214        | 0.00                              | 10.42                             | 263.28                        |
| 534.60         | 13.43                        | 0.544           | 0.217        | 0.00                              | 13.43                             | 276.70                        |
| 534.70         | 16.71                        | 0.566           | 0.219        | 0.00                              | 16.71                             | 290.53                        |
| 534.80         | 20.22                        | 0.588           | 0.222        | 0.00                              | 20.22                             | 304.73                        |
| 534.90         | 23.97                        | 0.610           | 0.225        | 0.00                              | 23.97                             | 319.30                        |
| 535.00         | 27.92                        | 0.633           | 0.228        | 0.00                              | 27.92                             | 334.23                        |
| 535.10         | 32.08                        | 0.656           | 0.231        | 0.00                              | 32.08                             | 349.49                        |
| 535.20         | 36.43                        | 0.679           | 0.234        | 0.00                              | 36.43                             | 365.08                        |
| 535.30         | 40.97                        | 0.703           | 0.237        | 0.00                              | 40.97                             | 381.00                        |
| 535.40         | 45.69                        | 0.726           | 0.239        | 0.00                              | 45.69                             | 397.23                        |
| 535.50         | 50.57                        | 0.750           | 0.242        | 0.00                              | 50.57                             | 413.77                        |
| 535.60         | 55.62                        | 0.775           | 0.245        | 0.00                              | 55.62                             | 430.62                        |
| 535.70         | 60.83                        | 0.799           | 0.248        | 0.00                              | 60.83                             | 447.77                        |
| 535.80         | 66.20                        | 0.824           | 0.251        | 0.00                              | 66.20                             | 465.21                        |
| 535.90         | 71.72                        | 0.850           | 0.254        | 0.00                              | 71.72                             | 482.95                        |
| 536.00         | 77.38                        | 0.875           | 0.257        | 0.00                              | 77.38                             | 500.98                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1B (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 530.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 1.16 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.950 hours |
| Flow (Peak Outlet)                 | 0.43 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 13.700 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 531.20 ft               |                             |              |
| Volume (Peak)                      | 0.018 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.225 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.225 ac-ft             |                             |              |
| Volume (Retained)                  | 0.000 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.0 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.43 ft <sup>3</sup> /s |
| Time to Peak      | 13.700 hours            |
| Hydrograph Volume | 0.225 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 9.900           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.150          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.400          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 10.650          | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 10.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 11.150          | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 11.400          | 0.04                         | 0.05                         | 0.05                         | 0.07                         | 0.10                         |
| 11.650          | 0.14                         | 0.19                         | 0.23                         | 0.26                         | 0.30                         |
| 11.900          | 0.34                         | 0.38                         | 0.40                         | 0.41                         | 0.41                         |
| 12.150          | 0.41                         | 0.40                         | 0.40                         | 0.39                         | 0.39                         |
| 12.400          | 0.38                         | 0.37                         | 0.36                         | 0.35                         | 0.34                         |
| 12.650          | 0.33                         | 0.31                         | 0.30                         | 0.29                         | 0.31                         |
| 12.900          | 0.34                         | 0.36                         | 0.38                         | 0.39                         | 0.40                         |
| 13.150          | 0.40                         | 0.41                         | 0.41                         | 0.42                         | 0.42                         |
| 13.400          | 0.42                         | 0.42                         | 0.42                         | 0.43                         | 0.43                         |
| 13.650          | 0.43                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 13.900          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 14.150          | 0.42                         | 0.42                         | 0.41                         | 0.41                         | 0.41                         |
| 14.400          | 0.41                         | 0.41                         | 0.40                         | 0.40                         | 0.40                         |
| 14.650          | 0.40                         | 0.39                         | 0.39                         | 0.39                         | 0.38                         |
| 14.900          | 0.38                         | 0.38                         | 0.37                         | 0.37                         | 0.37                         |
| 15.150          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.34                         |
| 15.400          | 0.34                         | 0.34                         | 0.33                         | 0.33                         | 0.32                         |
| 15.650          | 0.31                         | 0.31                         | 0.30                         | 0.30                         | 0.29                         |
| 15.900          | 0.28                         | 0.28                         | 0.27                         | 0.26                         | 0.25                         |
| 16.150          | 0.25                         | 0.24                         | 0.23                         | 0.22                         | 0.22                         |
| 16.400          | 0.21                         | 0.21                         | 0.20                         | 0.20                         | 0.19                         |
| 16.650          | 0.19                         | 0.19                         | 0.19                         | 0.18                         | 0.18                         |
| 16.900          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 17.150          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.17                         |
| 17.400          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 17.650          | 0.17                         | 0.17                         | 0.16                         | 0.16                         | 0.16                         |
| 17.900          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 18.150          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 18.400          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 18.650       | 0.15                      | 0.15                      | 0.14                      | 0.14                      | 0.14                      |
| 18.900       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 19.150       | 0.14                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 19.400       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 19.650       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 19.900       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 20.150       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 20.400       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 20.650       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 20.900       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 21.150       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 21.400       | 0.11                      | 0.11                      | 0.11                      | 0.10                      | 0.10                      |
| 21.650       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 21.900       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.150       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.400       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.650       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 22.900       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.150       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.400       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.650       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 23.900       | 0.10                      | 0.10                      | 0.10                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1B (IN)

Return Event: 2 years

Storm Event: 2 year

### Summary for Hydrograph Addition at 'Pond1B'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| Outlet1A                    | Pond1A        |
| <Catchment to Outflow Node> | Basin1B       |

### Node Inflows

| Inflow Type | Element  | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Outlet1A | 0.161             | 12.900                  | 0.76                                |
| Flow (From) | Basin1B  | 0.064             | 11.950                  | 1.16                                |
| Flow (In)   | Pond1B   | 0.225             | 11.950                  | 1.16                                |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond2

Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 553.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 553.00         | 0.00                         | 0.000           | 0.015        | 0.00                              | 0.00                              | 0.00                          |
| 553.10         | 0.00                         | 0.002           | 0.016        | 0.00                              | 0.00                              | 0.75                          |
| 553.20         | 0.00                         | 0.003           | 0.017        | 0.00                              | 0.00                              | 1.55                          |
| 553.30         | 0.00                         | 0.005           | 0.018        | 0.00                              | 0.00                              | 2.41                          |
| 553.40         | 0.00                         | 0.007           | 0.019        | 0.00                              | 0.00                              | 3.31                          |
| 553.50         | 0.00                         | 0.009           | 0.020        | 0.00                              | 0.00                              | 4.28                          |
| 553.60         | 0.20                         | 0.011           | 0.022        | 0.00                              | 0.20                              | 5.49                          |
| 553.70         | 0.56                         | 0.013           | 0.023        | 0.00                              | 0.56                              | 6.94                          |
| 553.80         | 0.92                         | 0.016           | 0.024        | 0.00                              | 0.92                              | 8.43                          |
| 553.90         | 1.06                         | 0.018           | 0.025        | 0.00                              | 1.06                              | 9.78                          |
| 554.00         | 1.19                         | 0.021           | 0.027        | 0.00                              | 1.19                              | 11.17                         |
| 554.10         | 1.30                         | 0.023           | 0.028        | 0.00                              | 1.30                              | 12.61                         |
| 554.20         | 1.41                         | 0.026           | 0.029        | 0.00                              | 1.41                              | 14.10                         |
| 554.30         | 1.50                         | 0.029           | 0.031        | 0.00                              | 1.50                              | 15.65                         |
| 554.40         | 1.59                         | 0.032           | 0.032        | 0.00                              | 1.59                              | 17.26                         |
| 554.50         | 1.68                         | 0.036           | 0.033        | 0.00                              | 1.68                              | 18.94                         |
| 554.60         | 1.76                         | 0.039           | 0.035        | 0.00                              | 1.76                              | 20.67                         |
| 554.70         | 1.84                         | 0.043           | 0.036        | 0.00                              | 1.84                              | 22.48                         |
| 554.80         | 1.92                         | 0.046           | 0.038        | 0.00                              | 1.92                              | 24.35                         |
| 554.90         | 1.99                         | 0.050           | 0.039        | 0.00                              | 1.99                              | 26.29                         |
| 555.00         | 2.06                         | 0.054           | 0.041        | 0.00                              | 2.06                              | 28.30                         |
| 555.10         | 2.13                         | 0.058           | 0.042        | 0.00                              | 2.13                              | 30.38                         |
| 555.20         | 2.19                         | 0.063           | 0.044        | 0.00                              | 2.19                              | 32.53                         |
| 555.30         | 2.25                         | 0.067           | 0.045        | 0.00                              | 2.25                              | 34.74                         |
| 555.40         | 2.32                         | 0.072           | 0.047        | 0.00                              | 2.32                              | 37.03                         |
| 555.50         | 2.38                         | 0.076           | 0.048        | 0.00                              | 2.38                              | 39.38                         |
| 555.60         | 2.43                         | 0.081           | 0.050        | 0.00                              | 2.43                              | 41.81                         |
| 555.70         | 2.49                         | 0.086           | 0.051        | 0.00                              | 2.49                              | 44.31                         |
| 555.80         | 2.55                         | 0.092           | 0.053        | 0.00                              | 2.55                              | 46.88                         |
| 555.90         | 2.60                         | 0.097           | 0.054        | 0.00                              | 2.60                              | 49.53                         |

# O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond2

Return Event: 2 years

Storm Event: 2 year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 556.00            | 2.66                            | 0.102              | 0.056           | 0.00                                 | 2.66                                 | 52.25                            |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond2 (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 553.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 1.82 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 1.25 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.000 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.06 ft               |                             |              |
| Volume (Peak)                      | 0.022 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.104 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.095 ac-ft             |                             |              |
| Volume (Retained)                  | 0.009 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.25 ft <sup>3</sup> /s |
| Time to Peak      | 12.000 hours            |
| Hydrograph Volume | 0.095 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.200          | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.04                         |
| 10.450          | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 10.700          | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 10.950          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 11.200          | 0.09                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 11.450          | 0.12                         | 0.13                         | 0.14                         | 0.18                         | 0.25                         |
| 11.700          | 0.38                         | 0.53                         | 0.70                         | 0.92                         | 1.06                         |
| 11.950          | 1.19                         | 1.25                         | 1.25                         | 1.17                         | 1.02                         |
| 12.200          | 0.79                         | 0.53                         | 0.38                         | 0.29                         | 0.24                         |
| 12.450          | 0.21                         | 0.19                         | 0.18                         | 0.16                         | 0.15                         |
| 12.700          | 0.14                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 12.950          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 13.200          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 13.450          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 13.700          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 14.200          | 0.06                         | 0.06                         | 0.05                         | 0.05                         | 0.05                         |
| 14.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.700          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.950          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.450          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.700          | 0.03                         | 0.03                         | 0.02                         | 0.02                         | 0.02                         |
| 18.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 19.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.950       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.200       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.450       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.700       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.950       | 0.02                      | 0.02                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond2 (IN)

Return Event: 2 years

Storm Event: 2 year

## Summary for Hydrograph Addition at 'Pond2'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin2        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin2  | 0.104          | 11.900               | 1.82                             |
| Flow (In)   | Pond2   | 0.104          | 11.900               | 1.82                             |



## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond3

Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 554.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 554.00         | 0.00                         | 0.000           | 0.016        | 0.00                              | 0.00                              | 0.00                          |
| 554.10         | 0.00                         | 0.002           | 0.018        | 0.00                              | 0.00                              | 0.81                          |
| 554.20         | 0.00                         | 0.004           | 0.019        | 0.00                              | 0.00                              | 1.71                          |
| 554.30         | 0.00                         | 0.006           | 0.021        | 0.00                              | 0.00                              | 2.69                          |
| 554.40         | 0.00                         | 0.008           | 0.023        | 0.00                              | 0.00                              | 3.76                          |
| 554.50         | 0.00                         | 0.010           | 0.025        | 0.00                              | 0.00                              | 4.92                          |
| 554.60         | 0.37                         | 0.013           | 0.027        | 0.00                              | 0.37                              | 6.55                          |
| 554.70         | 1.05                         | 0.016           | 0.029        | 0.00                              | 1.05                              | 8.59                          |
| 554.80         | 1.94                         | 0.019           | 0.031        | 0.00                              | 1.94                              | 10.94                         |
| 554.90         | 2.98                         | 0.022           | 0.034        | 0.00                              | 2.98                              | 13.56                         |
| 555.00         | 4.17                         | 0.025           | 0.036        | 0.00                              | 4.17                              | 16.43                         |
| 555.10         | 4.58                         | 0.029           | 0.038        | 0.00                              | 4.58                              | 18.63                         |
| 555.20         | 4.94                         | 0.033           | 0.040        | 0.00                              | 4.94                              | 20.88                         |
| 555.30         | 5.28                         | 0.037           | 0.042        | 0.00                              | 5.28                              | 23.21                         |
| 555.40         | 5.60                         | 0.041           | 0.044        | 0.00                              | 5.60                              | 25.61                         |
| 555.50         | 5.91                         | 0.046           | 0.046        | 0.00                              | 5.91                              | 28.11                         |
| 555.60         | 6.19                         | 0.051           | 0.049        | 0.00                              | 6.19                              | 30.69                         |
| 555.70         | 6.47                         | 0.056           | 0.051        | 0.00                              | 6.47                              | 33.37                         |
| 555.80         | 6.73                         | 0.061           | 0.053        | 0.00                              | 6.73                              | 36.15                         |
| 555.90         | 6.99                         | 0.066           | 0.056        | 0.00                              | 6.99                              | 39.04                         |
| 556.00         | 7.23                         | 0.072           | 0.058        | 0.00                              | 7.23                              | 42.03                         |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond3 (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 554.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 1.27 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.200 hours |
| Flow (Peak Outlet)                 | 1.24 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.250 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.72 ft               |                             |              |
| Volume (Peak)                      | 0.016 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.125 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.115 ac-ft             |                             |              |
| Volume (Retained)                  | 0.010 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.24 ft <sup>3</sup> /s |
| Time to Peak      | 12.250 hours            |
| Hydrograph Volume | 0.115 ac-ft             |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.700          | 0.00                         | 0.05                         | 0.13                         | 0.22                         | 0.32                         |
| 11.950          | 0.47                         | 0.66                         | 0.84                         | 1.01                         | 1.16                         |
| 12.200          | 1.24                         | 1.24                         | 1.18                         | 1.09                         | 0.98                         |
| 12.450          | 0.87                         | 0.76                         | 0.66                         | 0.57                         | 0.50                         |
| 12.700          | 0.44                         | 0.39                         | 0.36                         | 0.33                         | 0.30                         |
| 12.950          | 0.27                         | 0.25                         | 0.23                         | 0.22                         | 0.20                         |
| 13.200          | 0.19                         | 0.18                         | 0.17                         | 0.16                         | 0.15                         |
| 13.450          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.12                         |
| 13.700          | 0.12                         | 0.12                         | 0.11                         | 0.11                         | 0.11                         |
| 13.950          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.09                         |
| 14.200          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 14.450          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.700          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 14.950          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.200          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.450          | 0.07                         | 0.07                         | 0.06                         | 0.06                         | 0.06                         |
| 15.700          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.200          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.700          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.950          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.200          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.450          | 0.05                         | 0.05                         | 0.04                         | 0.04                         | 0.04                         |
| 17.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.450          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.03                         |
| 19.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 21.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.950       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.950       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.950       | 0.03                      | 0.03                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond3 (IN)

Return Event: 2 years

Storm Event: 2 year

## Summary for Hydrograph Addition at 'Pond3'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin3        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin3  | 0.125          | 12.200               | 1.27                             |
| Flow (In)   | Pond3   | 0.125          | 12.200               | 1.27                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond4

Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 545.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 545.00         | 0.00                         | 0.000           | 0.010        | 0.00                              | 0.00                              | 0.00                          |
| 545.10         | 0.00                         | 0.001           | 0.011        | 0.00                              | 0.00                              | 0.51                          |
| 545.20         | 0.00                         | 0.002           | 0.012        | 0.00                              | 0.00                              | 1.07                          |
| 545.30         | 0.00                         | 0.003           | 0.013        | 0.00                              | 0.00                              | 1.67                          |
| 545.40         | 0.00                         | 0.005           | 0.014        | 0.00                              | 0.00                              | 2.31                          |
| 545.50         | 0.00                         | 0.006           | 0.015        | 0.00                              | 0.00                              | 3.00                          |
| 545.60         | 0.02                         | 0.008           | 0.016        | 0.00                              | 0.02                              | 3.75                          |
| 545.70         | 0.07                         | 0.009           | 0.017        | 0.00                              | 0.07                              | 4.58                          |
| 545.80         | 0.14                         | 0.011           | 0.018        | 0.00                              | 0.14                              | 5.49                          |
| 545.90         | 0.20                         | 0.013           | 0.019        | 0.00                              | 0.20                              | 6.44                          |
| 546.00         | 0.24                         | 0.015           | 0.020        | 0.00                              | 0.24                              | 7.42                          |
| 546.10         | 0.28                         | 0.017           | 0.021        | 0.00                              | 0.28                              | 8.45                          |
| 546.20         | 0.31                         | 0.019           | 0.022        | 0.00                              | 0.31                              | 9.52                          |
| 546.30         | 0.33                         | 0.021           | 0.023        | 0.00                              | 0.33                              | 10.65                         |
| 546.40         | 0.36                         | 0.024           | 0.024        | 0.00                              | 0.36                              | 11.83                         |
| 546.50         | 0.38                         | 0.026           | 0.026        | 0.00                              | 0.38                              | 13.07                         |
| 546.60         | 0.41                         | 0.029           | 0.027        | 0.00                              | 0.41                              | 14.36                         |
| 546.70         | 0.43                         | 0.032           | 0.028        | 0.00                              | 0.43                              | 15.71                         |
| 546.80         | 0.45                         | 0.034           | 0.029        | 0.00                              | 0.45                              | 17.12                         |
| 546.90         | 0.47                         | 0.037           | 0.031        | 0.00                              | 0.47                              | 18.60                         |
| 547.00         | 0.48                         | 0.041           | 0.032        | 0.00                              | 0.48                              | 20.13                         |
| 547.10         | 0.50                         | 0.044           | 0.033        | 0.00                              | 0.50                              | 21.73                         |
| 547.20         | 0.52                         | 0.047           | 0.035        | 0.00                              | 0.52                              | 23.39                         |
| 547.30         | 0.54                         | 0.051           | 0.036        | 0.00                              | 0.54                              | 25.11                         |
| 547.40         | 0.55                         | 0.054           | 0.037        | 0.00                              | 0.55                              | 26.89                         |
| 547.50         | 0.57                         | 0.058           | 0.039        | 0.00                              | 0.57                              | 28.75                         |
| 547.60         | 0.92                         | 0.062           | 0.040        | 0.00                              | 0.92                              | 30.99                         |
| 547.70         | 1.54                         | 0.066           | 0.041        | 0.00                              | 1.54                              | 33.59                         |
| 547.80         | 2.34                         | 0.070           | 0.043        | 0.00                              | 2.34                              | 36.42                         |
| 547.90         | 3.28                         | 0.075           | 0.044        | 0.00                              | 3.28                              | 39.48                         |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond4

Storm Event: 2 year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 548.00            | 4.35                            | 0.079              | 0.046           | 0.00                                 | 4.35                                 | 42.73                            |
| 548.10            | 5.54                            | 0.084              | 0.047           | 0.00                                 | 5.54                                 | 46.15                            |
| 548.20            | 6.82                            | 0.089              | 0.048           | 0.00                                 | 6.82                                 | 49.73                            |
| 548.30            | 8.19                            | 0.094              | 0.049           | 0.00                                 | 8.19                                 | 53.45                            |
| 548.40            | 9.66                            | 0.098              | 0.050           | 0.00                                 | 9.66                                 | 57.31                            |
| 548.50            | 11.21                           | 0.104              | 0.051           | 0.00                                 | 11.21                                | 61.31                            |
| 548.60            | 12.83                           | 0.109              | 0.052           | 0.00                                 | 12.83                                | 65.44                            |
| 548.70            | 14.53                           | 0.114              | 0.053           | 0.00                                 | 14.53                                | 69.70                            |
| 548.80            | 16.31                           | 0.119              | 0.055           | 0.00                                 | 16.31                                | 74.09                            |
| 548.90            | 18.15                           | 0.125              | 0.056           | 0.00                                 | 18.15                                | 78.60                            |
| 549.00            | 20.06                           | 0.131              | 0.057           | 0.00                                 | 20.06                                | 83.24                            |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond4 (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 545.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 1.33 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 0.42 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.100 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 546.65 ft               |                             |              |
| Volume (Peak)                      | 0.030 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.075 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.068 ac-ft             |                             |              |
| Volume (Retained)                  | 0.007 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.42 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.068 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.450          | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 10.700          | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 10.950          | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.04                         |
| 11.200          | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.06                         |
| 11.450          | 0.06                         | 0.07                         | 0.07                         | 0.09                         | 0.12                         |
| 11.700          | 0.15                         | 0.20                         | 0.23                         | 0.28                         | 0.32                         |
| 11.950          | 0.37                         | 0.40                         | 0.41                         | 0.42                         | 0.41                         |
| 12.200          | 0.41                         | 0.40                         | 0.39                         | 0.38                         | 0.37                         |
| 12.450          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 12.700          | 0.31                         | 0.30                         | 0.28                         | 0.27                         | 0.26                         |
| 12.950          | 0.25                         | 0.23                         | 0.22                         | 0.21                         | 0.19                         |
| 13.200          | 0.18                         | 0.16                         | 0.15                         | 0.14                         | 0.12                         |
| 13.450          | 0.11                         | 0.10                         | 0.10                         | 0.09                         | 0.08                         |
| 13.700          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 13.950          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.05                         |
| 14.200          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 14.450          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.700          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 14.950          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 15.200          | 0.04                         | 0.04                         | 0.04                         | 0.03                         | 0.03                         |
| 15.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.700          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 15.950          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.200          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.450          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 16.700          | 0.03                         | 0.03                         | 0.03                         | 0.02                         | 0.02                         |
| 16.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 17.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 18.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 19.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 19.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.200          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.450          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.700          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.950          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.200          | 0.02                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 21.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 22.950          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.200          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.450          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.700          | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 23.950          | 0.01                         | 0.01                         | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond4 (IN)

Return Event: 2 years

Storm Event: 2 year

## Summary for Hydrograph Addition at 'Pond4'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin4        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin4  | 0.075          | 11.900               | 1.33                             |
| Flow (In)   | Pond4   | 0.075          | 11.900               | 1.33                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 2 years

Label: Pond5

Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

---

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 563.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 563.00         | 0.00                         | 0.000           | 0.023        | 0.00                              | 0.00                              | 0.00                          |
| 563.10         | 0.00                         | 0.002           | 0.026        | 0.00                              | 0.00                              | 1.19                          |
| 563.20         | 0.00                         | 0.005           | 0.029        | 0.00                              | 0.00                              | 2.51                          |
| 563.30         | 0.00                         | 0.008           | 0.032        | 0.00                              | 0.00                              | 3.97                          |
| 563.40         | 0.00                         | 0.012           | 0.035        | 0.00                              | 0.00                              | 5.58                          |
| 563.50         | 0.00                         | 0.015           | 0.038        | 0.00                              | 0.00                              | 7.34                          |
| 563.60         | 0.00                         | 0.019           | 0.041        | 0.00                              | 0.00                              | 9.26                          |
| 563.70         | 0.00                         | 0.023           | 0.045        | 0.00                              | 0.00                              | 11.34                         |
| 563.75         | 0.00                         | 0.026           | 0.047        | 0.00                              | 0.00                              | 12.45                         |
| 563.80         | 0.35                         | 0.028           | 0.048        | 0.00                              | 0.35                              | 13.95                         |
| 563.90         | 1.83                         | 0.033           | 0.052        | 0.00                              | 1.83                              | 17.87                         |
| 564.00         | 3.94                         | 0.039           | 0.056        | 0.00                              | 3.94                              | 22.60                         |
| 564.10         | 6.52                         | 0.044           | 0.060        | 0.00                              | 6.52                              | 27.99                         |
| 564.20         | 9.51                         | 0.051           | 0.063        | 0.00                              | 9.51                              | 33.95                         |
| 564.30         | 12.85                        | 0.057           | 0.067        | 0.00                              | 12.85                             | 40.44                         |
| 564.40         | 16.51                        | 0.064           | 0.071        | 0.00                              | 16.51                             | 47.44                         |
| 564.50         | 20.46                        | 0.071           | 0.075        | 0.00                              | 20.46                             | 54.92                         |
| 564.60         | 24.69                        | 0.079           | 0.079        | 0.00                              | 24.69                             | 62.86                         |
| 564.70         | 29.17                        | 0.087           | 0.083        | 0.00                              | 29.17                             | 71.25                         |
| 564.80         | 33.89                        | 0.095           | 0.087        | 0.00                              | 33.89                             | 80.10                         |
| 564.90         | 38.85                        | 0.104           | 0.092        | 0.00                              | 38.85                             | 89.38                         |
| 565.00         | 44.02                        | 0.114           | 0.096        | 0.00                              | 44.02                             | 99.09                         |

## O'Day Park Detention Calculations

Subsection: Detention Time

Label: Pond5 (IN)

Return Event: 2 years

Storm Event: 2 year

| Infiltration   |                 |
|--|-----------------|
| Infiltration Method<br>(Computed)  | No Infiltration |
| <b>Approximate Detention Times</b>                                       |                 |
| Time to Peak (Outflow +<br>Infiltration, Peak to Peak<br>Detention Time) | 11.950 hours    |
| Time to Peak (Inflow, Peak<br>to Peak Detention Time)                    | 11.900 hours    |
| Detention Time (Peak to<br>Peak)   | 0.050 hours     |
| Time to Centroid (Outflow)   | 13.715 hours    |
| Time to Centroid (Inflow)  | 13.153 hours    |
| Detention Time (Centroid to<br>Centroid)                                 | 0.561 hours     |
| Weighted Average Plug Time   | 1.925 hours     |
| Maximum Plug Volume Plug<br>Time   | 0.180 hours     |
| Maximum Inflow Plug<br>Volume  | 0.014 ac-ft     |
| Time (Maximum Plug<br>Volume, Start)                                     | 11.900 hours    |
| Time (Maximum Plug<br>Volume, End)                                       | 11.950 hours    |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond5 (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 563.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 3.56 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 3.42 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 11.950 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 563.98 ft               |                             |              |
| Volume (Peak)                      | 0.037 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.200 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.174 ac-ft             |                             |              |
| Volume (Retained)                  | 0.026 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 3.42 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.174 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.350          | 0.00                         | 0.08                         | 0.16                         | 0.21                         | 0.26                         |
| 11.600          | 0.35                         | 0.58                         | 0.85                         | 1.18                         | 1.56                         |
| 11.850          | 2.15                         | 3.00                         | 3.42                         | 3.19                         | 2.53                         |
| 12.100          | 1.60                         | 0.97                         | 0.66                         | 0.54                         | 0.48                         |
| 12.350          | 0.43                         | 0.40                         | 0.37                         | 0.34                         | 0.32                         |
| 12.600          | 0.29                         | 0.28                         | 0.26                         | 0.25                         | 0.24                         |
| 12.850          | 0.23                         | 0.22                         | 0.21                         | 0.21                         | 0.20                         |
| 13.100          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 13.350          | 0.17                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 13.600          | 0.15                         | 0.14                         | 0.14                         | 0.14                         | 0.13                         |
| 13.850          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 14.100          | 0.12                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 14.350          | 0.11                         | 0.11                         | 0.11                         | 0.10                         | 0.10                         |
| 14.600          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 14.850          | 0.10                         | 0.10                         | 0.10                         | 0.09                         | 0.09                         |
| 15.100          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.350          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 15.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.850          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 16.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.600          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.100          | 0.06                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.350          | 0.05                         | 0.05                         | 0.05                         | 0.04                         | 0.04                         |
| 19.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 20.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.350       | 0.04                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | (N/A)                     |



# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond5 (IN)

Return Event: 2 years

Storm Event: 2 year

## Summary for Hydrograph Addition at 'Pond5'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin5        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin5  | 0.200          | 11.900               | 3.56                             |
| Flow (In)   | Pond5   | 0.200          | 11.900               | 3.56                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond7

Return Event: 2 years

Storm Event: 2 year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 529.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 529.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 529.50         | 0.24                         | 0.008           | 0.049        | 0.00                              | 0.24                              | 4.15                          |
| 530.00         | 0.38                         | 0.065           | 0.194        | 0.00                              | 0.38                              | 31.68                         |
| 530.50         | 0.48                         | 0.166           | 0.210        | 0.00                              | 0.48                              | 80.68                         |
| 531.00         | 0.57                         | 0.275           | 0.227        | 0.00                              | 0.57                              | 133.64                        |
| 531.50         | 15.49                        | 0.393           | 0.244        | 0.00                              | 15.49                             | 205.51                        |
| 532.00         | 42.71                        | 0.519           | 0.261        | 0.00                              | 42.71                             | 293.78                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond7 (IN)

Return Event: 2 years  
 Storm Event: 2 year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 529.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 6.67 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 0.49 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.800 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 530.52 ft               |                             |              |
| Volume (Peak)                      | 0.170 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.369 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.367 ac-ft             |                             |              |
| Volume (Retained)                  | 0.000 ac-ft             |                             |              |
| Volume (Unrouted)                  | -0.003 ac-ft            |                             |              |
| Error (Mass Balance)               | 0.7 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.49 ft <sup>3</sup> /s |
| Time to Peak      | 12.800 hours            |
| Hydrograph Volume | 0.367 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.500           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 8.750           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.01                         |
| 9.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 9.250           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 9.500           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.750           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.000          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.250          | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 10.500          | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 10.750          | 0.08                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 11.000          | 0.11                         | 0.12                         | 0.12                         | 0.13                         | 0.14                         |
| 11.250          | 0.15                         | 0.16                         | 0.18                         | 0.19                         | 0.20                         |
| 11.500          | 0.22                         | 0.24                         | 0.25                         | 0.25                         | 0.27                         |
| 11.750          | 0.28                         | 0.31                         | 0.34                         | 0.39                         | 0.42                         |
| 12.000          | 0.44                         | 0.46                         | 0.47                         | 0.47                         | 0.48                         |
| 12.250          | 0.48                         | 0.48                         | 0.48                         | 0.49                         | 0.49                         |
| 12.500          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 12.750          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 13.000          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 13.250          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.48                         |
| 13.500          | 0.48                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |
| 13.750          | 0.48                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |
| 14.000          | 0.48                         | 0.48                         | 0.47                         | 0.47                         | 0.47                         |
| 14.250          | 0.47                         | 0.47                         | 0.47                         | 0.47                         | 0.47                         |
| 14.500          | 0.47                         | 0.47                         | 0.47                         | 0.46                         | 0.46                         |
| 14.750          | 0.46                         | 0.46                         | 0.46                         | 0.46                         | 0.46                         |
| 15.000          | 0.46                         | 0.46                         | 0.46                         | 0.45                         | 0.45                         |
| 15.250          | 0.45                         | 0.45                         | 0.45                         | 0.45                         | 0.45                         |
| 15.500          | 0.45                         | 0.45                         | 0.44                         | 0.44                         | 0.44                         |
| 15.750          | 0.44                         | 0.44                         | 0.44                         | 0.44                         | 0.44                         |
| 16.000          | 0.44                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 16.250          | 0.43                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 16.500          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 16.750          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.41                         |
| 17.000          | 0.41                         | 0.41                         | 0.41                         | 0.41                         | 0.41                         |
| 17.250          | 0.41                         | 0.41                         | 0.41                         | 0.40                         | 0.40                         |
| 17.500          | 0.40                         | 0.40                         | 0.40                         | 0.40                         | 0.40                         |
| 17.750          | 0.40                         | 0.40                         | 0.39                         | 0.39                         | 0.39                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 2 years  
 Storm Event: 2 year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 18.000          | 0.39                         | 0.39                         | 0.39                         | 0.39                         | 0.39                         |
| 18.250          | 0.39                         | 0.38                         | 0.38                         | 0.38                         | 0.38                         |
| 18.500          | 0.38                         | 0.37                         | 0.37                         | 0.37                         | 0.37                         |
| 18.750          | 0.36                         | 0.36                         | 0.36                         | 0.36                         | 0.35                         |
| 19.000          | 0.35                         | 0.35                         | 0.35                         | 0.34                         | 0.34                         |
| 19.250          | 0.34                         | 0.34                         | 0.33                         | 0.33                         | 0.33                         |
| 19.500          | 0.33                         | 0.32                         | 0.32                         | 0.32                         | 0.32                         |
| 19.750          | 0.32                         | 0.31                         | 0.31                         | 0.31                         | 0.31                         |
| 20.000          | 0.30                         | 0.30                         | 0.30                         | 0.30                         | 0.30                         |
| 20.250          | 0.29                         | 0.29                         | 0.29                         | 0.29                         | 0.29                         |
| 20.500          | 0.28                         | 0.28                         | 0.28                         | 0.28                         | 0.28                         |
| 20.750          | 0.27                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 21.000          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 21.250          | 0.26                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 21.500          | 0.25                         | 0.25                         | 0.24                         | 0.24                         | 0.22                         |
| 21.750          | 0.21                         | 0.19                         | 0.18                         | 0.17                         | 0.16                         |
| 22.000          | 0.15                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 22.250          | 0.12                         | 0.12                         | 0.11                         | 0.11                         | 0.11                         |
| 22.500          | 0.11                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 22.750          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 23.000          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 23.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 23.500          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.750          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 24.000          | 0.08                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary  
 Label: Pond7 (IN)

Return Event: 2 years  
 Storm Event: 2 year

## Summary for Hydrograph Addition at 'Pond7'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin 7       |

### Node Inflows

| Inflow Type | Element | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|---------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Basin 7 | 0.369             | 11.900                  | 6.67                                |
| Flow (In)   | Pond7   | 0.369             | 11.900                  | 6.67                                |

## **Appendix F**

### **15-Yr Proposed Hydraulic Runoff Calculations**

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Pond Summary

| Label        | Scenario                    | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) | Maximum Water Surface Elevation (ft) | Maximum Pond Storage (ac-ft) |
|--------------|-----------------------------|----------------------|---------------------------|----------------------|--------------------------------|--------------------------------------|------------------------------|
| Pond1A (IN)  | Post-Development<br>15 year | 15                   | 0.776                     | 12.150               | 8.06                           | (N/A)                                | (N/A)                        |
| Pond1A (OUT) | Post-Development<br>15 year | 15                   | 0.507                     | 12.250               | 7.53                           | 536.19                               | 0.291                        |
| Pond1B (IN)  | Post-Development<br>15 year | 15                   | 0.637                     | 12.250               | 7.87                           | (N/A)                                | (N/A)                        |
| Pond1B (OUT) | Post-Development<br>15 year | 15                   | 0.636                     | 13.650               | 0.74                           | 533.27                               | 0.280                        |
| Pond2 (IN)   | Post-Development<br>15 year | 15                   | 0.176                     | 11.900               | 2.99                           | (N/A)                                | (N/A)                        |
| Pond2 (OUT)  | Post-Development<br>15 year | 15                   | 0.167                     | 12.050               | 1.72                           | 554.55                               | 0.037                        |
| Pond3 (IN)   | Post-Development<br>15 year | 15                   | 0.235                     | 12.150               | 2.35                           | (N/A)                                | (N/A)                        |
| Pond3 (OUT)  | Post-Development<br>15 year | 15                   | 0.224                     | 12.200               | 2.32                           | 554.84                               | 0.020                        |
| Pond4 (IN)   | Post-Development<br>15 year | 15                   | 0.129                     | 11.900               | 2.21                           | (N/A)                                | (N/A)                        |
| Pond4 (OUT)  | Post-Development<br>15 year | 15                   | 0.121                     | 12.100               | 0.53                           | 547.27                               | 0.050                        |
| Pond5 (IN)   | Post-Development<br>15 year | 15                   | 0.347                     | 11.900               | 6.01                           | (N/A)                                | (N/A)                        |
| Pond5 (OUT)  | Post-Development<br>15 year | 15                   | 0.321                     | 11.950               | 5.82                           | 564.07                               | 0.043                        |
| Pond7 (IN)   | Post-Development<br>15 year | 15                   | 0.732                     | 11.900               | 13.27                          | (N/A)                                | (N/A)                        |
| Pond7 (OUT)  | Post-Development<br>15 year | 15                   | 0.672                     | 12.100               | 4.67                           | 531.14                               | 0.306                        |



## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Label: Time-Depth - 1

Return Event: 15 years

Storm Event: 15-year

| Time-Depth Curve: 15-year |              |
|---------------------------|--------------|
| Label                     | 15-year      |
| Start Time                | 0.000 hours  |
| Increment                 | 0.100 hours  |
| End Time                  | 24.000 hours |
| Return Event              | 15 years     |

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 0.000           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           |
| 0.500           | 0.0           | 0.0           | 0.0           | 0.0           | 0.1           |
| 1.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 1.500           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.000           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.3           |
| 4.000           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 4.500           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 5.000           | 0.3           | 0.4           | 0.4           | 0.4           | 0.4           |
| 5.500           | 0.4           | 0.4           | 0.4           | 0.4           | 0.4           |
| 6.000           | 0.4           | 0.4           | 0.5           | 0.5           | 0.5           |
| 6.500           | 0.5           | 0.5           | 0.5           | 0.5           | 0.5           |
| 7.000           | 0.5           | 0.6           | 0.6           | 0.6           | 0.6           |
| 7.500           | 0.6           | 0.6           | 0.6           | 0.6           | 0.6           |
| 8.000           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           |
| 8.500           | 0.7           | 0.7           | 0.8           | 0.8           | 0.8           |
| 9.000           | 0.8           | 0.8           | 0.8           | 0.9           | 0.9           |
| 9.500           | 0.9           | 0.9           | 0.9           | 1.0           | 1.0           |
| 10.000          | 1.0           | 1.0           | 1.0           | 1.1           | 1.1           |
| 10.500          | 1.1           | 1.2           | 1.2           | 1.2           | 1.3           |
| 11.000          | 1.3           | 1.3           | 1.4           | 1.4           | 1.5           |
| 11.500          | 1.6           | 1.7           | 1.9           | 2.4           | 3.1           |
| 12.000          | 3.6           | 3.8           | 3.8           | 3.9           | 4.0           |
| 12.500          | 4.0           | 4.1           | 4.1           | 4.2           | 4.2           |
| 13.000          | 4.2           | 4.3           | 4.3           | 4.3           | 4.4           |
| 13.500          | 4.4           | 4.4           | 4.4           | 4.5           | 4.5           |
| 14.000          | 4.5           | 4.5           | 4.5           | 4.6           | 4.6           |
| 14.500          | 4.6           | 4.6           | 4.6           | 4.7           | 4.7           |
| 15.000          | 4.7           | 4.7           | 4.7           | 4.7           | 4.8           |
| 15.500          | 4.8           | 4.8           | 4.8           | 4.8           | 4.8           |
| 16.000          | 4.8           | 4.9           | 4.9           | 4.9           | 4.9           |
| 16.500          | 4.9           | 4.9           | 4.9           | 4.9           | 4.9           |
| 17.000          | 5.0           | 5.0           | 5.0           | 5.0           | 5.0           |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Label: Time-Depth - 1

Return Event: 15 years

Storm Event: 15-year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 5.0           | 5.0           | 5.0           | 5.0           | 5.1           |
| 18.000          | 5.1           | 5.1           | 5.1           | 5.1           | 5.1           |
| 18.500          | 5.1           | 5.1           | 5.1           | 5.1           | 5.1           |
| 19.000          | 5.2           | 5.2           | 5.2           | 5.2           | 5.2           |
| 19.500          | 5.2           | 5.2           | 5.2           | 5.2           | 5.2           |
| 20.000          | 5.2           | 5.2           | 5.3           | 5.3           | 5.3           |
| 20.500          | 5.3           | 5.3           | 5.3           | 5.3           | 5.3           |
| 21.000          | 5.3           | 5.3           | 5.3           | 5.3           | 5.3           |
| 21.500          | 5.3           | 5.3           | 5.4           | 5.4           | 5.4           |
| 22.000          | 5.4           | 5.4           | 5.4           | 5.4           | 5.4           |
| 22.500          | 5.4           | 5.4           | 5.4           | 5.4           | 5.4           |
| 23.000          | 5.4           | 5.4           | 5.5           | 5.5           | 5.5           |
| 23.500          | 5.5           | 5.5           | 5.5           | 5.5           | 5.5           |
| 24.000          | 5.5           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin1A

Return Event: 15 years  
 Storm Event: 15-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                     |
|---|---------------------|
| Hydraulic Length                            | 240.00 ft           |
| Manning's n                                 | 0.400               |
| Slope                                       | 0.063 ft/ft         |
| 2 Year 24 Hour Depth                        | 3.5 in              |
| Average Velocity                            | 0.15 ft/s           |
| Segment Time of Concentration               | 0.437 hours         |
| Segment #2: TR-55 Channel Flow              |                     |
| Flow Area                                   | 4.0 ft <sup>2</sup> |
| Hydraulic Length                            | 286.00 ft           |
| Manning's n                                 | 0.030               |
| Slope                                       | 0.039 ft/ft         |
| Wetted Perimeter                            | 8.20 ft             |
| Average Velocity                            | 6.04 ft/s           |
| Segment Time of Concentration               | 0.013 hours         |
| Segment #3: TR-55 Channel Flow              |                     |
| Flow Area                                   | 0.8 ft <sup>2</sup> |
| Hydraulic Length                            | 65.00 ft            |
| Manning's n                                 | 0.013               |
| Slope                                       | 0.108 ft/ft         |
| Wetted Perimeter                            | 3.14 ft             |
| Average Velocity                            | 14.93 ft/s          |
| Segment Time of Concentration               | 0.001 hours         |
| Segment #4: TR-55 Shallow Concentrated Flow |                     |
| Hydraulic Length                            | 185.00 ft           |
| Is Paved?                                   | False               |
| Slope                                       | 0.070 ft/ft         |
| Average Velocity                            | 4.28 ft/s           |
| Segment Time of Concentration               | 0.012 hours         |
| Time of Concentration (Composite)           |                     |
| Time of Concentration (Composite)           | 0.463 hours         |

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Catchments Summary

| Label    | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|----------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| Basin 7  | Post-Development 15 year | 15                   | 0.732                     | 11.900               | 13.27                          |
| Basin1A  | Post-Development 15 year | 15                   | 0.776                     | 12.150               | 8.06                           |
| Basin1B  | Post-Development 15 year | 15                   | 0.130                     | 11.900               | 2.37                           |
| Basin2   | Post-Development 15 year | 15                   | 0.176                     | 11.900               | 2.99                           |
| Basin3   | Post-Development 15 year | 15                   | 0.235                     | 12.150               | 2.35                           |
| Basin4   | Post-Development 15 year | 15                   | 0.129                     | 11.900               | 2.21                           |
| Basin5   | Post-Development 15 year | 15                   | 0.347                     | 11.900               | 6.01                           |
| Bypass 4 | Post-Development 15 year | 15                   | 1.906                     | 12.100               | 23.10                          |
| Bypass1  | Post-Development 15 year | 15                   | 1.463                     | 12.000               | 22.83                          |
| Bypass2  | Post-Development 15 year | 15                   | 7.857                     | 12.150               | 87.95                          |
| Bypass3  | Post-Development 15 year | 15                   | 11.670                    | 12.100               | 136.51                         |

## Node Summary

| Label     | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| J-14      | Post-Development 15 year | 15                   | 0.672                     | 12.100               | 4.67                           |
| J-3       | Post-Development 15 year | 15                   | 0.321                     | 12.000               | 5.55                           |
| J-4       | Post-Development 15 year | 15                   | 1.483                     | 12.150               | 6.97                           |
| J-5       | Post-Development 15 year | 15                   | 0.321                     | 11.950               | 5.82                           |
| J-6       | Post-Development 15 year | 15                   | 0.512                     | 12.150               | 4.30                           |
| J-8       | Post-Development 15 year | 15                   | 1.175                     | 12.150               | 6.42                           |
| O-1       | Post-Development 15 year | 15                   | 24.341                    | 12.100               | 267.81                         |
| Outfall1B | Post-Development 15 year | 15                   | 0.636                     | 13.650               | 0.74                           |

## Pond Summary

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin1B

Return Event: 15 years

Storm Event: 15-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 94.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.188 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.56 ft/s   |
| Segment Time of Concentration | 0.017 hours |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin2

Return Event: 15 years  
Storm Event: 15-year

## Time of Concentration Results

---

### Segment #1: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 85.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.047 ft/ft |
| Average Velocity              | 3.50 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 57.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 4.55 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin3

Return Event: 15 years  
 Storm Event: 15-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                     |
|---|---------------------|
| Hydraulic Length                            | 250.00 ft           |
| Manning's n                                 | 0.400               |
| Slope                                       | 0.048 ft/ft         |
| 2 Year 24 Hour Depth                        | 3.5 in              |
| Average Velocity                            | 0.14 ft/s           |
| Segment Time of Concentration               | 0.502 hours         |
| Segment #2: TR-55 Shallow Concentrated Flow |                     |
| Hydraulic Length                            | 49.00 ft            |
| Is Paved?                                   | False               |
| Slope                                       | 0.230 ft/ft         |
| Average Velocity                            | 7.74 ft/s           |
| Segment Time of Concentration               | 0.002 hours         |
| Segment #3: TR-55 Channel Flow              |                     |
| Flow Area                                   | 3.0 ft <sup>2</sup> |
| Hydraulic Length                            | 44.00 ft            |
| Manning's n                                 | 0.030               |
| Slope                                       | 0.010 ft/ft         |
| Wetted Perimeter                            | 3.10 ft             |
| Average Velocity                            | 4.86 ft/s           |
| Segment Time of Concentration               | 0.003 hours         |
| Time of Concentration (Composite)           |                     |
| Time of Concentration (Composite)           | 0.506 hours         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin4

Return Event: 15 years

Storm Event: 15-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 148.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.61 ft/s   |
| Segment Time of Concentration | 0.026 hours |

---

### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 20.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.333 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.44 ft/s   |
| Segment Time of Concentration | 0.004 hours |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---



# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin5

Return Event: 15 years

Storm Event: 15-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 230.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.045 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.83 ft/s   |
| Segment Time of Concentration | 0.035 hours |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin 7

Return Event: 15 years  
Storm Event: 15-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 360.00 ft   |
| Manning's n                   | 0.030       |
| Slope                         | 0.060 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.29 ft/s   |
| Segment Time of Concentration | 0.078 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 64.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.063 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 11.37 ft/s          |
| Segment Time of Concentration | 0.002 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass1

Return Event: 15 years

Storm Event: 15-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 78.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.010 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.47 ft/s   |
| Segment Time of Concentration | 0.046 hours |

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---

#### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 154.00 ft   |
| Manning's n                   | 0.080       |
| Slope                         | 0.290 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.93 ft/s   |
| Segment Time of Concentration | 0.046 hours |

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#### Segment #3: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 110.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.073 ft/ft |
| Average Velocity              | 4.36 ft/s   |
| Segment Time of Concentration | 0.007 hours |

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#### Segment #4: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,611.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.099 hours          |

---



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#### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.198 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Bypass2

Return Event: 15 years  
 Storm Event: 15-year

## Time of Concentration Results

| Segment #1: TR-55 Sheet Flow      |                      |
|-----------------------------------|----------------------|
| Hydraulic Length                  | 287.00 ft            |
| Manning's n                       | 0.150                |
| Slope                             | 0.063 ft/ft          |
| 2 Year 24 Hour Depth              | 3.5 in               |
| Average Velocity                  | 0.35 ft/s            |
| Segment Time of Concentration     | 0.229 hours          |
| Segment #2: TR-55 Channel Flow    |                      |
| Flow Area                         | 7.5 ft <sup>2</sup>  |
| Hydraulic Length                  | 1,044.00 ft          |
| Manning's n                       | 0.030                |
| Slope                             | 0.013 ft/ft          |
| Wetted Perimeter                  | 15.13 ft             |
| Average Velocity                  | 3.55 ft/s            |
| Segment Time of Concentration     | 0.082 hours          |
| Segment #3: TR-55 Channel Flow    |                      |
| Flow Area                         | 60.0 ft <sup>2</sup> |
| Hydraulic Length                  | 1,010.00 ft          |
| Manning's n                       | 0.100                |
| Slope                             | 0.049 ft/ft          |
| Wetted Perimeter                  | 60.13 ft             |
| Average Velocity                  | 3.29 ft/s            |
| Segment Time of Concentration     | 0.085 hours          |
| Segment #4: TR-55 Channel Flow    |                      |
| Flow Area                         | 36.0 ft <sup>2</sup> |
| Hydraulic Length                  | 745.00 ft            |
| Manning's n                       | 0.045                |
| Slope                             | 0.020 ft/ft          |
| Wetted Perimeter                  | 19.70 ft             |
| Average Velocity                  | 7.00 ft/s            |
| Segment Time of Concentration     | 0.030 hours          |
| Time of Concentration (Composite) |                      |
| Time of Concentration (Composite) | 0.426 hours          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Bypass3

Return Event: 15 years  
 Storm Event: 15-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.85 ft/s   |
| Segment Time of Concentration | 0.098 hours |

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### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 418.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.041 ft/ft |
| Average Velocity              | 3.27 ft/s   |
| Segment Time of Concentration | 0.036 hours |

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### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 32.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,740.00 ft          |
| Manning's n                   | 0.080                |
| Slope                         | 0.030 ft/ft          |
| Wetted Perimeter              | 17.89 ft             |
| Average Velocity              | 4.75 ft/s            |
| Segment Time of Concentration | 0.102 hours          |

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### Segment #4: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.1 ft <sup>2</sup> |
| Hydraulic Length              | 38.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.022 ft/ft         |
| Wetted Perimeter              | 6.28 ft             |
| Average Velocity              | 10.64 ft/s          |
| Segment Time of Concentration | 0.001 hours         |

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### Segment #5: TR-55 Channel Flow

---

|                  |                      |
|------------------|----------------------|
| Flow Area        | 72.0 ft <sup>2</sup> |
| Hydraulic Length | 2,454.00 ft          |
| Manning's n      | 0.040                |
| Slope            | 0.006 ft/ft          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Bypass3

Return Event: 15 years  
Storm Event: 15-year

---

| Segment #5: TR-55 Channel Flow |             |
|--------------------------------|-------------|
| Wetted Perimeter               | 36.88 ft    |
| Average Velocity               | 4.51 ft/s   |
| Segment Time of Concentration  | 0.151 hours |

---

| Time of Concentration (Composite) |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.387 hours |

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass 4

Return Event: 15 years

Storm Event: 15-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

---

#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.57 ft/s   |
| Segment Time of Concentration | 0.075 hours |

---

#### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.199 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.366 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1A

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.060           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.140           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.200           | (N/A)    | (N/A)     | 88.673      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1B

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description   | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|--|--------|-----------------|----------|-----------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D | 80.000 | 0.470           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->  | (N/A)  | 0.470           | (N/A)    | (N/A)     | 80.000      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin2

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C | 98.000 | 0.330           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.110           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.440           | (N/A)    | (N/A)     | 93.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin3

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.460           | 0.0      | 0.0       | 80.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.260           | 0.0      | 0.0       | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.720           | (N/A)    | (N/A)     | 86.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin4

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.240           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.090           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.330           | (N/A)    | (N/A)     | 93.091      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin5

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.680        | 0.0   | 0.0    | 98.000      |
| Brush - brush, weed, grass mix - good - Soil D                                      | 73.000 | 0.230        | 0.0   | 0.0    | 73.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.910        | (N/A) | (N/A)  | 91.681      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin 7

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.230           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 2.260           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.490           | (N/A)    | (N/A)     | 81.663      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass1

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.160        | 0.0   | 0.0    | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.880        | 0.0   | 0.0    | 80.000      |
| Woods - fair - Soil D   | 79.000 | 4.240        | 0.0   | 0.0    | 79.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.280        | (N/A) | (N/A)  | 79.742      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass2

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.070        | 0.0   | 0.0    | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.600        | 0.0   | 0.0    | 80.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 22.430       | 0.0   | 0.0    | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.100       | (N/A) | (N/A)  | 83.146      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass3

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 4.210        | 0.0   | 0.0    | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 29.890       | 0.0   | 0.0    | 82.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 3.610        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 37.710       | (N/A) | (N/A)  | 83.595      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass 4

Return Event: 15 years  
 Storm Event: 15-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770           | 0.0      | 0.0       | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 5.390           | 0.0      | 0.0       | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 6.160           | (N/A)    | (N/A)     | 84.000      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1A

Return Event: 15 years  
 Storm Event: 15-year

|  |                         |
|--|-------------------------|
| Storm Event  | 15-year                 |
| Return Event   | 15 years                |
| Duration   | 24.000 hours            |
| Depth  | 5.5 in                  |
| Time of Concentration (Composite)                      | 0.463 hours             |
| Area (User Defined)                                    | 2.200 acres             |
| <hr/>  |                         |
| Computational Time Increment                           | 0.062 hours             |
| Time to Peak (Computed)                                | 12.173 hours            |
| Flow (Peak, Computed)                                  | 8.10 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak Interpolated Output)                | 12.150 hours            |
| Flow (Peak Interpolated Output)                        | 8.06 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 89.000                  |
| Area (User Defined)                                    | 2.200 acres             |
| Maximum Retention (Pervious)                           | 1.2 in                  |
| Maximum Retention (Pervious, 20 percent)               | 0.2 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth (Pervious)                     | 4.3 in                  |
| Runoff Volume (Pervious)                               | 0.780 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.776 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration (Composite)                      | 0.463 hours             |
| Computational Time Increment                           | 0.062 hours             |
| Unit Hydrograph Shape Factor                           | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 5.38 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin1A

Return Event: 15 years  
Storm Event: 15-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.309 hours |
| Unit receding limb, $T_r$      | 1.236 hours |
| Total unit time, $T_b$         | 1.545 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.463 hours  |
| Area (User Defined)                  | 2.200 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.050           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.300           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.01                         |
| 4.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.800           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.050           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 5.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.550           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 5.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.050           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 6.300           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 6.550           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 6.800           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 7.050           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 7.300           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 7.550           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 7.800           | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.11                         |
| 8.050           | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 8.300           | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 8.550           | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.15                         |
| 8.800           | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.17                         |
| 9.050           | 0.18                         | 0.18                         | 0.18                         | 0.19                         | 0.19                         |
| 9.300           | 0.20                         | 0.20                         | 0.20                         | 0.21                         | 0.21                         |
| 9.550           | 0.21                         | 0.21                         | 0.22                         | 0.22                         | 0.22                         |
| 9.800           | 0.23                         | 0.23                         | 0.23                         | 0.24                         | 0.25                         |
| 10.050          | 0.25                         | 0.26                         | 0.27                         | 0.28                         | 0.28                         |
| 10.300          | 0.29                         | 0.30                         | 0.31                         | 0.32                         | 0.33                         |
| 10.550          | 0.34                         | 0.35                         | 0.37                         | 0.38                         | 0.39                         |
| 10.800          | 0.41                         | 0.42                         | 0.44                         | 0.46                         | 0.48                         |
| 11.050          | 0.49                         | 0.51                         | 0.54                         | 0.56                         | 0.59                         |
| 11.300          | 0.62                         | 0.65                         | 0.69                         | 0.73                         | 0.77                         |
| 11.550          | 0.83                         | 0.91                         | 1.06                         | 1.29                         | 1.63                         |
| 11.800          | 2.10                         | 2.82                         | 3.74                         | 4.84                         | 6.03                         |
| 12.050          | 7.15                         | 7.85                         | 8.06                         | 7.84                         | 7.25                         |
| 12.300          | 6.43                         | 5.52                         | 4.69                         | 3.98                         | 3.40                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 12.550       | 2.93                      | 2.55                      | 2.24                      | 1.97                      | 1.75                      |
| 12.800       | 1.56                      | 1.41                      | 1.29                      | 1.19                      | 1.11                      |
| 13.050       | 1.03                      | 0.97                      | 0.92                      | 0.87                      | 0.83                      |
| 13.300       | 0.79                      | 0.75                      | 0.72                      | 0.70                      | 0.68                      |
| 13.550       | 0.66                      | 0.64                      | 0.62                      | 0.60                      | 0.59                      |
| 13.800       | 0.57                      | 0.56                      | 0.54                      | 0.53                      | 0.52                      |
| 14.050       | 0.50                      | 0.49                      | 0.48                      | 0.47                      | 0.46                      |
| 14.300       | 0.45                      | 0.44                      | 0.44                      | 0.43                      | 0.42                      |
| 14.550       | 0.42                      | 0.41                      | 0.41                      | 0.40                      | 0.40                      |
| 14.800       | 0.40                      | 0.39                      | 0.39                      | 0.38                      | 0.38                      |
| 15.050       | 0.37                      | 0.37                      | 0.37                      | 0.36                      | 0.36                      |
| 15.300       | 0.35                      | 0.35                      | 0.35                      | 0.34                      | 0.34                      |
| 15.550       | 0.33                      | 0.33                      | 0.33                      | 0.32                      | 0.32                      |
| 15.800       | 0.31                      | 0.31                      | 0.31                      | 0.30                      | 0.30                      |
| 16.050       | 0.29                      | 0.29                      | 0.29                      | 0.28                      | 0.28                      |
| 16.300       | 0.28                      | 0.27                      | 0.27                      | 0.27                      | 0.27                      |
| 16.550       | 0.26                      | 0.26                      | 0.26                      | 0.26                      | 0.26                      |
| 16.800       | 0.26                      | 0.25                      | 0.25                      | 0.25                      | 0.25                      |
| 17.050       | 0.25                      | 0.25                      | 0.25                      | 0.24                      | 0.24                      |
| 17.300       | 0.24                      | 0.24                      | 0.24                      | 0.24                      | 0.24                      |
| 17.550       | 0.23                      | 0.23                      | 0.23                      | 0.23                      | 0.23                      |
| 17.800       | 0.23                      | 0.23                      | 0.22                      | 0.22                      | 0.22                      |
| 18.050       | 0.22                      | 0.22                      | 0.22                      | 0.22                      | 0.21                      |
| 18.300       | 0.21                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 18.550       | 0.21                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 18.800       | 0.20                      | 0.20                      | 0.20                      | 0.19                      | 0.19                      |
| 19.050       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.18                      |
| 19.300       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 19.550       | 0.18                      | 0.17                      | 0.17                      | 0.17                      | 0.17                      |
| 19.800       | 0.17                      | 0.17                      | 0.17                      | 0.16                      | 0.16                      |
| 20.050       | 0.16                      | 0.16                      | 0.16                      | 0.16                      | 0.16                      |
| 20.300       | 0.16                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 20.550       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 20.800       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 21.050       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 21.300       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 21.550       | 0.15                      | 0.15                      | 0.15                      | 0.14                      | 0.14                      |
| 21.800       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 22.050       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 22.300       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 22.550       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 22.800       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 23.050       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
Label: Basin1A

Return Event: 15 years  
Storm Event: 15-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.300       | 0.14                      | 0.14                      | 0.13                      | 0.13                      | 0.13                      |
| 23.550       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 23.800       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1B

Return Event: 15 years  
 Storm Event: 15-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 15-year      |
| Return Event                      | 15 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.5 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 0.470 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.011 hours             |
| Time to Peak (Computed)                 | 11.922 hours            |
| Flow (Peak, Computed)                   | 2.46 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated Output)         | 2.37 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 80.000      |
| Area (User Defined)                      | 0.470 acres |
| Maximum Retention (Pervious)             | 2.5 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.3 in      |
| Runoff Volume (Pervious)           | 0.131 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.130 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.083 hours             |
| Computational Time Increment          | 0.011 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 6.39 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin1B

Return Event: 15 years

Storm Event: 15-year

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| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.470 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.850           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.350           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.600           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 7.850           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.850           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.350           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.600           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 9.850           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.100          | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 10.350          | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 10.600          | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 10.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 11.100          | 0.08                         | 0.09                         | 0.10                         | 0.11                         | 0.11                         |
| 11.350          | 0.12                         | 0.13                         | 0.14                         | 0.15                         | 0.21                         |
| 11.600          | 0.30                         | 0.46                         | 0.65                         | 0.90                         | 1.18                         |
| 11.850          | 1.72                         | 2.37                         | 2.32                         | 2.04                         | 1.40                         |
| 12.100          | 0.64                         | 0.44                         | 0.37                         | 0.34                         | 0.31                         |
| 12.350          | 0.29                         | 0.27                         | 0.24                         | 0.22                         | 0.20                         |
| 12.600          | 0.19                         | 0.18                         | 0.17                         | 0.17                         | 0.16                         |
| 12.850          | 0.16                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 13.100          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 13.350          | 0.12                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 13.600          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.09                         |
| 13.850          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 14.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 14.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.100          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.350       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 15.600       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 15.850       | 0.06                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.100       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.600       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.100       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.100       | 0.04                      | 0.04                      | 0.03                      | 0.03                      | 0.03                      |
| 19.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin2

Return Event: 15 years  
 Storm Event: 15-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 15-year      |
| Return Event                      | 15 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.5 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 0.440 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.011 hours             |
| Time to Peak (Computed)                 | 11.922 hours            |
| Flow (Peak, Computed)                   | 3.05 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated Output)         | 2.99 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 94.000      |
| Area (User Defined)                      | 0.440 acres |
| Maximum Retention (Pervious)             | 0.6 in      |
| Maximum Retention (Pervious, 20 percent) | 0.1 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 4.8 in      |
| Runoff Volume (Pervious)           | 0.176 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.176 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.083 hours             |
| Computational Time Increment          | 0.011 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 5.98 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin2

Return Event: 15 years

Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.440 acres  |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.300           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.550           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.02                         |
| 4.800           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.050           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.300           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.550           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.800           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.050           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 6.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.550           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.800           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.050           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.550           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 7.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.050           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.300           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 8.550           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.800           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 9.050           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.300           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.550           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 9.800           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 10.050          | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 10.300          | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 10.550          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.12                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 10.800       | 0.13                      | 0.13                      | 0.14                      | 0.14                      | 0.15                      |
| 11.050       | 0.15                      | 0.16                      | 0.17                      | 0.18                      | 0.19                      |
| 11.300       | 0.20                      | 0.22                      | 0.23                      | 0.24                      | 0.25                      |
| 11.550       | 0.36                      | 0.49                      | 0.72                      | 0.99                      | 1.31                      |
| 11.800       | 1.65                      | 2.28                      | 2.99                      | 2.81                      | 2.39                      |
| 12.050       | 1.62                      | 0.73                      | 0.49                      | 0.42                      | 0.38                      |
| 12.300       | 0.35                      | 0.33                      | 0.30                      | 0.27                      | 0.24                      |
| 12.550       | 0.22                      | 0.21                      | 0.20                      | 0.19                      | 0.19                      |
| 12.800       | 0.18                      | 0.17                      | 0.17                      | 0.16                      | 0.15                      |
| 13.050       | 0.15                      | 0.14                      | 0.14                      | 0.14                      | 0.13                      |
| 13.300       | 0.13                      | 0.13                      | 0.12                      | 0.12                      | 0.12                      |
| 13.550       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.10                      |
| 13.800       | 0.10                      | 0.10                      | 0.10                      | 0.09                      | 0.09                      |
| 14.050       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 14.300       | 0.09                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 14.550       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 14.800       | 0.08                      | 0.08                      | 0.07                      | 0.07                      | 0.07                      |
| 15.050       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 15.300       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.06                      |
| 15.550       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 15.800       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 16.050       | 0.06                      | 0.06                      | 0.05                      | 0.05                      | 0.05                      |
| 16.300       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.550       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.800       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.050       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.300       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.550       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.800       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.050       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.300       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.550       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.800       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.050       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.300       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.03                      |
| 19.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.050          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.300          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.550          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.800          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin3

Return Event: 15 years  
 Storm Event: 15-year

|  |                         |
|--|-------------------------|
| Storm Event  | 15-year                 |
| Return Event   | 15 years                |
| Duration   | 24.000 hours            |
| Depth  | 5.5 in                  |
| Time of Concentration<br>(Composite)                   | 0.506 hours             |
| Area (User Defined)                                    | 0.720 acres             |
| <hr/>  |                         |
| Computational Time<br>Increment                        | 0.067 hours             |
| Time to Peak (Computed)                                | 12.147 hours            |
| Flow (Peak, Computed)                                  | 2.35 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours            |
| Flow (Peak Interpolated<br>Output)                     | 2.35 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 86.000                  |
| Area (User Defined)                                    | 0.720 acres             |
| Maximum Retention<br>(Pervious)                        | 1.6 in                  |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.3 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.9 in                  |
| Runoff Volume (Pervious)                               | 0.236 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.235 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration<br>(Composite)                   | 0.506 hours             |
| Computational Time<br>Increment                        | 0.067 hours             |
| Unit Hydrograph Shape<br>Factor                        | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 1.61 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin3

Return Event: 15 years  
Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.337 hours |
| Unit receding limb, $T_r$      | 1.350 hours |
| Total unit time, $T_b$         | 1.687 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.506 hours  |
| Area (User Defined)                  | 0.720 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.500           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.750           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.250           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.500           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.000           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.500           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.750           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.000           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 8.250           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.500           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.750           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.000           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 9.250           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.500           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 9.750           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 10.000          | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.250          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.500          | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 10.750          | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 11.000          | 0.13                         | 0.13                         | 0.14                         | 0.15                         | 0.15                         |
| 11.250          | 0.16                         | 0.17                         | 0.18                         | 0.19                         | 0.20                         |
| 11.500          | 0.21                         | 0.23                         | 0.25                         | 0.29                         | 0.35                         |
| 11.750          | 0.43                         | 0.56                         | 0.75                         | 1.00                         | 1.29                         |
| 12.000          | 1.63                         | 1.95                         | 2.19                         | 2.35                         | 2.34                         |
| 12.250          | 2.23                         | 2.05                         | 1.82                         | 1.58                         | 1.36                         |
| 12.500          | 1.17                         | 1.01                         | 0.89                         | 0.78                         | 0.69                         |
| 12.750          | 0.61                         | 0.55                         | 0.49                         | 0.45                         | 0.41                         |
| 13.000          | 0.38                         | 0.35                         | 0.33                         | 0.31                         | 0.29                         |
| 13.250          | 0.28                         | 0.26                         | 0.25                         | 0.24                         | 0.23                         |
| 13.500          | 0.22                         | 0.21                         | 0.21                         | 0.20                         | 0.20                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.750          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 14.000          | 0.17                         | 0.16                         | 0.16                         | 0.16                         | 0.15                         |
| 14.250          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 14.500          | 0.14                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 14.750          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 15.000          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 15.250          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 15.500          | 0.11                         | 0.11                         | 0.11                         | 0.10                         | 0.10                         |
| 15.750          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 16.000          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.500          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 16.750          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.000          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.250          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.500          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 17.750          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.000          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.250          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.500          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 18.750          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.000          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.250          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.500          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.750          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.000          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.250          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.500          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.750          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.000          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.250          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.500          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.750          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.000          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.250          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.04                         |
| 22.500          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.750          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.000          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.250          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.500          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.750          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 24.000          | 0.04                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin4

Return Event: 15 years  
 Storm Event: 15-year

|  |                         |
|--|-------------------------|
| Storm Event  | 15-year                 |
| Return Event   | 15 years                |
| Duration   | 24.000 hours            |
| Depth  | 5.5 in                  |
| Time of Concentration (Composite)                      | 0.083 hours             |
| Area (User Defined)                                    | 0.330 acres             |
| <hr/>  |                         |
| Computational Time Increment                           | 0.011 hours             |
| Time to Peak (Computed)                                | 11.922 hours            |
| Flow (Peak, Computed)                                  | 2.26 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak Interpolated Output)                | 11.900 hours            |
| Flow (Peak Interpolated Output)                        | 2.21 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 93.000                  |
| Area (User Defined)                                    | 0.330 acres             |
| Maximum Retention (Pervious)                           | 0.8 in                  |
| Maximum Retention (Pervious, 20 percent)               | 0.2 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth (Pervious)                     | 4.7 in                  |
| Runoff Volume (Pervious)                               | 0.129 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.129 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration (Composite)                      | 0.083 hours             |
| Computational Time Increment                           | 0.011 hours             |
| Unit Hydrograph Shape Factor                           | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 4.49 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin4

Return Event: 15 years  
Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.750           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.000           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.500           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.250           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.500           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.250           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.500           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.02                         |
| 6.000           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.500           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.750           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.000           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.500           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.750           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 8.000           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.250           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.500           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 8.750           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.000           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.250           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.500           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 9.750           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.000          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 10.250          | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.500          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 10.750          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 11.000          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.13                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.250          | 0.14                         | 0.15                         | 0.16                         | 0.16                         | 0.17                         |
| 11.500          | 0.18                         | 0.26                         | 0.36                         | 0.53                         | 0.72                         |
| 11.750          | 0.96                         | 1.21                         | 1.68                         | 2.21                         | 2.08                         |
| 12.000          | 1.78                         | 1.20                         | 0.54                         | 0.37                         | 0.31                         |
| 12.250          | 0.28                         | 0.26                         | 0.24                         | 0.22                         | 0.20                         |
| 12.500          | 0.18                         | 0.17                         | 0.15                         | 0.15                         | 0.14                         |
| 12.750          | 0.14                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 13.000          | 0.12                         | 0.11                         | 0.11                         | 0.10                         | 0.10                         |
| 13.250          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 13.500          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 13.750          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 14.000          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 14.250          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 14.500          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 14.750          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.000          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.250          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.500          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.750          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.000          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.250          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.500          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.750          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.000          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.250          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.500          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 17.750          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.000          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.250          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.500          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.750          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.000          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.250          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.500          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.750          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.000          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.250          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.500          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.750          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.000          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.250          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.500          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.750          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 22.000          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.250          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.500          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.750          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.000          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.250          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.500          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.750          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 24.000          | 0.02                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin5

Return Event: 15 years  
 Storm Event: 15-year

|  |                          |
|--|--------------------------|
| Storm Event  | 15-year                  |
| Return Event   | 15 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.5 in                   |
| Time of Concentration (Composite)                      | 0.083 hours              |
| Area (User Defined)                                    | 0.910 acres              |
| <hr/>  |                          |
| Computational Time Increment                           | 0.011 hours              |
| Time to Peak (Computed)                                | 11.922 hours             |
| Flow (Peak, Computed)                                  | 6.14 ft <sup>3</sup> /s  |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak Interpolated Output)                | 11.900 hours             |
| Flow (Peak Interpolated Output)                        | 6.01 ft <sup>3</sup> /s  |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 92.000                   |
| Area (User Defined)                                    | 0.910 acres              |
| Maximum Retention (Pervious)                           | 0.9 in                   |
| Maximum Retention (Pervious, 20 percent)               | 0.2 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth (Pervious)                     | 4.6 in                   |
| Runoff Volume (Pervious)                               | 0.347 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 0.347 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration (Composite)                      | 0.083 hours              |
| Computational Time Increment                           | 0.011 hours              |
| Unit Hydrograph Shape Factor                           | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 12.37 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin5

Return Event: 15 years  
Storm Event: 15-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.910 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 3.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.150           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 4.400           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.650           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.900           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.150           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.400           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.650           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.900           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.150           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.650           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 6.900           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.150           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 7.400           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 7.650           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 7.900           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.150           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 8.400           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 8.650           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 8.900           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 9.150           | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 9.400           | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.12                         |
| 9.650           | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.13                         |
| 9.900           | 0.14                         | 0.14                         | 0.14                         | 0.15                         | 0.15                         |
| 10.150          | 0.16                         | 0.16                         | 0.17                         | 0.17                         | 0.18                         |
| 10.400          | 0.18                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 10.650          | 0.22                         | 0.23                         | 0.24                         | 0.24                         | 0.25                         |
| 10.900          | 0.26                         | 0.27                         | 0.28                         | 0.30                         | 0.31                         |
| 11.150          | 0.33                         | 0.35                         | 0.37                         | 0.39                         | 0.42                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 11.400       | 0.44                      | 0.46                      | 0.48                      | 0.69                      | 0.95                      |
| 11.650       | 1.41                      | 1.94                      | 2.59                      | 3.28                      | 4.55                      |
| 11.900       | 6.01                      | 5.68                      | 4.85                      | 3.28                      | 1.49                      |
| 12.150       | 1.01                      | 0.85                      | 0.78                      | 0.72                      | 0.66                      |
| 12.400       | 0.61                      | 0.55                      | 0.50                      | 0.46                      | 0.42                      |
| 12.650       | 0.40                      | 0.39                      | 0.38                      | 0.37                      | 0.35                      |
| 12.900       | 0.34                      | 0.33                      | 0.31                      | 0.30                      | 0.29                      |
| 13.150       | 0.29                      | 0.28                      | 0.27                      | 0.27                      | 0.26                      |
| 13.400       | 0.25                      | 0.25                      | 0.24                      | 0.23                      | 0.23                      |
| 13.650       | 0.22                      | 0.22                      | 0.21                      | 0.21                      | 0.20                      |
| 13.900       | 0.20                      | 0.19                      | 0.19                      | 0.18                      | 0.18                      |
| 14.150       | 0.18                      | 0.18                      | 0.18                      | 0.17                      | 0.17                      |
| 14.400       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.16                      |
| 14.650       | 0.16                      | 0.16                      | 0.16                      | 0.16                      | 0.15                      |
| 14.900       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 15.150       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 15.400       | 0.14                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 15.650       | 0.13                      | 0.13                      | 0.12                      | 0.12                      | 0.12                      |
| 15.900       | 0.12                      | 0.12                      | 0.12                      | 0.11                      | 0.11                      |
| 16.150       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 16.400       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 16.650       | 0.11                      | 0.11                      | 0.10                      | 0.10                      | 0.10                      |
| 16.900       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 17.150       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 17.400       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.09                      |
| 17.650       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 17.900       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 18.150       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 18.400       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 18.650       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 18.900       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.150       | 0.08                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.400       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.650       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.900       | 0.07                      | 0.07                      | 0.06                      | 0.06                      | 0.06                      |
| 20.150       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 20.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 20.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 20.900       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.150       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.900       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 22.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.650          | 0.06                         | 0.06                         | 0.06                         | 0.05                         | 0.05                         |
| 23.900          | 0.05                         | 0.05                         | 0.05                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin 7

Return Event: 15 years  
 Storm Event: 15-year

|  |                          |
|--|--------------------------|
| Storm Event  | 15-year                  |
| Return Event   | 15 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.5 in                   |
| Time of Concentration (Composite)                      | 0.083 hours              |
| Area (User Defined)                                    | 2.490 acres              |
| <hr/>  |                          |
| Computational Time Increment                           | 0.011 hours              |
| Time to Peak (Computed)                                | 11.922 hours             |
| Flow (Peak, Computed)                                  | 13.74 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak Interpolated Output)                | 11.900 hours             |
| Flow (Peak Interpolated Output)                        | 13.27 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 82.000                   |
| Area (User Defined)                                    | 2.490 acres              |
| Maximum Retention (Pervious)                           | 2.2 in                   |
| Maximum Retention (Pervious, 20 percent)               | 0.4 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth (Pervious)                     | 3.5 in                   |
| Runoff Volume (Pervious)                               | 0.732 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 0.732 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration (Composite)                      | 0.083 hours              |
| Computational Time Increment                           | 0.011 hours              |
| Unit Hydrograph Shape Factor                           | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 33.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin 7

Return Event: 15 years  
Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 2.490 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.050           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.550           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 6.800           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.050           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.300           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 7.550           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.800           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.050           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 8.300           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 8.550           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 8.800           | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 9.050           | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.13                         |
| 9.300           | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.14                         |
| 9.550           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 9.800           | 0.17                         | 0.17                         | 0.18                         | 0.19                         | 0.19                         |
| 10.050          | 0.20                         | 0.21                         | 0.22                         | 0.23                         | 0.23                         |
| 10.300          | 0.24                         | 0.25                         | 0.26                         | 0.28                         | 0.29                         |
| 10.550          | 0.30                         | 0.31                         | 0.33                         | 0.34                         | 0.36                         |
| 10.800          | 0.38                         | 0.40                         | 0.41                         | 0.43                         | 0.45                         |
| 11.050          | 0.48                         | 0.51                         | 0.55                         | 0.59                         | 0.63                         |
| 11.300          | 0.67                         | 0.72                         | 0.77                         | 0.81                         | 0.86                         |
| 11.550          | 1.25                         | 1.74                         | 2.65                         | 3.74                         | 5.14                         |
| 11.800          | 6.73                         | 9.70                         | 13.27                        | 12.89                        | 11.27                        |
| 12.050          | 7.72                         | 3.53                         | 2.40                         | 2.04                         | 1.86                         |
| 12.300          | 1.73                         | 1.60                         | 1.47                         | 1.34                         | 1.20                         |
| 12.550          | 1.11                         | 1.03                         | 0.98                         | 0.95                         | 0.92                         |
| 12.800          | 0.89                         | 0.86                         | 0.83                         | 0.80                         | 0.77                         |
| 13.050          | 0.74                         | 0.72                         | 0.70                         | 0.69                         | 0.67                         |
| 13.300          | 0.65                         | 0.64                         | 0.62                         | 0.60                         | 0.59                         |
| 13.550          | 0.57                         | 0.56                         | 0.55                         | 0.53                         | 0.52                         |
| 13.800          | 0.51                         | 0.50                         | 0.49                         | 0.48                         | 0.46                         |
| 14.050          | 0.46                         | 0.45                         | 0.44                         | 0.44                         | 0.43                         |
| 14.300          | 0.43                         | 0.43                         | 0.42                         | 0.42                         | 0.41                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 14.550          | 0.41                         | 0.40                         | 0.40                         | 0.40                         | 0.39                         |
| 14.800          | 0.39                         | 0.38                         | 0.38                         | 0.38                         | 0.37                         |
| 15.050          | 0.37                         | 0.36                         | 0.36                         | 0.35                         | 0.35                         |
| 15.300          | 0.35                         | 0.34                         | 0.34                         | 0.33                         | 0.33                         |
| 15.550          | 0.33                         | 0.32                         | 0.32                         | 0.31                         | 0.31                         |
| 15.800          | 0.30                         | 0.30                         | 0.30                         | 0.29                         | 0.29                         |
| 16.050          | 0.28                         | 0.28                         | 0.28                         | 0.28                         | 0.28                         |
| 16.300          | 0.28                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 16.550          | 0.27                         | 0.27                         | 0.27                         | 0.26                         | 0.26                         |
| 16.800          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.25                         |
| 17.050          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 17.300          | 0.25                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.550          | 0.24                         | 0.24                         | 0.24                         | 0.23                         | 0.23                         |
| 17.800          | 0.23                         | 0.23                         | 0.23                         | 0.23                         | 0.22                         |
| 18.050          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.22                         |
| 18.300          | 0.22                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.550          | 0.21                         | 0.21                         | 0.21                         | 0.20                         | 0.20                         |
| 18.800          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.19                         |
| 19.050          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 19.300          | 0.19                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.550          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.17                         |
| 19.800          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.16                         |
| 20.050          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.300          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.550          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.800          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 21.050          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 21.300          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.550          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.800          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.050          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.300          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.550          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.800          | 0.15                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 23.050          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.300          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.550          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.800          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass1

Return Event: 15 years  
 Storm Event: 15-year

|  |                          |
|--|--------------------------|
| Storm Event  | 15-year                  |
| Return Event   | 15 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.5 in                   |
| Time of Concentration<br>(Composite)                   | 0.198 hours              |
| Area (User Defined)                                    | 5.280 acres              |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.026 hours              |
| Time to Peak (Computed)                                | 12.020 hours             |
| Flow (Peak, Computed)                                  | 22.90 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.000 hours             |
| Flow (Peak Interpolated<br>Output)                     | 22.83 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 80.000                   |
| Area (User Defined)                                    | 5.280 acres              |
| Maximum Retention<br>(Pervious)                        | 2.5 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.5 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.3 in                   |
| Runoff Volume (Pervious)                               | 1.467 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 1.463 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.198 hours              |
| Computational Time<br>Increment                        | 0.026 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 30.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass1

Return Event: 15 years  
Storm Event: 15-year

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| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.132 hours |
| Unit receding limb, $T_r$      | 0.528 hours |
| Total unit time, $T_b$         | 0.660 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass1

Return Event: 15 years

Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.198 hours  |
| Area (User Defined)                  | 5.280 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.700           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.950           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 7.200           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.450           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 7.700           | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 7.950           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 8.200           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.10                         |
| 8.450           | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.13                         |
| 8.700           | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.16                         |
| 8.950           | 0.16                         | 0.17                         | 0.18                         | 0.19                         | 0.19                         |
| 9.200           | 0.20                         | 0.20                         | 0.21                         | 0.21                         | 0.22                         |
| 9.450           | 0.22                         | 0.23                         | 0.23                         | 0.24                         | 0.24                         |
| 9.700           | 0.25                         | 0.26                         | 0.27                         | 0.28                         | 0.29                         |
| 9.950           | 0.30                         | 0.32                         | 0.33                         | 0.34                         | 0.36                         |
| 10.200          | 0.37                         | 0.39                         | 0.41                         | 0.42                         | 0.44                         |
| 10.450          | 0.46                         | 0.48                         | 0.50                         | 0.53                         | 0.55                         |
| 10.700          | 0.58                         | 0.61                         | 0.64                         | 0.67                         | 0.70                         |
| 10.950          | 0.74                         | 0.78                         | 0.81                         | 0.86                         | 0.91                         |
| 11.200          | 0.98                         | 1.05                         | 1.12                         | 1.21                         | 1.29                         |
| 11.450          | 1.38                         | 1.48                         | 1.68                         | 2.14                         | 2.94                         |
| 11.700          | 4.28                         | 6.06                         | 8.44                         | 11.62                        | 16.20                        |
| 11.950          | 20.68                        | 22.83                        | 21.88                        | 17.81                        | 12.76                        |
| 12.200          | 8.86                         | 6.61                         | 5.27                         | 4.43                         | 3.85                         |
| 12.450          | 3.41                         | 3.04                         | 2.74                         | 2.49                         | 2.29                         |
| 12.700          | 2.15                         | 2.05                         | 1.96                         | 1.89                         | 1.82                         |
| 12.950          | 1.76                         | 1.70                         | 1.64                         | 1.58                         | 1.53                         |
| 13.200          | 1.48                         | 1.45                         | 1.41                         | 1.37                         | 1.34                         |
| 13.450          | 1.31                         | 1.27                         | 1.24                         | 1.21                         | 1.18                         |
| 13.700          | 1.15                         | 1.12                         | 1.10                         | 1.07                         | 1.05                         |
| 13.950          | 1.03                         | 1.00                         | 0.98                         | 0.96                         | 0.94                         |
| 14.200          | 0.92                         | 0.91                         | 0.90                         | 0.89                         | 0.88                         |
| 14.450          | 0.88                         | 0.87                         | 0.86                         | 0.85                         | 0.84                         |
| 14.700          | 0.83                         | 0.83                         | 0.82                         | 0.81                         | 0.80                         |
| 14.950          | 0.79                         | 0.78                         | 0.77                         | 0.77                         | 0.76                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass1

Return Event: 15 years

Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.200       | 0.75                      | 0.74                      | 0.73                      | 0.72                      | 0.71                      |
| 15.450       | 0.71                      | 0.70                      | 0.69                      | 0.68                      | 0.67                      |
| 15.700       | 0.66                      | 0.65                      | 0.65                      | 0.64                      | 0.63                      |
| 15.950       | 0.62                      | 0.61                      | 0.60                      | 0.59                      | 0.59                      |
| 16.200       | 0.58                      | 0.58                      | 0.58                      | 0.57                      | 0.57                      |
| 16.450       | 0.57                      | 0.56                      | 0.56                      | 0.56                      | 0.55                      |
| 16.700       | 0.55                      | 0.55                      | 0.54                      | 0.54                      | 0.54                      |
| 16.950       | 0.54                      | 0.53                      | 0.53                      | 0.53                      | 0.52                      |
| 17.200       | 0.52                      | 0.52                      | 0.51                      | 0.51                      | 0.51                      |
| 17.450       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.49                      |
| 17.700       | 0.49                      | 0.49                      | 0.48                      | 0.48                      | 0.48                      |
| 17.950       | 0.47                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 18.200       | 0.46                      | 0.46                      | 0.45                      | 0.45                      | 0.45                      |
| 18.450       | 0.44                      | 0.44                      | 0.44                      | 0.43                      | 0.43                      |
| 18.700       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | 0.41                      |
| 18.950       | 0.41                      | 0.41                      | 0.41                      | 0.40                      | 0.40                      |
| 19.200       | 0.40                      | 0.39                      | 0.39                      | 0.39                      | 0.38                      |
| 19.450       | 0.38                      | 0.38                      | 0.37                      | 0.37                      | 0.37                      |
| 19.700       | 0.36                      | 0.36                      | 0.36                      | 0.35                      | 0.35                      |
| 19.950       | 0.35                      | 0.35                      | 0.34                      | 0.34                      | 0.34                      |
| 20.200       | 0.34                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 20.450       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 20.700       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.33                      |
| 20.950       | 0.33                      | 0.33                      | 0.32                      | 0.32                      | 0.32                      |
| 21.200       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 21.450       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 21.700       | 0.32                      | 0.32                      | 0.32                      | 0.31                      | 0.31                      |
| 21.950       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 22.200       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 22.450       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.30                      |
| 22.700       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 22.950       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 23.200       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 23.450       | 0.29                      | 0.29                      | 0.29                      | 0.29                      | 0.29                      |
| 23.700       | 0.29                      | 0.29                      | 0.29                      | 0.29                      | 0.29                      |
| 23.950       | 0.29                      | 0.29                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass2

Return Event: 15 years  
 Storm Event: 15-year

|  |                          |
|--|--------------------------|
| Storm Event  | 15-year                  |
| Return Event   | 15 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.5 in                   |
| Time of Concentration<br>(Composite)                   | 0.426 hours              |
| Area (User Defined)                                    | 26.100 acres             |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.057 hours              |
| Time to Peak (Computed)                                | 12.151 hours             |
| Flow (Peak, Computed)                                  | 87.99 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours             |
| Flow (Peak Interpolated<br>Output)                     | 87.95 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 83.000                   |
| Area (User Defined)                                    | 26.100 acres             |
| Maximum Retention<br>(Pervious)                        | 2.0 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.6 in                   |
| Runoff Volume (Pervious)                               | 7.895 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 7.857 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.426 hours              |
| Computational Time<br>Increment                        | 0.057 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 69.44 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass2

Return Event: 15 years  
Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.284 hours |
| Unit receding limb, $T_r$      | 1.136 hours |
| Total unit time, $T_b$         | 1.420 hours |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass2

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.426 hours  |
| Area (User Defined)                  | 26.100 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.800           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.050           | 0.02                         | 0.03                         | 0.04                         | 0.05                         | 0.06                         |
| 6.300           | 0.07                         | 0.08                         | 0.09                         | 0.11                         | 0.12                         |
| 6.550           | 0.13                         | 0.14                         | 0.16                         | 0.17                         | 0.18                         |
| 6.800           | 0.20                         | 0.21                         | 0.22                         | 0.24                         | 0.25                         |
| 7.050           | 0.27                         | 0.28                         | 0.29                         | 0.31                         | 0.32                         |
| 7.300           | 0.34                         | 0.35                         | 0.37                         | 0.38                         | 0.40                         |
| 7.550           | 0.41                         | 0.42                         | 0.44                         | 0.46                         | 0.47                         |
| 7.800           | 0.49                         | 0.50                         | 0.52                         | 0.53                         | 0.55                         |
| 8.050           | 0.56                         | 0.58                         | 0.60                         | 0.62                         | 0.64                         |
| 8.300           | 0.66                         | 0.68                         | 0.71                         | 0.73                         | 0.76                         |
| 8.550           | 0.79                         | 0.82                         | 0.86                         | 0.89                         | 0.92                         |
| 8.800           | 0.96                         | 0.99                         | 1.03                         | 1.07                         | 1.11                         |
| 9.050           | 1.15                         | 1.19                         | 1.23                         | 1.26                         | 1.30                         |
| 9.300           | 1.33                         | 1.37                         | 1.40                         | 1.42                         | 1.45                         |
| 9.550           | 1.47                         | 1.50                         | 1.53                         | 1.56                         | 1.59                         |
| 9.800           | 1.63                         | 1.68                         | 1.73                         | 1.79                         | 1.84                         |
| 10.050          | 1.90                         | 1.97                         | 2.04                         | 2.11                         | 2.19                         |
| 10.300          | 2.27                         | 2.36                         | 2.45                         | 2.55                         | 2.65                         |
| 10.550          | 2.75                         | 2.86                         | 2.98                         | 3.10                         | 3.23                         |
| 10.800          | 3.37                         | 3.52                         | 3.68                         | 3.85                         | 4.03                         |
| 11.050          | 4.21                         | 4.41                         | 4.63                         | 4.87                         | 5.14                         |
| 11.300          | 5.44                         | 5.78                         | 6.15                         | 6.55                         | 7.01                         |
| 11.550          | 7.61                         | 8.53                         | 10.03                        | 12.40                        | 16.24                        |
| 11.800          | 21.89                        | 29.97                        | 40.61                        | 53.48                        | 67.09                        |
| 12.050          | 78.99                        | 86.59                        | 87.95                        | 82.98                        | 74.32                        |
| 12.300          | 64.19                        | 54.22                        | 45.47                        | 38.38                        | 32.79                        |
| 12.550          | 28.32                        | 24.69                        | 21.69                        | 19.20                        | 17.15                        |
| 12.800          | 15.46                        | 14.09                        | 12.97                        | 12.04                        | 11.27                        |
| 13.050          | 10.61                        | 10.04                        | 9.52                         | 9.06                         | 8.65                         |
| 13.300          | 8.30                         | 8.00                         | 7.74                         | 7.52                         | 7.31                         |
| 13.550          | 7.10                         | 6.91                         | 6.72                         | 6.55                         | 6.38                         |
| 13.800          | 6.22                         | 6.07                         | 5.92                         | 5.78                         | 5.65                         |
| 14.050          | 5.51                         | 5.38                         | 5.26                         | 5.15                         | 5.04                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass2

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.300       | 4.95                      | 4.87                      | 4.80                      | 4.73                      | 4.67                      |
| 14.550       | 4.61                      | 4.56                      | 4.51                      | 4.46                      | 4.41                      |
| 14.800       | 4.37                      | 4.32                      | 4.28                      | 4.23                      | 4.19                      |
| 15.050       | 4.14                      | 4.10                      | 4.05                      | 4.01                      | 3.97                      |
| 15.300       | 3.92                      | 3.88                      | 3.83                      | 3.79                      | 3.74                      |
| 15.550       | 3.70                      | 3.66                      | 3.61                      | 3.57                      | 3.52                      |
| 15.800       | 3.48                      | 3.43                      | 3.39                      | 3.34                      | 3.30                      |
| 16.050       | 3.26                      | 3.21                      | 3.17                      | 3.13                      | 3.09                      |
| 16.300       | 3.06                      | 3.03                      | 3.01                      | 2.98                      | 2.96                      |
| 16.550       | 2.94                      | 2.92                      | 2.91                      | 2.89                      | 2.87                      |
| 16.800       | 2.85                      | 2.84                      | 2.82                      | 2.80                      | 2.79                      |
| 17.050       | 2.77                      | 2.76                      | 2.74                      | 2.73                      | 2.71                      |
| 17.300       | 2.69                      | 2.68                      | 2.66                      | 2.65                      | 2.63                      |
| 17.550       | 2.61                      | 2.60                      | 2.58                      | 2.57                      | 2.55                      |
| 17.800       | 2.53                      | 2.52                      | 2.50                      | 2.49                      | 2.47                      |
| 18.050       | 2.45                      | 2.44                      | 2.42                      | 2.41                      | 2.39                      |
| 18.300       | 2.37                      | 2.36                      | 2.34                      | 2.33                      | 2.31                      |
| 18.550       | 2.29                      | 2.28                      | 2.26                      | 2.25                      | 2.23                      |
| 18.800       | 2.21                      | 2.20                      | 2.18                      | 2.17                      | 2.15                      |
| 19.050       | 2.13                      | 2.12                      | 2.10                      | 2.08                      | 2.07                      |
| 19.300       | 2.05                      | 2.04                      | 2.02                      | 2.00                      | 1.99                      |
| 19.550       | 1.97                      | 1.95                      | 1.94                      | 1.92                      | 1.91                      |
| 19.800       | 1.89                      | 1.87                      | 1.86                      | 1.84                      | 1.82                      |
| 20.050       | 1.81                      | 1.79                      | 1.78                      | 1.76                      | 1.75                      |
| 20.300       | 1.74                      | 1.73                      | 1.72                      | 1.72                      | 1.71                      |
| 20.550       | 1.71                      | 1.70                      | 1.70                      | 1.69                      | 1.69                      |
| 20.800       | 1.69                      | 1.68                      | 1.68                      | 1.68                      | 1.67                      |
| 21.050       | 1.67                      | 1.67                      | 1.66                      | 1.66                      | 1.66                      |
| 21.300       | 1.65                      | 1.65                      | 1.65                      | 1.64                      | 1.64                      |
| 21.550       | 1.64                      | 1.64                      | 1.63                      | 1.63                      | 1.63                      |
| 21.800       | 1.62                      | 1.62                      | 1.62                      | 1.61                      | 1.61                      |
| 22.050       | 1.61                      | 1.60                      | 1.60                      | 1.60                      | 1.59                      |
| 22.300       | 1.59                      | 1.59                      | 1.58                      | 1.58                      | 1.58                      |
| 22.550       | 1.58                      | 1.57                      | 1.57                      | 1.57                      | 1.56                      |
| 22.800       | 1.56                      | 1.56                      | 1.55                      | 1.55                      | 1.55                      |
| 23.050       | 1.54                      | 1.54                      | 1.54                      | 1.53                      | 1.53                      |
| 23.300       | 1.53                      | 1.52                      | 1.52                      | 1.52                      | 1.51                      |
| 23.550       | 1.51                      | 1.51                      | 1.51                      | 1.50                      | 1.50                      |
| 23.800       | 1.50                      | 1.49                      | 1.49                      | 1.49                      | 1.48                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass3

Return Event: 15 years  
 Storm Event: 15-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 15-year      |
| Return Event                      | 15 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.5 in       |
| Time of Concentration (Composite) | 0.387 hours  |
| Area (User Defined)               | 37.710 acres |

|   |                           |
|---|---------------------------|
| Computational Time Increment            | 0.052 hours               |
| Time to Peak (Computed)                 | 12.089 hours              |
| Flow (Peak, Computed)                   | 136.67 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours               |
| Time to Flow (Peak Interpolated Output) | 12.100 hours              |
| Flow (Peak Interpolated Output)         | 136.51 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 84.000       |
| Area (User Defined)                      | 37.710 acres |
| Maximum Retention (Pervious)             | 1.9 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |              |
|------------------------------------|--------------|
| <b>Cumulative Runoff</b>           |              |
| Cumulative Runoff Depth (Pervious) | 3.7 in       |
| Runoff Volume (Pervious)           | 11.724 ac-ft |

|  |              |
|--|--------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |              |
| Volume   | 11.670 ac-ft |

|                                       |                           |
|---------------------------------------|---------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                           |
| Time of Concentration (Composite)     | 0.387 hours               |
| Computational Time Increment          | 0.052 hours               |
| Unit Hydrograph Shape Factor          | 483.432                   |
| K Factor                              | 0.749                     |
| Receding/Rising, Tr/Tp                | 1.670                     |
| Unit peak, qp                         | 110.27 ft <sup>3</sup> /s |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass3

Return Event: 15 years  
Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.258 hours |
| Unit receding limb, $T_r$      | 1.033 hours |
| Total unit time, $T_b$         | 1.292 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass3

Return Event: 15 years  
 Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.387 hours  |
| Area (User Defined)                  | 37.710 acres |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.450           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.02                         |
| 5.700           | 0.02                         | 0.04                         | 0.05                         | 0.06                         | 0.08                         |
| 5.950           | 0.10                         | 0.11                         | 0.13                         | 0.15                         | 0.17                         |
| 6.200           | 0.18                         | 0.20                         | 0.22                         | 0.24                         | 0.26                         |
| 6.450           | 0.28                         | 0.30                         | 0.32                         | 0.34                         | 0.36                         |
| 6.700           | 0.38                         | 0.40                         | 0.42                         | 0.44                         | 0.46                         |
| 6.950           | 0.48                         | 0.50                         | 0.52                         | 0.55                         | 0.57                         |
| 7.200           | 0.59                         | 0.61                         | 0.63                         | 0.65                         | 0.68                         |
| 7.450           | 0.70                         | 0.72                         | 0.74                         | 0.77                         | 0.79                         |
| 7.700           | 0.81                         | 0.84                         | 0.86                         | 0.88                         | 0.91                         |
| 7.950           | 0.93                         | 0.95                         | 0.98                         | 1.00                         | 1.03                         |
| 8.200           | 1.06                         | 1.09                         | 1.13                         | 1.16                         | 1.20                         |
| 8.450           | 1.25                         | 1.29                         | 1.34                         | 1.39                         | 1.44                         |
| 8.700           | 1.49                         | 1.55                         | 1.60                         | 1.66                         | 1.72                         |
| 8.950           | 1.78                         | 1.84                         | 1.90                         | 1.96                         | 2.02                         |
| 9.200           | 2.08                         | 2.13                         | 2.18                         | 2.22                         | 2.27                         |
| 9.450           | 2.30                         | 2.34                         | 2.38                         | 2.42                         | 2.46                         |
| 9.700           | 2.50                         | 2.56                         | 2.62                         | 2.70                         | 2.78                         |
| 9.950           | 2.87                         | 2.96                         | 3.05                         | 3.16                         | 3.26                         |
| 10.200          | 3.38                         | 3.50                         | 3.63                         | 3.77                         | 3.91                         |
| 10.450          | 4.06                         | 4.21                         | 4.38                         | 4.54                         | 4.72                         |
| 10.700          | 4.91                         | 5.12                         | 5.34                         | 5.57                         | 5.82                         |
| 10.950          | 6.09                         | 6.36                         | 6.64                         | 6.95                         | 7.29                         |
| 11.200          | 7.67                         | 8.10                         | 8.59                         | 9.13                         | 9.71                         |
| 11.450          | 10.34                        | 11.05                        | 12.01                        | 13.58                        | 16.27                        |
| 11.700          | 20.70                        | 27.45                        | 37.16                        | 50.67                        | 68.44                        |
| 11.950          | 89.69                        | 111.41                       | 128.40                       | 136.51                       | 133.89                       |
| 12.200          | 122.05                       | 105.20                       | 87.72                        | 72.10                        | 59.75                        |
| 12.450          | 50.38                        | 43.13                        | 37.23                        | 32.43                        | 28.50                        |
| 12.700          | 25.29                        | 22.70                        | 20.61                        | 18.93                        | 17.57                        |
| 12.950          | 16.44                        | 15.48                        | 14.63                        | 13.88                        | 13.23                        |
| 13.200          | 12.67                        | 12.20                        | 11.79                        | 11.43                        | 11.09                        |
| 13.450          | 10.78                        | 10.48                        | 10.20                        | 9.93                         | 9.67                         |
| 13.700          | 9.42                         | 9.18                         | 8.95                         | 8.74                         | 8.53                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass3

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.950          | 8.33                         | 8.14                         | 7.94                         | 7.76                         | 7.58                         |
| 14.200          | 7.42                         | 7.28                         | 7.15                         | 7.04                         | 6.94                         |
| 14.450          | 6.85                         | 6.77                         | 6.69                         | 6.62                         | 6.55                         |
| 14.700          | 6.48                         | 6.41                         | 6.34                         | 6.28                         | 6.21                         |
| 14.950          | 6.15                         | 6.08                         | 6.02                         | 5.95                         | 5.89                         |
| 15.200          | 5.82                         | 5.76                         | 5.69                         | 5.63                         | 5.57                         |
| 15.450          | 5.50                         | 5.44                         | 5.37                         | 5.31                         | 5.24                         |
| 15.700          | 5.18                         | 5.11                         | 5.04                         | 4.98                         | 4.91                         |
| 15.950          | 4.85                         | 4.78                         | 4.72                         | 4.65                         | 4.59                         |
| 16.200          | 4.54                         | 4.49                         | 4.44                         | 4.40                         | 4.37                         |
| 16.450          | 4.34                         | 4.31                         | 4.28                         | 4.25                         | 4.23                         |
| 16.700          | 4.20                         | 4.18                         | 4.15                         | 4.13                         | 4.11                         |
| 16.950          | 4.08                         | 4.06                         | 4.04                         | 4.01                         | 3.99                         |
| 17.200          | 3.97                         | 3.94                         | 3.92                         | 3.90                         | 3.87                         |
| 17.450          | 3.85                         | 3.83                         | 3.80                         | 3.78                         | 3.76                         |
| 17.700          | 3.73                         | 3.71                         | 3.69                         | 3.66                         | 3.64                         |
| 17.950          | 3.62                         | 3.59                         | 3.57                         | 3.55                         | 3.52                         |
| 18.200          | 3.50                         | 3.48                         | 3.45                         | 3.43                         | 3.41                         |
| 18.450          | 3.38                         | 3.36                         | 3.34                         | 3.31                         | 3.29                         |
| 18.700          | 3.27                         | 3.24                         | 3.22                         | 3.19                         | 3.17                         |
| 18.950          | 3.15                         | 3.12                         | 3.10                         | 3.08                         | 3.05                         |
| 19.200          | 3.03                         | 3.01                         | 2.98                         | 2.96                         | 2.93                         |
| 19.450          | 2.91                         | 2.89                         | 2.86                         | 2.84                         | 2.82                         |
| 19.700          | 2.79                         | 2.77                         | 2.74                         | 2.72                         | 2.70                         |
| 19.950          | 2.67                         | 2.65                         | 2.63                         | 2.60                         | 2.58                         |
| 20.200          | 2.56                         | 2.55                         | 2.53                         | 2.52                         | 2.51                         |
| 20.450          | 2.50                         | 2.49                         | 2.49                         | 2.48                         | 2.47                         |
| 20.700          | 2.47                         | 2.46                         | 2.46                         | 2.45                         | 2.45                         |
| 20.950          | 2.44                         | 2.44                         | 2.43                         | 2.43                         | 2.43                         |
| 21.200          | 2.42                         | 2.42                         | 2.41                         | 2.41                         | 2.40                         |
| 21.450          | 2.40                         | 2.39                         | 2.39                         | 2.38                         | 2.38                         |
| 21.700          | 2.37                         | 2.37                         | 2.37                         | 2.36                         | 2.36                         |
| 21.950          | 2.35                         | 2.35                         | 2.34                         | 2.34                         | 2.33                         |
| 22.200          | 2.33                         | 2.32                         | 2.32                         | 2.31                         | 2.31                         |
| 22.450          | 2.30                         | 2.30                         | 2.30                         | 2.29                         | 2.29                         |
| 22.700          | 2.28                         | 2.28                         | 2.27                         | 2.27                         | 2.26                         |
| 22.950          | 2.26                         | 2.25                         | 2.25                         | 2.24                         | 2.24                         |
| 23.200          | 2.24                         | 2.23                         | 2.23                         | 2.22                         | 2.22                         |
| 23.450          | 2.21                         | 2.21                         | 2.20                         | 2.20                         | 2.19                         |
| 23.700          | 2.19                         | 2.18                         | 2.18                         | 2.17                         | 2.17                         |
| 23.950          | 2.17                         | 2.15                         | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Bypass 4

Return Event: 15 years

Storm Event: 15-year

|  |                          |
|--|--------------------------|
| Storm Event  | 15-year                  |
| Return Event   | 15 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.5 in                   |
| Time of Concentration<br>(Composite)                   | 0.366 hours              |
| Area (User Defined)                                    | 6.160 acres              |
| Computational Time<br>Increment                        | 0.049 hours              |
| Time to Peak (Computed)                                | 12.087 hours             |
| Flow (Peak, Computed)                                  | 23.22 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)                     | 23.10 ft <sup>3</sup> /s |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 84.000                   |
| Area (User Defined)                                    | 6.160 acres              |
| Maximum Retention<br>(Pervious)                        | 1.9 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                   |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.7 in                   |
| Runoff Volume (Pervious)                               | 1.915 ac-ft              |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 1.906 ac-ft              |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.366 hours              |
| Computational Time<br>Increment                        | 0.049 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 19.09 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass 4

Return Event: 15 years  
Storm Event: 15-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.244 hours |
| Unit receding limb, $T_r$      | 0.975 hours |
| Total unit time, $T_b$         | 1.218 hours |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass 4

Return Event: 15 years

Storm Event: 15-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 15-year      |
| Return Event                         | 15 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.5 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.550           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 5.800           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 6.050           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.300           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 6.550           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 6.800           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 7.050           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 7.300           | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 7.550           | 0.12                         | 0.13                         | 0.13                         | 0.13                         | 0.14                         |
| 7.800           | 0.14                         | 0.15                         | 0.15                         | 0.15                         | 0.16                         |
| 8.050           | 0.16                         | 0.17                         | 0.17                         | 0.17                         | 0.18                         |
| 8.300           | 0.19                         | 0.19                         | 0.20                         | 0.21                         | 0.21                         |
| 8.550           | 0.22                         | 0.23                         | 0.24                         | 0.25                         | 0.26                         |
| 8.800           | 0.27                         | 0.27                         | 0.28                         | 0.29                         | 0.30                         |
| 9.050           | 0.31                         | 0.32                         | 0.33                         | 0.34                         | 0.35                         |
| 9.300           | 0.36                         | 0.37                         | 0.37                         | 0.38                         | 0.38                         |
| 9.550           | 0.39                         | 0.40                         | 0.40                         | 0.41                         | 0.42                         |
| 9.800           | 0.43                         | 0.44                         | 0.46                         | 0.47                         | 0.49                         |
| 10.050          | 0.50                         | 0.52                         | 0.54                         | 0.56                         | 0.58                         |
| 10.300          | 0.60                         | 0.62                         | 0.65                         | 0.67                         | 0.70                         |
| 10.550          | 0.72                         | 0.75                         | 0.78                         | 0.81                         | 0.85                         |
| 10.800          | 0.88                         | 0.92                         | 0.97                         | 1.01                         | 1.05                         |
| 11.050          | 1.10                         | 1.15                         | 1.21                         | 1.27                         | 1.35                         |
| 11.300          | 1.43                         | 1.52                         | 1.62                         | 1.72                         | 1.83                         |
| 11.550          | 1.99                         | 2.23                         | 2.70                         | 3.46                         | 4.68                         |
| 11.800          | 6.37                         | 8.76                         | 11.90                        | 15.67                        | 19.43                        |
| 12.050          | 22.13                        | 23.10                        | 22.13                        | 19.65                        | 16.56                        |
| 12.300          | 13.58                        | 11.07                        | 9.15                         | 7.71                         | 6.59                         |
| 12.550          | 5.69                         | 4.96                         | 4.37                         | 3.89                         | 3.51                         |
| 12.800          | 3.20                         | 2.95                         | 2.75                         | 2.59                         | 2.44                         |
| 13.050          | 2.31                         | 2.20                         | 2.11                         | 2.03                         | 1.96                         |
| 13.300          | 1.90                         | 1.84                         | 1.79                         | 1.74                         | 1.69                         |
| 13.550          | 1.65                         | 1.61                         | 1.56                         | 1.52                         | 1.48                         |
| 13.800          | 1.45                         | 1.41                         | 1.38                         | 1.35                         | 1.32                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass 4

Return Event: 15 years

Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.050       | 1.29                      | 1.26                      | 1.23                      | 1.20                      | 1.18                      |
| 14.300       | 1.16                      | 1.14                      | 1.13                      | 1.11                      | 1.10                      |
| 14.550       | 1.09                      | 1.08                      | 1.07                      | 1.05                      | 1.04                      |
| 14.800       | 1.03                      | 1.02                      | 1.01                      | 1.00                      | 0.99                      |
| 15.050       | 0.98                      | 0.97                      | 0.96                      | 0.95                      | 0.94                      |
| 15.300       | 0.93                      | 0.92                      | 0.91                      | 0.89                      | 0.88                      |
| 15.550       | 0.87                      | 0.86                      | 0.85                      | 0.84                      | 0.83                      |
| 15.800       | 0.82                      | 0.81                      | 0.80                      | 0.79                      | 0.78                      |
| 16.050       | 0.77                      | 0.76                      | 0.75                      | 0.74                      | 0.73                      |
| 16.300       | 0.72                      | 0.72                      | 0.71                      | 0.71                      | 0.70                      |
| 16.550       | 0.70                      | 0.69                      | 0.69                      | 0.68                      | 0.68                      |
| 16.800       | 0.68                      | 0.67                      | 0.67                      | 0.67                      | 0.66                      |
| 17.050       | 0.66                      | 0.65                      | 0.65                      | 0.65                      | 0.64                      |
| 17.300       | 0.64                      | 0.64                      | 0.63                      | 0.63                      | 0.62                      |
| 17.550       | 0.62                      | 0.62                      | 0.61                      | 0.61                      | 0.60                      |
| 17.800       | 0.60                      | 0.60                      | 0.59                      | 0.59                      | 0.59                      |
| 18.050       | 0.58                      | 0.58                      | 0.57                      | 0.57                      | 0.57                      |
| 18.300       | 0.56                      | 0.56                      | 0.56                      | 0.55                      | 0.55                      |
| 18.550       | 0.54                      | 0.54                      | 0.54                      | 0.53                      | 0.53                      |
| 18.800       | 0.52                      | 0.52                      | 0.52                      | 0.51                      | 0.51                      |
| 19.050       | 0.51                      | 0.50                      | 0.50                      | 0.49                      | 0.49                      |
| 19.300       | 0.49                      | 0.48                      | 0.48                      | 0.47                      | 0.47                      |
| 19.550       | 0.47                      | 0.46                      | 0.46                      | 0.45                      | 0.45                      |
| 19.800       | 0.45                      | 0.44                      | 0.44                      | 0.44                      | 0.43                      |
| 20.050       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | 0.41                      |
| 20.300       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 20.550       | 0.41                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 20.800       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 21.050       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.39                      |
| 21.300       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 21.550       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 21.800       | 0.39                      | 0.39                      | 0.38                      | 0.38                      | 0.38                      |
| 22.050       | 0.38                      | 0.38                      | 0.38                      | 0.38                      | 0.38                      |
| 22.300       | 0.38                      | 0.38                      | 0.38                      | 0.38                      | 0.38                      |
| 22.550       | 0.37                      | 0.37                      | 0.37                      | 0.37                      | 0.37                      |
| 22.800       | 0.37                      | 0.37                      | 0.37                      | 0.37                      | 0.37                      |
| 23.050       | 0.37                      | 0.37                      | 0.37                      | 0.36                      | 0.36                      |
| 23.300       | 0.36                      | 0.36                      | 0.36                      | 0.36                      | 0.36                      |
| 23.550       | 0.36                      | 0.36                      | 0.36                      | 0.36                      | 0.36                      |
| 23.800       | 0.36                      | 0.35                      | 0.35                      | 0.35                      | 0.35                      |

## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 15 years  
 Storm Event: 15-year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link                       | Upstream Node  |
|-------------------------------------|----------------|
| <Catchment to Outflow Node><br>CO-4 | Bypass2<br>J-4 |
| <Catchment to Outflow Node>         | Bypass 4       |
| <Catchment to Outflow Node>         | Bypass1        |
| <Catchment to Outflow Node>         | Bypass3        |

### Node Inflows

| Inflow Type | Element  | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Bypass2  | 7.857             | 12.150                  | 87.95                               |
| Flow (From) | CO-4     | 1.445             | 12.450                  | 5.62                                |
| Flow (From) | Bypass 4 | 1.906             | 12.100                  | 23.10                               |
| Flow (From) | Bypass1  | 1.463             | 12.000                  | 22.83                               |
| Flow (From) | Bypass3  | 11.670            | 12.100                  | 136.51                              |
| Flow (In)   | O-1      | 24.341            | 12.100                  | 267.81                              |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.750           | 533.01            | 533.01            | 533.01            | 533.01            | 533.01            |
| 5.000           | 533.01            | 533.01            | 533.01            | 533.01            | 533.02            |
| 5.250           | 533.02            | 533.02            | 533.02            | 533.02            | 533.02            |
| 5.500           | 533.03            | 533.03            | 533.03            | 533.03            | 533.04            |
| 5.750           | 533.04            | 533.04            | 533.04            | 533.05            | 533.05            |
| 6.000           | 533.05            | 533.05            | 533.06            | 533.06            | 533.06            |
| 6.250           | 533.07            | 533.07            | 533.07            | 533.08            | 533.08            |
| 6.500           | 533.08            | 533.09            | 533.09            | 533.10            | 533.10            |
| 6.750           | 533.10            | 533.11            | 533.11            | 533.12            | 533.12            |
| 7.000           | 533.13            | 533.13            | 533.14            | 533.14            | 533.15            |
| 7.250           | 533.15            | 533.16            | 533.16            | 533.17            | 533.17            |
| 7.500           | 533.18            | 533.18            | 533.19            | 533.19            | 533.20            |
| 7.750           | 533.21            | 533.21            | 533.22            | 533.22            | 533.23            |
| 8.000           | 533.24            | 533.24            | 533.25            | 533.26            | 533.26            |
| 8.250           | 533.27            | 533.28            | 533.28            | 533.29            | 533.30            |
| 8.500           | 533.31            | 533.32            | 533.32            | 533.33            | 533.34            |
| 8.750           | 533.35            | 533.36            | 533.37            | 533.38            | 533.39            |
| 9.000           | 533.40            | 533.41            | 533.42            | 533.43            | 533.44            |
| 9.250           | 533.45            | 533.46            | 533.47            | 533.48            | 533.50            |
| 9.500           | 533.51            | 533.52            | 533.53            | 533.54            | 533.56            |
| 9.750           | 533.57            | 533.58            | 533.59            | 533.61            | 533.62            |
| 10.000          | 533.63            | 533.65            | 533.66            | 533.68            | 533.69            |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 533.71            | 533.72            | 533.74            | 533.76            | 533.77            |
| 10.500          | 533.79            | 533.81            | 533.83            | 533.85            | 533.87            |
| 10.750          | 533.89            | 533.91            | 533.93            | 533.95            | 533.98            |
| 11.000          | 534.00            | 534.03            | 534.05            | 534.08            | 534.11            |
| 11.250          | 534.14            | 534.17            | 534.20            | 534.23            | 534.26            |
| 11.500          | 534.30            | 534.34            | 534.38            | 534.43            | 534.48            |
| 11.750          | 534.55            | 534.64            | 534.75            | 534.89            | 535.07            |
| 12.000          | 535.29            | 535.55            | 535.83            | 536.07            | 536.19            |
| 12.250          | 536.19            | 536.18            | 536.16            | 536.14            | 536.13            |
| 12.500          | 536.12            | 536.11            | 536.10            | 536.09            | 536.08            |
| 12.750          | 536.07            | 536.06            | 536.06            | 536.05            | 536.05            |
| 13.000          | 536.04            | 536.04            | 536.04            | 536.03            | 536.03            |
| 13.250          | 536.03            | 536.03            | 536.03            | 536.03            | 536.03            |
| 13.500          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 13.750          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.000          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.250          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.500          | 536.02            | 536.01            | 536.01            | 536.01            | 536.01            |
| 14.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.250          | 536.01            | 536.00            | 536.00            | 536.00            | 536.00            |
| 22.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 22.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.000          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 24.000          | 536.00            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.750           | 530.00            | 530.00            | 530.00            | 530.01            | 530.01            |
| 7.000           | 530.01            | 530.01            | 530.01            | 530.01            | 530.01            |
| 7.250           | 530.01            | 530.01            | 530.02            | 530.02            | 530.02            |
| 7.500           | 530.02            | 530.02            | 530.02            | 530.02            | 530.03            |
| 7.750           | 530.03            | 530.03            | 530.03            | 530.03            | 530.03            |
| 8.000           | 530.03            | 530.03            | 530.04            | 530.04            | 530.04            |
| 8.250           | 530.04            | 530.04            | 530.05            | 530.05            | 530.05            |
| 8.500           | 530.05            | 530.06            | 530.06            | 530.06            | 530.07            |
| 8.750           | 530.07            | 530.07            | 530.08            | 530.08            | 530.08            |
| 9.000           | 530.09            | 530.09            | 530.09            | 530.09            | 530.10            |
| 9.250           | 530.10            | 530.10            | 530.10            | 530.10            | 530.10            |
| 9.500           | 530.10            | 530.10            | 530.11            | 530.11            | 530.11            |
| 9.750           | 530.11            | 530.11            | 530.12            | 530.12            | 530.12            |
| 10.000          | 530.12            | 530.12            | 530.13            | 530.13            | 530.13            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 530.14            | 530.14            | 530.14            | 530.15            | 530.15            |
| 10.500          | 530.15            | 530.16            | 530.16            | 530.17            | 530.17            |
| 10.750          | 530.18            | 530.18            | 530.19            | 530.20            | 530.20            |
| 11.000          | 530.21            | 530.21            | 530.22            | 530.23            | 530.24            |
| 11.250          | 530.25            | 530.26            | 530.27            | 530.28            | 530.29            |
| 11.500          | 530.30            | 530.33            | 530.41            | 530.50            | 530.62            |
| 11.750          | 530.75            | 530.89            | 531.04            | 531.21            | 531.36            |
| 12.000          | 531.47            | 531.54            | 531.57            | 531.63            | 531.83            |
| 12.250          | 532.09            | 532.30            | 532.48            | 532.62            | 532.73            |
| 12.500          | 532.83            | 532.90            | 532.96            | 533.01            | 533.05            |
| 12.750          | 533.09            | 533.12            | 533.15            | 533.17            | 533.19            |
| 13.000          | 533.20            | 533.22            | 533.23            | 533.24            | 533.24            |
| 13.250          | 533.25            | 533.26            | 533.26            | 533.26            | 533.27            |
| 13.500          | 533.27            | 533.27            | 533.27            | 533.27            | 533.27            |
| 13.750          | 533.27            | 533.27            | 533.27            | 533.27            | 533.26            |
| 14.000          | 533.26            | 533.26            | 533.25            | 533.25            | 533.25            |
| 14.250          | 533.24            | 533.24            | 533.23            | 533.23            | 533.22            |
| 14.500          | 533.22            | 533.21            | 533.21            | 533.20            | 533.20            |
| 14.750          | 533.19            | 533.18            | 533.18            | 533.17            | 533.17            |
| 15.000          | 533.16            | 533.15            | 533.15            | 533.14            | 533.13            |
| 15.250          | 533.13            | 533.12            | 533.11            | 533.11            | 533.10            |
| 15.500          | 533.09            | 533.08            | 533.08            | 533.07            | 533.06            |
| 15.750          | 533.05            | 533.04            | 533.04            | 533.03            | 533.02            |
| 16.000          | 533.01            | 533.00            | 533.00            | 532.99            | 532.98            |
| 16.250          | 532.97            | 532.96            | 532.95            | 532.94            | 532.93            |
| 16.500          | 532.92            | 532.91            | 532.91            | 532.90            | 532.89            |
| 16.750          | 532.88            | 532.87            | 532.86            | 532.85            | 532.84            |
| 17.000          | 532.83            | 532.82            | 532.81            | 532.80            | 532.79            |
| 17.250          | 532.78            | 532.77            | 532.76            | 532.75            | 532.74            |
| 17.500          | 532.73            | 532.72            | 532.71            | 532.70            | 532.69            |
| 17.750          | 532.68            | 532.67            | 532.66            | 532.65            | 532.64            |
| 18.000          | 532.63            | 532.62            | 532.61            | 532.60            | 532.58            |
| 18.250          | 532.57            | 532.56            | 532.55            | 532.54            | 532.53            |
| 18.500          | 532.52            | 532.51            | 532.50            | 532.49            | 532.47            |
| 18.750          | 532.46            | 532.45            | 532.44            | 532.43            | 532.42            |
| 19.000          | 532.41            | 532.40            | 532.38            | 532.37            | 532.36            |
| 19.250          | 532.35            | 532.34            | 532.33            | 532.31            | 532.30            |
| 19.500          | 532.29            | 532.28            | 532.27            | 532.25            | 532.24            |
| 19.750          | 532.23            | 532.22            | 532.21            | 532.19            | 532.18            |
| 20.000          | 532.17            | 532.16            | 532.14            | 532.13            | 532.12            |
| 20.250          | 532.11            | 532.09            | 532.08            | 532.07            | 532.05            |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Elevation (ft) | Elevation (ft) | Elevation (ft) | Elevation (ft) | Elevation (ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 20.500       | 532.04         | 532.03         | 532.02         | 532.00         | 531.99         |
| 20.750       | 531.98         | 531.96         | 531.95         | 531.94         | 531.92         |
| 21.000       | 531.91         | 531.90         | 531.88         | 531.87         | 531.85         |
| 21.250       | 531.84         | 531.83         | 531.81         | 531.80         | 531.78         |
| 21.500       | 531.77         | 531.75         | 531.74         | 531.72         | 531.71         |
| 21.750       | 531.69         | 531.67         | 531.66         | 531.64         | 531.62         |
| 22.000       | 531.61         | 531.59         | 531.57         | 531.55         | 531.54         |
| 22.250       | 531.52         | 531.50         | 531.48         | 531.46         | 531.44         |
| 22.500       | 531.42         | 531.40         | 531.38         | 531.36         | 531.34         |
| 22.750       | 531.32         | 531.30         | 531.28         | 531.25         | 531.23         |
| 23.000       | 531.21         | 531.18         | 531.16         | 531.13         | 531.11         |
| 23.250       | 531.08         | 531.05         | 531.02         | 531.00         | 530.96         |
| 23.500       | 530.93         | 530.90         | 530.87         | 530.83         | 530.80         |
| 23.750       | 530.76         | 530.72         | 530.69         | 530.64         | 530.60         |
| 24.000       | 530.56         | (N/A)          | (N/A)          | (N/A)          | (N/A)          |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.750           | 553.01            | 553.01            | 553.01            | 553.01            | 553.01            |
| 3.000           | 553.01            | 553.01            | 553.01            | 553.02            | 553.02            |
| 3.250           | 553.02            | 553.02            | 553.02            | 553.02            | 553.03            |
| 3.500           | 553.03            | 553.03            | 553.03            | 553.03            | 553.04            |
| 3.750           | 553.04            | 553.04            | 553.04            | 553.05            | 553.05            |
| 4.000           | 553.05            | 553.06            | 553.06            | 553.06            | 553.06            |
| 4.250           | 553.07            | 553.07            | 553.07            | 553.08            | 553.08            |
| 4.500           | 553.09            | 553.09            | 553.09            | 553.10            | 553.10            |
| 4.750           | 553.10            | 553.11            | 553.11            | 553.12            | 553.12            |
| 5.000           | 553.12            | 553.13            | 553.13            | 553.14            | 553.14            |
| 5.250           | 553.15            | 553.15            | 553.16            | 553.16            | 553.17            |
| 5.500           | 553.17            | 553.18            | 553.18            | 553.19            | 553.19            |
| 5.750           | 553.20            | 553.20            | 553.21            | 553.21            | 553.22            |
| 6.000           | 553.22            | 553.23            | 553.24            | 553.24            | 553.25            |
| 6.250           | 553.25            | 553.26            | 553.26            | 553.27            | 553.28            |
| 6.500           | 553.28            | 553.29            | 553.30            | 553.30            | 553.31            |
| 6.750           | 553.32            | 553.32            | 553.33            | 553.33            | 553.34            |
| 7.000           | 553.35            | 553.35            | 553.36            | 553.37            | 553.38            |
| 7.250           | 553.38            | 553.39            | 553.40            | 553.40            | 553.41            |
| 7.500           | 553.42            | 553.43            | 553.43            | 553.44            | 553.45            |
| 7.750           | 553.45            | 553.46            | 553.47            | 553.48            | 553.48            |
| 8.000           | 553.49            | 553.50            | 553.51            | 553.51            | 553.51            |
| 8.250           | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 8.500           | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 8.750           | 553.52            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.000           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.250           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.500           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.750           | 553.53            | 553.53            | 553.53            | 553.54            | 553.54            |
| 10.000          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 553.54            | 553.54            | 553.54            | 553.55            | 553.55            |
| 10.500          | 553.55            | 553.55            | 553.55            | 553.55            | 553.56            |
| 10.750          | 553.56            | 553.56            | 553.56            | 553.56            | 553.57            |
| 11.000          | 553.57            | 553.57            | 553.57            | 553.58            | 553.58            |
| 11.250          | 553.59            | 553.59            | 553.60            | 553.60            | 553.61            |
| 11.500          | 553.61            | 553.62            | 553.64            | 553.68            | 553.73            |
| 11.750          | 553.79            | 553.88            | 554.01            | 554.21            | 554.40            |
| 12.000          | 554.52            | 554.55            | 554.49            | 554.36            | 554.22            |
| 12.250          | 554.08            | 553.96            | 553.84            | 553.75            | 553.69            |
| 12.500          | 553.65            | 553.63            | 553.62            | 553.61            | 553.60            |
| 12.750          | 553.60            | 553.60            | 553.59            | 553.59            | 553.59            |
| 13.000          | 553.59            | 553.58            | 553.58            | 553.58            | 553.57            |
| 13.250          | 553.57            | 553.57            | 553.57            | 553.57            | 553.57            |
| 13.500          | 553.56            | 553.56            | 553.56            | 553.56            | 553.56            |
| 13.750          | 553.56            | 553.55            | 553.55            | 553.55            | 553.55            |
| 14.000          | 553.55            | 553.55            | 553.55            | 553.55            | 553.55            |
| 14.250          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 14.500          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 14.750          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 15.000          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 15.250          | 553.54            | 553.54            | 553.53            | 553.53            | 553.53            |
| 15.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 15.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.000          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.250          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.000          | 553.53            | 553.53            | 553.53            | 553.52            | 553.52            |
| 17.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 17.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 17.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 21.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 24.000          | 553.51            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.01            |
| 5.750           | 554.01            | 554.01            | 554.01            | 554.01            | 554.01            |
| 6.000           | 554.01            | 554.01            | 554.02            | 554.02            | 554.02            |
| 6.250           | 554.02            | 554.02            | 554.03            | 554.03            | 554.03            |
| 6.500           | 554.03            | 554.03            | 554.04            | 554.04            | 554.04            |
| 6.750           | 554.05            | 554.05            | 554.05            | 554.06            | 554.06            |
| 7.000           | 554.06            | 554.07            | 554.07            | 554.07            | 554.08            |
| 7.250           | 554.08            | 554.09            | 554.09            | 554.09            | 554.10            |
| 7.500           | 554.10            | 554.11            | 554.11            | 554.12            | 554.12            |
| 7.750           | 554.12            | 554.13            | 554.13            | 554.14            | 554.14            |
| 8.000           | 554.15            | 554.15            | 554.16            | 554.17            | 554.17            |
| 8.250           | 554.18            | 554.18            | 554.19            | 554.20            | 554.20            |
| 8.500           | 554.21            | 554.21            | 554.22            | 554.23            | 554.23            |
| 8.750           | 554.24            | 554.25            | 554.26            | 554.26            | 554.27            |
| 9.000           | 554.28            | 554.29            | 554.30            | 554.31            | 554.31            |
| 9.250           | 554.32            | 554.33            | 554.34            | 554.35            | 554.36            |
| 9.500           | 554.37            | 554.38            | 554.39            | 554.40            | 554.41            |
| 9.750           | 554.42            | 554.43            | 554.44            | 554.45            | 554.46            |
| 10.000          | 554.47            | 554.48            | 554.49            | 554.50            | 554.51            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 554.51            | 554.52            | 554.52            | 554.52            | 554.52            |
| 10.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.53            |
| 10.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 11.000          | 554.53            | 554.53            | 554.53            | 554.54            | 554.54            |
| 11.250          | 554.54            | 554.54            | 554.54            | 554.55            | 554.55            |
| 11.500          | 554.55            | 554.56            | 554.56            | 554.57            | 554.57            |
| 11.750          | 554.59            | 554.61            | 554.63            | 554.66            | 554.70            |
| 12.000          | 554.73            | 554.77            | 554.80            | 554.83            | 554.84            |
| 12.250          | 554.83            | 554.82            | 554.80            | 554.78            | 554.76            |
| 12.500          | 554.73            | 554.71            | 554.69            | 554.68            | 554.66            |
| 12.750          | 554.65            | 554.64            | 554.63            | 554.62            | 554.61            |
| 13.000          | 554.61            | 554.60            | 554.60            | 554.59            | 554.59            |
| 13.250          | 554.58            | 554.58            | 554.57            | 554.57            | 554.57            |
| 13.500          | 554.56            | 554.56            | 554.56            | 554.56            | 554.56            |
| 13.750          | 554.55            | 554.55            | 554.55            | 554.55            | 554.55            |
| 14.000          | 554.55            | 554.55            | 554.54            | 554.54            | 554.54            |
| 14.250          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 14.500          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 14.750          | 554.54            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.250          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.500          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 16.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.52            |
| 16.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 16.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 16.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 24.000          | 554.51            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 3.000           | 545.00            | 545.00            | 545.01            | 545.01            | 545.01            |
| 3.250           | 545.01            | 545.01            | 545.01            | 545.01            | 545.01            |
| 3.500           | 545.02            | 545.02            | 545.02            | 545.02            | 545.02            |
| 3.750           | 545.02            | 545.03            | 545.03            | 545.03            | 545.03            |
| 4.000           | 545.04            | 545.04            | 545.04            | 545.04            | 545.05            |
| 4.250           | 545.05            | 545.05            | 545.05            | 545.06            | 545.06            |
| 4.500           | 545.06            | 545.07            | 545.07            | 545.07            | 545.08            |
| 4.750           | 545.08            | 545.08            | 545.09            | 545.09            | 545.10            |
| 5.000           | 545.10            | 545.10            | 545.11            | 545.11            | 545.12            |
| 5.250           | 545.12            | 545.12            | 545.13            | 545.13            | 545.14            |
| 5.500           | 545.14            | 545.15            | 545.15            | 545.16            | 545.16            |
| 5.750           | 545.17            | 545.17            | 545.18            | 545.18            | 545.19            |
| 6.000           | 545.19            | 545.20            | 545.20            | 545.21            | 545.21            |
| 6.250           | 545.22            | 545.23            | 545.23            | 545.24            | 545.24            |
| 6.500           | 545.25            | 545.26            | 545.26            | 545.27            | 545.27            |
| 6.750           | 545.28            | 545.29            | 545.29            | 545.30            | 545.31            |
| 7.000           | 545.31            | 545.32            | 545.33            | 545.33            | 545.34            |
| 7.250           | 545.35            | 545.35            | 545.36            | 545.37            | 545.37            |
| 7.500           | 545.38            | 545.39            | 545.40            | 545.40            | 545.41            |
| 7.750           | 545.42            | 545.42            | 545.43            | 545.44            | 545.45            |
| 8.000           | 545.45            | 545.46            | 545.47            | 545.48            | 545.48            |
| 8.250           | 545.49            | 545.50            | 545.51            | 545.52            | 545.52            |
| 8.500           | 545.53            | 545.54            | 545.54            | 545.55            | 545.56            |
| 8.750           | 545.57            | 545.57            | 545.58            | 545.58            | 545.59            |
| 9.000           | 545.60            | 545.60            | 545.61            | 545.61            | 545.62            |
| 9.250           | 545.62            | 545.62            | 545.63            | 545.63            | 545.63            |
| 9.500           | 545.63            | 545.64            | 545.64            | 545.64            | 545.64            |
| 9.750           | 545.64            | 545.65            | 545.65            | 545.65            | 545.65            |
| 10.000          | 545.65            | 545.66            | 545.66            | 545.66            | 545.67            |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 545.67            | 545.67            | 545.67            | 545.68            | 545.68            |
| 10.500          | 545.68            | 545.69            | 545.69            | 545.70            | 545.70            |
| 10.750          | 545.70            | 545.71            | 545.71            | 545.72            | 545.72            |
| 11.000          | 545.73            | 545.73            | 545.74            | 545.74            | 545.75            |
| 11.250          | 545.76            | 545.76            | 545.77            | 545.78            | 545.79            |
| 11.500          | 545.80            | 545.82            | 545.85            | 545.91            | 545.99            |
| 11.750          | 546.11            | 546.26            | 546.45            | 546.69            | 546.93            |
| 12.000          | 547.11            | 547.23            | 547.27            | 547.26            | 547.24            |
| 12.250          | 547.21            | 547.18            | 547.15            | 547.12            | 547.08            |
| 12.500          | 547.04            | 547.00            | 546.96            | 546.92            | 546.88            |
| 12.750          | 546.83            | 546.79            | 546.74            | 546.70            | 546.65            |
| 13.000          | 546.61            | 546.57            | 546.52            | 546.48            | 546.43            |
| 13.250          | 546.39            | 546.34            | 546.30            | 546.26            | 546.22            |
| 13.500          | 546.18            | 546.14            | 546.10            | 546.06            | 546.03            |
| 13.750          | 545.99            | 545.96            | 545.93            | 545.90            | 545.87            |
| 14.000          | 545.85            | 545.83            | 545.81            | 545.79            | 545.78            |
| 14.250          | 545.76            | 545.75            | 545.74            | 545.73            | 545.73            |
| 14.500          | 545.72            | 545.72            | 545.71            | 545.71            | 545.70            |
| 14.750          | 545.70            | 545.70            | 545.70            | 545.69            | 545.69            |
| 15.000          | 545.69            | 545.69            | 545.69            | 545.68            | 545.68            |
| 15.250          | 545.68            | 545.68            | 545.68            | 545.67            | 545.67            |
| 15.500          | 545.67            | 545.67            | 545.67            | 545.67            | 545.67            |
| 15.750          | 545.66            | 545.66            | 545.66            | 545.66            | 545.66            |
| 16.000          | 545.66            | 545.66            | 545.66            | 545.65            | 545.65            |
| 16.250          | 545.65            | 545.65            | 545.65            | 545.65            | 545.65            |
| 16.500          | 545.65            | 545.65            | 545.65            | 545.65            | 545.64            |
| 16.750          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 17.000          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 17.250          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 17.500          | 545.64            | 545.64            | 545.64            | 545.63            | 545.63            |
| 17.750          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.000          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.250          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.500          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.750          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.000          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.250          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.500          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.750          | 545.62            | 545.62            | 545.61            | 545.61            | 545.61            |
| 20.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 20.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 20.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.750          | 545.61            | 545.61            | 545.61            | 545.60            | 545.60            |
| 23.000          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 23.250          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 23.500          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 23.750          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 24.000          | 545.60            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.250           | 563.00            | 563.00            | 563.00            | 563.01            | 563.01            |
| 3.500           | 563.01            | 563.01            | 563.01            | 563.01            | 563.01            |
| 3.750           | 563.01            | 563.02            | 563.02            | 563.02            | 563.02            |
| 4.000           | 563.02            | 563.03            | 563.03            | 563.03            | 563.03            |
| 4.250           | 563.03            | 563.04            | 563.04            | 563.04            | 563.05            |
| 4.500           | 563.05            | 563.05            | 563.05            | 563.06            | 563.06            |
| 4.750           | 563.06            | 563.07            | 563.07            | 563.08            | 563.08            |
| 5.000           | 563.08            | 563.09            | 563.09            | 563.10            | 563.10            |
| 5.250           | 563.10            | 563.11            | 563.11            | 563.12            | 563.12            |
| 5.500           | 563.13            | 563.13            | 563.13            | 563.14            | 563.14            |
| 5.750           | 563.15            | 563.15            | 563.16            | 563.16            | 563.17            |
| 6.000           | 563.18            | 563.18            | 563.19            | 563.19            | 563.20            |
| 6.250           | 563.20            | 563.21            | 563.22            | 563.22            | 563.23            |
| 6.500           | 563.23            | 563.24            | 563.24            | 563.25            | 563.26            |
| 6.750           | 563.26            | 563.27            | 563.28            | 563.28            | 563.29            |
| 7.000           | 563.30            | 563.30            | 563.31            | 563.32            | 563.32            |
| 7.250           | 563.33            | 563.34            | 563.34            | 563.35            | 563.36            |
| 7.500           | 563.36            | 563.37            | 563.38            | 563.39            | 563.39            |
| 7.750           | 563.40            | 563.41            | 563.42            | 563.42            | 563.43            |
| 8.000           | 563.44            | 563.44            | 563.45            | 563.46            | 563.47            |
| 8.250           | 563.48            | 563.48            | 563.49            | 563.50            | 563.51            |
| 8.500           | 563.52            | 563.53            | 563.54            | 563.54            | 563.55            |
| 8.750           | 563.56            | 563.57            | 563.58            | 563.59            | 563.60            |
| 9.000           | 563.61            | 563.62            | 563.63            | 563.64            | 563.66            |
| 9.250           | 563.67            | 563.68            | 563.69            | 563.70            | 563.71            |
| 9.500           | 563.72            | 563.73            | 563.74            | 563.75            | 563.76            |
| 9.750           | 563.76            | 563.77            | 563.77            | 563.77            | 563.77            |
| 10.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.78            |
| 10.500          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 10.750          | 563.78            | 563.78            | 563.78            | 563.79            | 563.79            |
| 11.000          | 563.79            | 563.79            | 563.79            | 563.79            | 563.80            |
| 11.250          | 563.80            | 563.80            | 563.80            | 563.80            | 563.81            |
| 11.500          | 563.81            | 563.81            | 563.83            | 563.85            | 563.88            |
| 11.750          | 563.91            | 563.95            | 563.99            | 564.05            | 564.07            |
| 12.000          | 564.05            | 564.01            | 563.93            | 563.87            | 563.85            |
| 12.250          | 563.84            | 563.83            | 563.82            | 563.82            | 563.82            |
| 12.500          | 563.81            | 563.81            | 563.81            | 563.80            | 563.80            |
| 12.750          | 563.80            | 563.80            | 563.80            | 563.80            | 563.80            |
| 13.000          | 563.80            | 563.80            | 563.79            | 563.79            | 563.79            |
| 13.250          | 563.79            | 563.79            | 563.79            | 563.79            | 563.79            |
| 13.500          | 563.79            | 563.78            | 563.78            | 563.78            | 563.78            |
| 13.750          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.000          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.250          | 563.78            | 563.78            | 563.77            | 563.77            | 563.77            |
| 14.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 14.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.750          | 563.77            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 24.000          | 563.76            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.250           | 529.00            | 529.00            | 529.00            | 529.01            | 529.01            |
| 6.500           | 529.01            | 529.01            | 529.01            | 529.01            | 529.02            |
| 6.750           | 529.02            | 529.02            | 529.02            | 529.02            | 529.03            |
| 7.000           | 529.03            | 529.03            | 529.03            | 529.04            | 529.04            |
| 7.250           | 529.04            | 529.04            | 529.05            | 529.05            | 529.05            |
| 7.500           | 529.05            | 529.06            | 529.06            | 529.06            | 529.06            |
| 7.750           | 529.07            | 529.07            | 529.07            | 529.08            | 529.08            |
| 8.000           | 529.08            | 529.08            | 529.09            | 529.09            | 529.09            |
| 8.250           | 529.10            | 529.10            | 529.11            | 529.11            | 529.12            |
| 8.500           | 529.12            | 529.13            | 529.13            | 529.14            | 529.14            |
| 8.750           | 529.15            | 529.15            | 529.16            | 529.17            | 529.17            |
| 9.000           | 529.18            | 529.19            | 529.19            | 529.20            | 529.20            |
| 9.250           | 529.21            | 529.22            | 529.22            | 529.23            | 529.23            |
| 9.500           | 529.24            | 529.24            | 529.25            | 529.26            | 529.26            |
| 9.750           | 529.27            | 529.28            | 529.29            | 529.30            | 529.30            |
| 10.000          | 529.31            | 529.32            | 529.34            | 529.35            | 529.36            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 529.37            | 529.39            | 529.40            | 529.42            | 529.43            |
| 10.500          | 529.45            | 529.47            | 529.49            | 529.50            | 529.50            |
| 10.750          | 529.51            | 529.51            | 529.52            | 529.52            | 529.53            |
| 11.000          | 529.54            | 529.55            | 529.55            | 529.56            | 529.57            |
| 11.250          | 529.59            | 529.60            | 529.62            | 529.63            | 529.65            |
| 11.500          | 529.67            | 529.70            | 529.74            | 529.81            | 529.92            |
| 11.750          | 530.04            | 530.15            | 530.31            | 530.53            | 530.77            |
| 12.000          | 530.99            | 531.11            | 531.14            | 531.11            | 531.09            |
| 12.250          | 531.07            | 531.06            | 531.05            | 531.04            | 531.04            |
| 12.500          | 531.03            | 531.03            | 531.02            | 531.02            | 531.02            |
| 12.750          | 531.01            | 531.01            | 531.01            | 531.01            | 531.01            |
| 13.000          | 531.01            | 531.01            | 531.01            | 531.01            | 531.01            |
| 13.250          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 13.500          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 13.750          | 531.00            | 531.00            | 531.00            | 531.00            | 530.99            |
| 14.000          | 530.99            | 530.99            | 530.99            | 530.99            | 530.98            |
| 14.250          | 530.98            | 530.98            | 530.98            | 530.97            | 530.97            |
| 14.500          | 530.97            | 530.96            | 530.96            | 530.96            | 530.96            |
| 14.750          | 530.95            | 530.95            | 530.95            | 530.94            | 530.94            |
| 15.000          | 530.94            | 530.93            | 530.93            | 530.92            | 530.92            |
| 15.250          | 530.92            | 530.91            | 530.91            | 530.90            | 530.90            |
| 15.500          | 530.90            | 530.89            | 530.89            | 530.88            | 530.88            |
| 15.750          | 530.88            | 530.87            | 530.87            | 530.86            | 530.86            |
| 16.000          | 530.85            | 530.85            | 530.84            | 530.84            | 530.83            |
| 16.250          | 530.83            | 530.82            | 530.82            | 530.81            | 530.81            |
| 16.500          | 530.80            | 530.80            | 530.79            | 530.79            | 530.78            |
| 16.750          | 530.78            | 530.77            | 530.77            | 530.76            | 530.76            |
| 17.000          | 530.75            | 530.75            | 530.74            | 530.74            | 530.73            |
| 17.250          | 530.73            | 530.72            | 530.71            | 530.71            | 530.70            |
| 17.500          | 530.70            | 530.69            | 530.69            | 530.68            | 530.68            |
| 17.750          | 530.67            | 530.67            | 530.66            | 530.66            | 530.65            |
| 18.000          | 530.65            | 530.64            | 530.64            | 530.63            | 530.62            |
| 18.250          | 530.62            | 530.61            | 530.61            | 530.60            | 530.60            |
| 18.500          | 530.59            | 530.59            | 530.58            | 530.57            | 530.57            |
| 18.750          | 530.56            | 530.56            | 530.55            | 530.55            | 530.54            |
| 19.000          | 530.54            | 530.53            | 530.52            | 530.52            | 530.51            |
| 19.250          | 530.51            | 530.50            | 530.50            | 530.49            | 530.48            |
| 19.500          | 530.48            | 530.47            | 530.47            | 530.46            | 530.45            |
| 19.750          | 530.45            | 530.44            | 530.43            | 530.43            | 530.42            |
| 20.000          | 530.42            | 530.41            | 530.40            | 530.40            | 530.39            |
| 20.250          | 530.38            | 530.38            | 530.37            | 530.37            | 530.36            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 530.35            | 530.35            | 530.34            | 530.34            | 530.33            |
| 20.750          | 530.32            | 530.32            | 530.31            | 530.31            | 530.30            |
| 21.000          | 530.29            | 530.29            | 530.28            | 530.28            | 530.27            |
| 21.250          | 530.27            | 530.26            | 530.25            | 530.25            | 530.24            |
| 21.500          | 530.24            | 530.23            | 530.23            | 530.22            | 530.21            |
| 21.750          | 530.21            | 530.20            | 530.20            | 530.19            | 530.19            |
| 22.000          | 530.18            | 530.18            | 530.17            | 530.16            | 530.16            |
| 22.250          | 530.15            | 530.15            | 530.14            | 530.14            | 530.13            |
| 22.500          | 530.13            | 530.12            | 530.12            | 530.11            | 530.11            |
| 22.750          | 530.10            | 530.09            | 530.09            | 530.08            | 530.08            |
| 23.000          | 530.07            | 530.07            | 530.06            | 530.06            | 530.05            |
| 23.250          | 530.05            | 530.04            | 530.04            | 530.03            | 530.03            |
| 23.500          | 530.02            | 530.02            | 530.01            | 530.01            | 530.00            |
| 23.750          | 530.00            | 529.99            | 529.98            | 529.97            | 529.96            |
| 24.000          | 529.95            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 5.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 5.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.750           | 0.002             | 0.003             | 0.003             | 0.003             | 0.003             |
| 6.000           | 0.003             | 0.003             | 0.004             | 0.004             | 0.004             |
| 6.250           | 0.004             | 0.004             | 0.005             | 0.005             | 0.005             |
| 6.500           | 0.005             | 0.006             | 0.006             | 0.006             | 0.006             |
| 6.750           | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 7.000           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 7.250           | 0.010             | 0.010             | 0.010             | 0.011             | 0.011             |
| 7.500           | 0.012             | 0.012             | 0.012             | 0.013             | 0.013             |
| 7.750           | 0.014             | 0.014             | 0.014             | 0.015             | 0.015             |
| 8.000           | 0.016             | 0.016             | 0.016             | 0.017             | 0.017             |
| 8.250           | 0.018             | 0.018             | 0.019             | 0.019             | 0.020             |
| 8.500           | 0.020             | 0.021             | 0.021             | 0.022             | 0.023             |
| 8.750           | 0.023             | 0.024             | 0.025             | 0.025             | 0.026             |
| 9.000           | 0.027             | 0.027             | 0.028             | 0.029             | 0.030             |
| 9.250           | 0.030             | 0.031             | 0.032             | 0.033             | 0.034             |
| 9.500           | 0.035             | 0.035             | 0.036             | 0.037             | 0.038             |
| 9.750           | 0.039             | 0.040             | 0.041             | 0.042             | 0.043             |
| 10.000          | 0.044             | 0.045             | 0.046             | 0.047             | 0.048             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.049             | 0.050             | 0.052             | 0.053             | 0.054             |
| 10.500          | 0.056             | 0.057             | 0.058             | 0.060             | 0.061             |
| 10.750          | 0.063             | 0.065             | 0.066             | 0.068             | 0.070             |
| 11.000          | 0.072             | 0.074             | 0.076             | 0.078             | 0.080             |
| 11.250          | 0.083             | 0.085             | 0.088             | 0.091             | 0.094             |
| 11.500          | 0.097             | 0.100             | 0.104             | 0.108             | 0.113             |
| 11.750          | 0.119             | 0.126             | 0.136             | 0.150             | 0.168             |
| 12.000          | 0.190             | 0.217             | 0.248             | 0.277             | 0.290             |
| 12.250          | 0.291             | 0.289             | 0.287             | 0.285             | 0.283             |
| 12.500          | 0.282             | 0.281             | 0.280             | 0.279             | 0.277             |
| 12.750          | 0.276             | 0.275             | 0.275             | 0.274             | 0.273             |
| 13.000          | 0.273             | 0.273             | 0.272             | 0.272             | 0.272             |
| 13.250          | 0.272             | 0.271             | 0.271             | 0.271             | 0.271             |
| 13.500          | 0.271             | 0.271             | 0.271             | 0.271             | 0.271             |
| 13.750          | 0.271             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.000          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.250          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.500          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.750          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.000          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.250          | 0.270             | 0.270             | 0.270             | 0.269             | 0.269             |
| 15.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 15.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 24.000          | 0.269             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 10.500       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 10.750       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 11.000       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 11.250       | 0.000          | 0.000          | 0.000          | 0.000          | 0.000          |
| 11.500       | 0.000          | 0.000          | 0.001          | 0.001          | 0.003          |
| 11.750       | 0.004          | 0.007          | 0.012          | 0.019          | 0.026          |
| 12.000       | 0.033          | 0.038          | 0.041          | 0.045          | 0.064          |
| 12.250       | 0.094          | 0.123          | 0.148          | 0.170          | 0.188          |
| 12.500       | 0.203          | 0.215          | 0.225          | 0.234          | 0.242          |
| 12.750       | 0.248          | 0.254          | 0.258          | 0.262          | 0.265          |
| 13.000       | 0.268          | 0.271          | 0.272          | 0.274          | 0.276          |
| 13.250       | 0.277          | 0.278          | 0.278          | 0.279          | 0.280          |
| 13.500       | 0.280          | 0.280          | 0.280          | 0.280          | 0.280          |
| 13.750       | 0.280          | 0.280          | 0.280          | 0.279          | 0.279          |
| 14.000       | 0.278          | 0.278          | 0.277          | 0.277          | 0.276          |
| 14.250       | 0.275          | 0.274          | 0.273          | 0.273          | 0.272          |
| 14.500       | 0.271          | 0.270          | 0.269          | 0.268          | 0.267          |
| 14.750       | 0.266          | 0.265          | 0.264          | 0.263          | 0.261          |
| 15.000       | 0.260          | 0.259          | 0.258          | 0.257          | 0.256          |
| 15.250       | 0.254          | 0.253          | 0.252          | 0.251          | 0.249          |
| 15.500       | 0.248          | 0.247          | 0.245          | 0.244          | 0.243          |
| 15.750       | 0.241          | 0.240          | 0.239          | 0.237          | 0.236          |
| 16.000       | 0.234          | 0.233          | 0.231          | 0.230          | 0.228          |
| 16.250       | 0.227          | 0.225          | 0.224          | 0.222          | 0.221          |
| 16.500       | 0.219          | 0.217          | 0.216          | 0.214          | 0.213          |
| 16.750       | 0.211          | 0.210          | 0.208          | 0.206          | 0.205          |
| 17.000       | 0.203          | 0.202          | 0.200          | 0.198          | 0.197          |
| 17.250       | 0.195          | 0.194          | 0.192          | 0.190          | 0.189          |
| 17.500       | 0.187          | 0.185          | 0.184          | 0.182          | 0.181          |
| 17.750       | 0.179          | 0.177          | 0.176          | 0.174          | 0.172          |
| 18.000       | 0.171          | 0.169          | 0.168          | 0.166          | 0.164          |
| 18.250       | 0.163          | 0.161          | 0.159          | 0.158          | 0.156          |
| 18.500       | 0.154          | 0.153          | 0.151          | 0.150          | 0.148          |
| 18.750       | 0.146          | 0.145          | 0.143          | 0.141          | 0.140          |
| 19.000       | 0.138          | 0.136          | 0.135          | 0.133          | 0.131          |
| 19.250       | 0.130          | 0.128          | 0.126          | 0.125          | 0.123          |
| 19.500       | 0.122          | 0.120          | 0.118          | 0.117          | 0.115          |
| 19.750       | 0.113          | 0.112          | 0.110          | 0.108          | 0.107          |
| 20.000       | 0.105          | 0.103          | 0.102          | 0.100          | 0.098          |
| 20.250       | 0.097          | 0.095          | 0.093          | 0.092          | 0.090          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 20.500       | 0.089          | 0.087          | 0.085          | 0.084          | 0.082          |
| 20.750       | 0.080          | 0.079          | 0.077          | 0.076          | 0.074          |
| 21.000       | 0.073          | 0.071          | 0.070          | 0.068          | 0.066          |
| 21.250       | 0.065          | 0.063          | 0.062          | 0.060          | 0.059          |
| 21.500       | 0.057          | 0.056          | 0.054          | 0.053          | 0.052          |
| 21.750       | 0.050          | 0.049          | 0.047          | 0.046          | 0.045          |
| 22.000       | 0.043          | 0.042          | 0.040          | 0.039          | 0.038          |
| 22.250       | 0.036          | 0.035          | 0.034          | 0.033          | 0.031          |
| 22.500       | 0.030          | 0.029          | 0.028          | 0.026          | 0.025          |
| 22.750       | 0.024          | 0.023          | 0.022          | 0.020          | 0.019          |
| 23.000       | 0.018          | 0.017          | 0.016          | 0.015          | 0.014          |
| 23.250       | 0.013          | 0.012          | 0.011          | 0.010          | 0.009          |
| 23.500       | 0.008          | 0.008          | 0.007          | 0.006          | 0.005          |
| 23.750       | 0.005          | 0.004          | 0.003          | 0.003          | 0.002          |
| 24.000       | 0.002          | (N/A)          | (N/A)          | (N/A)          | (N/A)          |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.001             | 0.001             | 0.001             |
| 3.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 4.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.250           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 5.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |
| 6.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 6.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.005             |
| 6.500           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 6.750           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 7.000           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 7.250           | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 7.500           | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 7.750           | 0.008             | 0.008             | 0.008             | 0.008             | 0.009             |
| 8.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.250           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.500           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.250           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.500           | 0.009             | 0.009             | 0.009             | 0.009             | 0.010             |
| 9.750           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.011             |
| 11.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.500          | 0.011             | 0.011             | 0.012             | 0.013             | 0.014             |
| 11.750          | 0.015             | 0.017             | 0.021             | 0.026             | 0.032             |
| 12.000          | 0.036             | 0.037             | 0.035             | 0.031             | 0.027             |
| 12.250          | 0.023             | 0.019             | 0.016             | 0.014             | 0.013             |
| 12.500          | 0.012             | 0.012             | 0.011             | 0.011             | 0.011             |
| 12.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.000          | 0.011             | 0.011             | 0.011             | 0.010             | 0.010             |
| 13.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 24.000          | 0.009             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 7.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 8.000           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 8.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |
| 8.500           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 8.750           | 0.004             | 0.004             | 0.004             | 0.005             | 0.005             |
| 9.000           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 9.250           | 0.006             | 0.006             | 0.006             | 0.007             | 0.007             |
| 9.500           | 0.007             | 0.007             | 0.008             | 0.008             | 0.008             |
| 9.750           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 10.000          | 0.009             | 0.010             | 0.010             | 0.010             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 10.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 10.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.500          | 0.011             | 0.012             | 0.012             | 0.012             | 0.012             |
| 11.750          | 0.012             | 0.013             | 0.014             | 0.014             | 0.015             |
| 12.000          | 0.017             | 0.018             | 0.019             | 0.019             | 0.020             |
| 12.250          | 0.020             | 0.019             | 0.019             | 0.018             | 0.017             |
| 12.500          | 0.017             | 0.016             | 0.015             | 0.015             | 0.014             |
| 12.750          | 0.014             | 0.014             | 0.013             | 0.013             | 0.013             |
| 13.000          | 0.013             | 0.013             | 0.013             | 0.013             | 0.012             |
| 13.250          | 0.012             | 0.012             | 0.012             | 0.012             | 0.012             |
| 13.500          | 0.012             | 0.012             | 0.012             | 0.012             | 0.012             |
| 13.750          | 0.012             | 0.012             | 0.011             | 0.011             | 0.011             |
| 14.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 20.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 20.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 20.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 24.000          | 0.010             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 6.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 6.250           | 0.002             | 0.003             | 0.003             | 0.003             | 0.003             |
| 6.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 6.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |
| 7.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 7.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 7.500           | 0.004             | 0.005             | 0.005             | 0.005             | 0.005             |
| 7.750           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 8.000           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 8.250           | 0.006             | 0.006             | 0.006             | 0.006             | 0.007             |
| 8.500           | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 8.750           | 0.007             | 0.007             | 0.007             | 0.007             | 0.008             |
| 9.000           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.250           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.500           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.750           | 0.008             | 0.008             | 0.008             | 0.009             | 0.009             |
| 10.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.750          | 0.009             | 0.009             | 0.010             | 0.010             | 0.010             |
| 11.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.250          | 0.010             | 0.010             | 0.011             | 0.011             | 0.011             |
| 11.500          | 0.011             | 0.011             | 0.012             | 0.013             | 0.015             |
| 11.750          | 0.017             | 0.020             | 0.025             | 0.031             | 0.038             |
| 12.000          | 0.044             | 0.048             | 0.050             | 0.049             | 0.049             |
| 12.250          | 0.048             | 0.047             | 0.046             | 0.044             | 0.043             |
| 12.500          | 0.042             | 0.041             | 0.039             | 0.038             | 0.037             |
| 12.750          | 0.035             | 0.034             | 0.033             | 0.032             | 0.030             |
| 13.000          | 0.029             | 0.028             | 0.027             | 0.026             | 0.024             |
| 13.250          | 0.023             | 0.022             | 0.021             | 0.020             | 0.019             |
| 13.500          | 0.019             | 0.018             | 0.017             | 0.016             | 0.015             |
| 13.750          | 0.015             | 0.014             | 0.013             | 0.013             | 0.012             |
| 14.000          | 0.012             | 0.012             | 0.011             | 0.011             | 0.011             |
| 14.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.500          | 0.010             | 0.010             | 0.010             | 0.009             | 0.009             |
| 14.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.250          | 0.009             | 0.009             | 0.008             | 0.008             | 0.008             |
| 16.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 16.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 24.000          | 0.008             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.001             |
| 4.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |
| 5.750           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 6.000           | 0.004             | 0.005             | 0.005             | 0.005             | 0.005             |
| 6.250           | 0.005             | 0.005             | 0.006             | 0.006             | 0.006             |
| 6.500           | 0.006             | 0.006             | 0.007             | 0.007             | 0.007             |
| 6.750           | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 7.000           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 7.250           | 0.009             | 0.009             | 0.010             | 0.010             | 0.010             |
| 7.500           | 0.010             | 0.011             | 0.011             | 0.011             | 0.011             |
| 7.750           | 0.012             | 0.012             | 0.012             | 0.012             | 0.013             |
| 8.000           | 0.013             | 0.013             | 0.013             | 0.014             | 0.014             |
| 8.250           | 0.014             | 0.015             | 0.015             | 0.015             | 0.016             |
| 8.500           | 0.016             | 0.016             | 0.017             | 0.017             | 0.017             |
| 8.750           | 0.018             | 0.018             | 0.018             | 0.019             | 0.019             |
| 9.000           | 0.020             | 0.020             | 0.021             | 0.021             | 0.021             |
| 9.250           | 0.022             | 0.022             | 0.023             | 0.023             | 0.024             |
| 9.500           | 0.024             | 0.025             | 0.025             | 0.026             | 0.026             |
| 9.750           | 0.026             | 0.026             | 0.027             | 0.027             | 0.027             |
| 10.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 11.000          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 11.250          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 11.500          | 0.028             | 0.029             | 0.029             | 0.031             | 0.032             |
| 11.750          | 0.034             | 0.036             | 0.038             | 0.041             | 0.043             |
| 12.000          | 0.042             | 0.039             | 0.035             | 0.032             | 0.030             |
| 12.250          | 0.030             | 0.029             | 0.029             | 0.029             | 0.029             |
| 12.500          | 0.029             | 0.029             | 0.028             | 0.028             | 0.028             |
| 12.750          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.000          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.250          | 0.028             | 0.028             | 0.028             | 0.028             | 0.027             |
| 13.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 13.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 16.000          | 0.027             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 24.000          | 0.026             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 15 years  
 Storm Event: 15-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 9.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.750           | 0.001             | 0.001             | 0.002             | 0.002             | 0.002             |
| 10.000          | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 0.003          | 0.004          | 0.004          | 0.005          | 0.005          |
| 10.500       | 0.006          | 0.007          | 0.008          | 0.008          | 0.008          |
| 10.750       | 0.008          | 0.009          | 0.009          | 0.009          | 0.010          |
| 11.000       | 0.010          | 0.010          | 0.011          | 0.012          | 0.012          |
| 11.250       | 0.013          | 0.014          | 0.015          | 0.016          | 0.018          |
| 11.500       | 0.020          | 0.022          | 0.027          | 0.035          | 0.050          |
| 11.750       | 0.072          | 0.094          | 0.126          | 0.172          | 0.223          |
| 12.000       | 0.272          | 0.301          | 0.306          | 0.301          | 0.295          |
| 12.250       | 0.291          | 0.288          | 0.286          | 0.285          | 0.283          |
| 12.500       | 0.282          | 0.281          | 0.280          | 0.279          | 0.279          |
| 12.750       | 0.278          | 0.278          | 0.278          | 0.277          | 0.277          |
| 13.000       | 0.277          | 0.277          | 0.276          | 0.276          | 0.276          |
| 13.250       | 0.276          | 0.276          | 0.276          | 0.276          | 0.275          |
| 13.500       | 0.275          | 0.275          | 0.275          | 0.275          | 0.275          |
| 13.750       | 0.275          | 0.274          | 0.274          | 0.274          | 0.274          |
| 14.000       | 0.273          | 0.273          | 0.272          | 0.272          | 0.271          |
| 14.250       | 0.271          | 0.270          | 0.269          | 0.269          | 0.268          |
| 14.500       | 0.267          | 0.267          | 0.266          | 0.265          | 0.265          |
| 14.750       | 0.264          | 0.263          | 0.263          | 0.262          | 0.261          |
| 15.000       | 0.260          | 0.260          | 0.259          | 0.258          | 0.257          |
| 15.250       | 0.256          | 0.255          | 0.254          | 0.254          | 0.253          |
| 15.500       | 0.252          | 0.251          | 0.250          | 0.249          | 0.248          |
| 15.750       | 0.247          | 0.246          | 0.245          | 0.244          | 0.243          |
| 16.000       | 0.242          | 0.241          | 0.239          | 0.238          | 0.237          |
| 16.250       | 0.236          | 0.235          | 0.234          | 0.233          | 0.232          |
| 16.500       | 0.231          | 0.230          | 0.228          | 0.227          | 0.226          |
| 16.750       | 0.225          | 0.224          | 0.223          | 0.222          | 0.221          |
| 17.000       | 0.220          | 0.218          | 0.217          | 0.216          | 0.215          |
| 17.250       | 0.214          | 0.213          | 0.212          | 0.210          | 0.209          |
| 17.500       | 0.208          | 0.207          | 0.206          | 0.205          | 0.204          |
| 17.750       | 0.202          | 0.201          | 0.200          | 0.199          | 0.198          |
| 18.000       | 0.197          | 0.196          | 0.194          | 0.193          | 0.192          |
| 18.250       | 0.191          | 0.190          | 0.189          | 0.187          | 0.186          |
| 18.500       | 0.185          | 0.184          | 0.183          | 0.182          | 0.180          |
| 18.750       | 0.179          | 0.178          | 0.177          | 0.176          | 0.174          |
| 19.000       | 0.173          | 0.172          | 0.171          | 0.170          | 0.169          |
| 19.250       | 0.167          | 0.166          | 0.165          | 0.164          | 0.162          |
| 19.500       | 0.161          | 0.160          | 0.158          | 0.157          | 0.156          |
| 19.750       | 0.155          | 0.153          | 0.152          | 0.151          | 0.149          |
| 20.000       | 0.148          | 0.147          | 0.146          | 0.144          | 0.143          |
| 20.250       | 0.142          | 0.140          | 0.139          | 0.138          | 0.137          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 15 years  
 Storm Event: 15-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.135             | 0.134             | 0.133             | 0.132             | 0.130             |
| 20.750          | 0.129             | 0.128             | 0.127             | 0.126             | 0.124             |
| 21.000          | 0.123             | 0.122             | 0.121             | 0.120             | 0.118             |
| 21.250          | 0.117             | 0.116             | 0.115             | 0.114             | 0.113             |
| 21.500          | 0.112             | 0.110             | 0.109             | 0.108             | 0.107             |
| 21.750          | 0.106             | 0.105             | 0.104             | 0.102             | 0.101             |
| 22.000          | 0.100             | 0.099             | 0.098             | 0.097             | 0.096             |
| 22.250          | 0.095             | 0.094             | 0.093             | 0.092             | 0.091             |
| 22.500          | 0.089             | 0.088             | 0.087             | 0.086             | 0.085             |
| 22.750          | 0.084             | 0.083             | 0.082             | 0.081             | 0.080             |
| 23.000          | 0.079             | 0.078             | 0.077             | 0.076             | 0.075             |
| 23.250          | 0.074             | 0.073             | 0.072             | 0.071             | 0.070             |
| 23.500          | 0.069             | 0.068             | 0.067             | 0.066             | 0.065             |
| 23.750          | 0.064             | 0.062             | 0.061             | 0.059             | 0.057             |
| 24.000          | 0.056             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond1A

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 533.00            | 0.0                              | 0.064           | 0.000                          | 0.000             | 0.000                     |
| 534.00            | 0.0                              | 0.080           | 0.216                          | 0.072             | 0.072                     |
| 535.00            | 0.0                              | 0.098           | 0.267                          | 0.089             | 0.161                     |
| 536.00            | 0.0                              | 0.117           | 0.322                          | 0.107             | 0.268                     |
| 537.00            | 0.0                              | 0.138           | 0.382                          | 0.127             | 0.395                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond1B

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sqr<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|---------------------------------|-------------------|---------------------------|
| 530.00            | 0.0                              | 0.000           | 0.000                           | 0.000             | 0.000                     |
| 531.00            | 0.0                              | 0.031           | 0.031                           | 0.010             | 0.010                     |
| 532.00            | 0.0                              | 0.125           | 0.125                           | 0.083             | 0.083                     |
| 533.00            | 0.0                              | 0.174           | 0.446                           | 0.149             | 0.232                     |
| 534.00            | 0.0                              | 0.200           | 0.561                           | 0.187             | 0.419                     |
| 535.00            | 0.0                              | 0.228           | 0.642                           | 0.214             | 0.633                     |
| 536.00            | 0.0                              | 0.257           | 0.727                           | 0.242             | 0.875                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond2

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 553.00            | 0.0                              | 0.015           | 0.000                          | 0.000             | 0.000                     |
| 554.00            | 0.0                              | 0.027           | 0.062                          | 0.021             | 0.021                     |
| 555.00            | 0.0                              | 0.041           | 0.101                          | 0.034             | 0.054                     |
| 556.00            | 0.0                              | 0.056           | 0.145                          | 0.048             | 0.102                     |



## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond3

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 554.00            | 0.0                              | 0.016           | 0.000                          | 0.000             | 0.000                     |
| 555.00            | 0.0                              | 0.036           | 0.076                          | 0.025             | 0.025                     |
| 556.00            | 0.0                              | 0.058           | 0.140                          | 0.047             | 0.072                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond4

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 545.00            | 0.0                              | 0.010           | 0.000                          | 0.000             | 0.000                     |
| 546.00            | 0.0                              | 0.020           | 0.044                          | 0.015             | 0.015                     |
| 547.00            | 0.0                              | 0.032           | 0.077                          | 0.026             | 0.041                     |
| 548.00            | 0.0                              | 0.046           | 0.116                          | 0.039             | 0.079                     |
| 549.00            | 0.0                              | 0.057           | 0.154                          | 0.051             | 0.131                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond5

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 563.00            | 0.0                              | 0.023           | 0.000                          | 0.000             | 0.000                     |
| 564.00            | 0.0                              | 0.056           | 0.116                          | 0.039             | 0.039                     |
| 565.00            | 0.0                              | 0.096           | 0.226                          | 0.075             | 0.114                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 15 years

Label: Pond7

Storm Event: 15-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 529.00            | 0.0                              | 0.000           | 0.000                          | 0.000             | 0.000                     |
| 530.00            | 0.0                              | 0.194           | 0.194                          | 0.065             | 0.065                     |
| 531.00            | 0.0                              | 0.227           | 0.631                          | 0.210             | 0.275                     |
| 532.00            | 0.0                              | 0.261           | 0.731                          | 0.244             | 0.519                     |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 15 years  
 Storm Event: 15-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 533.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 537.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 536.00     | 537.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

# O'Day Park Detention Calculations

Subsection: Outlet Input Data  
Label: Composite Outlet Structure - 1A

Return Event: 15 years  
Storm Event: 15-year

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|                                      |                             |
|--------------------------------------|-----------------------------|
| Structure ID: Weir - 1               |                             |
| Structure Type: Rectangular Weir     |                             |
| <hr/>                                |                             |
| Number of Openings                   | 1                           |
| Elevation                            | 536.00 ft                   |
| Weir Length                          | 30.00 ft                    |
| Weir Coefficient                     | 3.00 (ft <sup>0.5</sup> )/s |
| <hr/>                                |                             |
| Structure ID: TW                     |                             |
| Structure Type: TW Setup, DS Channel |                             |
| <hr/>                                |                             |
| Tailwater Type                       | Free Outfall                |
| <hr/>                                |                             |
| Convergence Tolerances               |                             |
| <hr/>                                |                             |
| Maximum Iterations                   | 30                          |
| Tailwater Tolerance (Minimum)        | 0.01 ft                     |
| Tailwater Tolerance (Maximum)        | 0.50 ft                     |
| Headwater Tolerance (Minimum)        | 0.01 ft                     |
| Headwater Tolerance (Maximum)        | 0.50 ft                     |
| Flow Tolerance (Minimum)             | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)             | 10.000 ft <sup>3</sup> /s   |

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## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.10                             | 2.85                         | (N/A)                       | 0.00                      |
| 536.20                             | 8.05                         | (N/A)                       | 0.00                      |
| 536.30                             | 14.79                        | (N/A)                       | 0.00                      |
| 536.40                             | 22.77                        | (N/A)                       | 0.00                      |
| 536.50                             | 31.82                        | (N/A)                       | 0.00                      |
| 536.60                             | 41.83                        | (N/A)                       | 0.00                      |
| 536.70                             | 52.71                        | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 536.80                       | 64.40                     | (N/A)                    | 0.00                   |
| 536.90                       | 76.84                     | (N/A)                    | 0.00                   |
| 537.00                       | 90.00                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
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HW & TW below Inv.El.=536.000
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=2.85;
H=.20; Htw=.00; Qfree=8.05;
H=.30; Htw=.00; Qfree=14.79;
    
```



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1A

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.40; Htw=.00; Qfree=22.77;  |
| H=.50; Htw=.00; Qfree=31.82;  |
| H=.60; Htw=.00; Qfree=41.83;  |
| H=.70; Htw=.00; Qfree=52.71;  |
| H=.80; Htw=.00; Qfree=64.40;  |
| H=.90; Htw=.00; Qfree=76.84;  |
| H=1.00; Htw=.00; Qfree=90.00; |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1A

Return Event: 15 years  
 Storm Event: 15-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 536.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 536.10                       | 2.85                      | (N/A)                    | 0.00                   |
| 536.20                       | 8.05                      | (N/A)                    | 0.00                   |
| 536.30                       | 14.79                     | (N/A)                    | 0.00                   |
| 536.40                       | 22.77                     | (N/A)                    | 0.00                   |
| 536.50                       | 31.82                     | (N/A)                    | 0.00                   |
| 536.60                       | 41.83                     | (N/A)                    | 0.00                   |
| 536.70                       | 52.71                     | (N/A)                    | 0.00                   |
| 536.80                       | 64.40                     | (N/A)                    | 0.00                   |
| 536.90                       | 76.84                     | (N/A)                    | 0.00                   |
| 537.00                       | 90.00                     | (N/A)                    | 0.00                   |

### Contributing Structures

None Contributing

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 1A

Return Event: 15 years  
Storm Event: 15-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
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| Weir - 1                |
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| Weir - 1                |
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| Weir - 1                |
| Weir - 1                |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 530.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 536.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 530.00     | 536.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 534.00     | 536.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 534.00 ft                   |
| Weir Length                                 | 9.00 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 530.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 532.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.00                      | (N/A)                    | 0.00                   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.85                         | (N/A)                       | 0.00                      |
| 534.20                             | 2.41                         | (N/A)                       | 0.00                      |
| 534.30                             | 4.44                         | (N/A)                       | 0.00                      |
| 534.40                             | 6.83                         | (N/A)                       | 0.00                      |
| 534.50                             | 9.55                         | (N/A)                       | 0.00                      |
| 534.60                             | 12.55                        | (N/A)                       | 0.00                      |
| 534.70                             | 15.81                        | (N/A)                       | 0.00                      |
| 534.80                             | 19.32                        | (N/A)                       | 0.00                      |
| 534.90                             | 23.05                        | (N/A)                       | 0.00                      |
| 535.00                             | 27.00                        | (N/A)                       | 0.00                      |
| 535.10                             | 31.15                        | (N/A)                       | 0.00                      |
| 535.20                             | 35.49                        | (N/A)                       | 0.00                      |
| 535.30                             | 40.02                        | (N/A)                       | 0.00                      |
| 535.40                             | 44.73                        | (N/A)                       | 0.00                      |
| 535.50                             | 49.60                        | (N/A)                       | 0.00                      |
| 535.60                             | 54.64                        | (N/A)                       | 0.00                      |
| 535.70                             | 59.85                        | (N/A)                       | 0.00                      |
| 535.80                             | 65.20                        | (N/A)                       | 0.00                      |
| 535.90                             | 70.71                        | (N/A)                       | 0.00                      |
| 536.00                             | 76.37                        | (N/A)                       | 0.00                      |

Computation Messages

|                               |
|-------------------------------|
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
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| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
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| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| H=.00; Htw=.00; Qfree=.00;    |
| H=.10; Htw=.00; Qfree=.85;    |
| H=.20; Htw=.00; Qfree=2.41;   |
| H=.30; Htw=.00; Qfree=4.44;   |
| H=.40; Htw=.00; Qfree=6.83;   |
| H=.50; Htw=.00; Qfree=9.55;   |
| H=.60; Htw=.00; Qfree=12.55;  |
| H=.70; Htw=.00; Qfree=15.81;  |
| H=.80; Htw=.00; Qfree=19.32;  |
| H=.90; Htw=.00; Qfree=23.05;  |
| H=1.00; Htw=.00; Qfree=27.00; |
| H=1.10; Htw=.00; Qfree=31.15; |
| H=1.20; Htw=.00; Qfree=35.49; |
| H=1.30; Htw=.00; Qfree=40.02; |

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# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=1.40; Htw=.00; Qfree=44.73; |
| H=1.50; Htw=.00; Qfree=49.60; |
| H=1.60; Htw=.00; Qfree=54.64; |
| H=1.70; Htw=.00; Qfree=59.85; |
| H=1.80; Htw=.00; Qfree=65.20; |
| H=1.90; Htw=.00; Qfree=70.71; |
| H=2.00; Htw=.00; Qfree=76.37; |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.10                       | 0.02                      | (N/A)                    | 0.00                   |
| 530.20                       | 0.07                      | (N/A)                    | 0.00                   |
| 530.30                       | 0.14                      | (N/A)                    | 0.00                   |
| 530.40                       | 0.20                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.60                       | 0.28                      | (N/A)                    | 0.00                   |
| 530.70                       | 0.31                      | (N/A)                    | 0.00                   |
| 530.80                       | 0.33                      | (N/A)                    | 0.00                   |
| 530.90                       | 0.36                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 531.10                       | 0.41                      | (N/A)                    | 0.00                   |
| 531.20                       | 0.43                      | (N/A)                    | 0.00                   |
| 531.30                       | 0.45                      | (N/A)                    | 0.00                   |
| 531.40                       | 0.47                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.60                       | 0.50                      | (N/A)                    | 0.00                   |
| 531.70                       | 0.52                      | (N/A)                    | 0.00                   |
| 531.80                       | 0.54                      | (N/A)                    | 0.00                   |
| 531.90                       | 0.55                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 532.10                       | 0.58                      | (N/A)                    | 0.00                   |
| 532.20                       | 0.60                      | (N/A)                    | 0.00                   |
| 532.30                       | 0.61                      | (N/A)                    | 0.00                   |
| 532.40                       | 0.63                      | (N/A)                    | 0.00                   |
| 532.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.60                       | 0.66                      | (N/A)                    | 0.00                   |
| 532.70                       | 0.67                      | (N/A)                    | 0.00                   |
| 532.80                       | 0.68                      | (N/A)                    | 0.00                   |
| 532.90                       | 0.69                      | (N/A)                    | 0.00                   |
| 533.00                       | 0.71                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.72                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.73                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.74                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.76                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.77                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.78                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.79                      | (N/A)                    | 0.00                   |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.80                       | 0.80                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.81                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.82                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.83                      | (N/A)                    | 0.00                   |
| 534.20                       | 0.84                      | (N/A)                    | 0.00                   |
| 534.30                       | 0.85                      | (N/A)                    | 0.00                   |
| 534.40                       | 0.86                      | (N/A)                    | 0.00                   |
| 534.50                       | 0.87                      | (N/A)                    | 0.00                   |
| 534.60                       | 0.88                      | (N/A)                    | 0.00                   |
| 534.70                       | 0.89                      | (N/A)                    | 0.00                   |
| 534.80                       | 0.90                      | (N/A)                    | 0.00                   |
| 534.90                       | 0.91                      | (N/A)                    | 0.00                   |
| 535.00                       | 0.92                      | (N/A)                    | 0.00                   |
| 535.10                       | 0.93                      | (N/A)                    | 0.00                   |
| 535.20                       | 0.94                      | (N/A)                    | 0.00                   |
| 535.30                       | 0.95                      | (N/A)                    | 0.00                   |
| 535.40                       | 0.96                      | (N/A)                    | 0.00                   |
| 535.50                       | 0.97                      | (N/A)                    | 0.00                   |
| 535.60                       | 0.98                      | (N/A)                    | 0.00                   |
| 535.70                       | 0.99                      | (N/A)                    | 0.00                   |
| 535.80                       | 1.00                      | (N/A)                    | 0.00                   |
| 535.90                       | 1.01                      | (N/A)                    | 0.00                   |
| 536.00                       | 1.01                      | (N/A)                    | 0.00                   |

Computation Messages

```

Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H = .93              |
| H = 1.03             |
| H = 1.13             |
| H = 1.23             |
| H = 1.33             |
| H = 1.43             |
| H = 1.53             |
| H = 1.63             |
| H = 1.73             |
| H = 1.83             |
| H = 1.93             |
| H = 2.03             |
| H = 2.13             |
| H = 2.23             |
| H = 2.33             |
| H = 2.43             |
| H = 2.53             |
| H = 2.63             |
| H = 2.73             |
| H = 2.83             |
| H = 2.93             |
| H = 3.03             |
| H = 3.13             |
| H = 3.23             |
| H = 3.33             |
| H = 3.43             |
| H = 3.53             |
| H = 3.63             |
| H = 3.73             |
| H = 3.83             |
| H = 3.93             |
| H = 4.03             |
| H = 4.13             |
| H = 4.23             |
| H = 4.33             |
| H = 4.43             |
| H = 4.53             |
| H = 4.63             |
| H = 4.73             |
| H = 4.83             |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =4.93              |
| H =5.03              |
| H =5.13              |
| H =5.23              |
| H =5.33              |
| H =5.43              |
| H =5.53              |
| H =5.63              |
| H =5.73              |
| H =5.83              |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.10                       | 0.02                      | (N/A)                    | 0.00                   |
| 530.20                       | 0.07                      | (N/A)                    | 0.00                   |
| 530.30                       | 0.14                      | (N/A)                    | 0.00                   |
| 530.40                       | 0.20                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.60                       | 0.28                      | (N/A)                    | 0.00                   |
| 530.70                       | 0.31                      | (N/A)                    | 0.00                   |
| 530.80                       | 0.33                      | (N/A)                    | 0.00                   |
| 530.90                       | 0.36                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 531.10                       | 0.41                      | (N/A)                    | 0.00                   |
| 531.20                       | 0.43                      | (N/A)                    | 0.00                   |
| 531.30                       | 0.45                      | (N/A)                    | 0.00                   |
| 531.40                       | 0.47                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.60                       | 0.50                      | (N/A)                    | 0.00                   |
| 531.70                       | 0.52                      | (N/A)                    | 0.00                   |
| 531.80                       | 0.54                      | (N/A)                    | 0.00                   |
| 531.90                       | 0.55                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 532.10                       | 0.58                      | (N/A)                    | 0.00                   |
| 532.20                       | 0.60                      | (N/A)                    | 0.00                   |
| 532.30                       | 0.61                      | (N/A)                    | 0.00                   |
| 532.40                       | 0.63                      | (N/A)                    | 0.00                   |
| 532.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.60                       | 0.66                      | (N/A)                    | 0.00                   |
| 532.70                       | 0.67                      | (N/A)                    | 0.00                   |
| 532.80                       | 0.68                      | (N/A)                    | 0.00                   |
| 532.90                       | 0.69                      | (N/A)                    | 0.00                   |
| 533.00                       | 0.71                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.72                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.73                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.74                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.76                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.77                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.78                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.79                      | (N/A)                    | 0.00                   |
| 533.80                       | 0.80                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.81                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.82                      | (N/A)                    | 0.00                   |
| 534.10                       | 1.69                      | (N/A)                    | 0.00                   |
| 534.20                       | 3.26                      | (N/A)                    | 0.00                   |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1B

Return Event: 15 years  
 Storm Event: 15-year

### Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 534.30                             | 5.29                         | (N/A)                       | 0.00                      |
| 534.40                             | 7.69                         | (N/A)                       | 0.00                      |
| 534.50                             | 10.42                        | (N/A)                       | 0.00                      |
| 534.60                             | 13.43                        | (N/A)                       | 0.00                      |
| 534.70                             | 16.71                        | (N/A)                       | 0.00                      |
| 534.80                             | 20.22                        | (N/A)                       | 0.00                      |
| 534.90                             | 23.97                        | (N/A)                       | 0.00                      |
| 535.00                             | 27.92                        | (N/A)                       | 0.00                      |
| 535.10                             | 32.08                        | (N/A)                       | 0.00                      |
| 535.20                             | 36.43                        | (N/A)                       | 0.00                      |
| 535.30                             | 40.97                        | (N/A)                       | 0.00                      |
| 535.40                             | 45.69                        | (N/A)                       | 0.00                      |
| 535.50                             | 50.57                        | (N/A)                       | 0.00                      |
| 535.60                             | 55.62                        | (N/A)                       | 0.00                      |
| 535.70                             | 60.83                        | (N/A)                       | 0.00                      |
| 535.80                             | 66.20                        | (N/A)                       | 0.00                      |
| 535.90                             | 71.72                        | (N/A)                       | 0.00                      |
| 536.00                             | 77.38                        | (N/A)                       | 0.00                      |

#### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |
| Orifice - 1       |





## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 15 years  
 Storm Event: 15-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 553.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 553.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 15 years  
 Storm Event: 15-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 553.50 ft                   |
| Diameter                                    | 8.0 in                      |
| Orifice Area                                | 0.3 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 2.09 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 2

Return Event: 15 years  
 Storm Event: 15-year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 553.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.60                       | 0.20                      | (N/A)                    | 0.00                   |
| 553.70                       | 0.56                      | (N/A)                    | 0.00                   |
| 553.80                       | 0.92                      | (N/A)                    | 0.00                   |
| 553.90                       | 1.06                      | (N/A)                    | 0.00                   |
| 554.00                       | 1.19                      | (N/A)                    | 0.00                   |
| 554.10                       | 1.30                      | (N/A)                    | 0.00                   |
| 554.20                       | 1.41                      | (N/A)                    | 0.00                   |
| 554.30                       | 1.50                      | (N/A)                    | 0.00                   |
| 554.40                       | 1.59                      | (N/A)                    | 0.00                   |
| 554.50                       | 1.68                      | (N/A)                    | 0.00                   |
| 554.60                       | 1.76                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.84                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.92                      | (N/A)                    | 0.00                   |
| 554.90                       | 1.99                      | (N/A)                    | 0.00                   |
| 555.00                       | 2.06                      | (N/A)                    | 0.00                   |
| 555.10                       | 2.13                      | (N/A)                    | 0.00                   |
| 555.20                       | 2.19                      | (N/A)                    | 0.00                   |
| 555.30                       | 2.25                      | (N/A)                    | 0.00                   |
| 555.40                       | 2.32                      | (N/A)                    | 0.00                   |
| 555.50                       | 2.38                      | (N/A)                    | 0.00                   |
| 555.60                       | 2.43                      | (N/A)                    | 0.00                   |
| 555.70                       | 2.49                      | (N/A)                    | 0.00                   |
| 555.80                       | 2.55                      | (N/A)                    | 0.00                   |
| 555.90                       | 2.60                      | (N/A)                    | 0.00                   |
| 556.00                       | 2.66                      | (N/A)                    | 0.00                   |

**Computation Messages**

```

HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
HW & TW < Inv.El.=553.500
Weir: H =0ft
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                  |
|---|
| Weir: H =0.1ft  |
| Weir: H =0.2ft  |
| Orifice: H =.30; Riser orifice equation controlling.  |
| Orifice: H =.40; Riser orifice equation controlling.  |
| Orifice: H =.50; Riser orifice equation controlling.  |
| Orifice: H =.60; Riser orifice equation controlling.  |
| Orifice: H =.70; Riser orifice equation controlling.  |
| Orifice: H =.80; Riser orifice equation controlling.  |
| Orifice: H =.90; Riser orifice equation controlling.  |
| Orifice: H =1.00; Riser orifice equation controlling. |
| Orifice: H =1.10; Riser orifice equation controlling. |
| Orifice: H =1.20; Riser orifice equation controlling. |
| Orifice: H =1.30; Riser orifice equation controlling. |
| Orifice: H =1.40; Riser orifice equation controlling. |
| Orifice: H =1.50; Riser orifice equation controlling. |
| Orifice: H =1.60; Riser orifice equation controlling. |
| Orifice: H =1.70; Riser orifice equation controlling. |
| Orifice: H =1.80; Riser orifice equation controlling. |
| Orifice: H =1.90; Riser orifice equation controlling. |
| Orifice: H =2.00; Riser orifice equation controlling. |
| Orifice: H =2.10; Riser orifice equation controlling. |
| Orifice: H =2.20; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                  |
|---|
| Orifice: H =2.30; Riser orifice equation controlling. |
| Orifice: H =2.40; Riser orifice equation controlling. |
| Orifice: H =2.50; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 2

Return Event: 15 years  
 Storm Event: 15-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 553.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 553.60                       | 0.20                      | (N/A)                    | 0.00                   |
| 553.70                       | 0.56                      | (N/A)                    | 0.00                   |
| 553.80                       | 0.92                      | (N/A)                    | 0.00                   |
| 553.90                       | 1.06                      | (N/A)                    | 0.00                   |
| 554.00                       | 1.19                      | (N/A)                    | 0.00                   |
| 554.10                       | 1.30                      | (N/A)                    | 0.00                   |
| 554.20                       | 1.41                      | (N/A)                    | 0.00                   |
| 554.30                       | 1.50                      | (N/A)                    | 0.00                   |
| 554.40                       | 1.59                      | (N/A)                    | 0.00                   |
| 554.50                       | 1.68                      | (N/A)                    | 0.00                   |
| 554.60                       | 1.76                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.84                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.92                      | (N/A)                    | 0.00                   |
| 554.90                       | 1.99                      | (N/A)                    | 0.00                   |
| 555.00                       | 2.06                      | (N/A)                    | 0.00                   |
| 555.10                       | 2.13                      | (N/A)                    | 0.00                   |
| 555.20                       | 2.19                      | (N/A)                    | 0.00                   |
| 555.30                       | 2.25                      | (N/A)                    | 0.00                   |
| 555.40                       | 2.32                      | (N/A)                    | 0.00                   |
| 555.50                       | 2.38                      | (N/A)                    | 0.00                   |
| 555.60                       | 2.43                      | (N/A)                    | 0.00                   |
| 555.70                       | 2.49                      | (N/A)                    | 0.00                   |
| 555.80                       | 2.55                      | (N/A)                    | 0.00                   |
| 555.90                       | 2.60                      | (N/A)                    | 0.00                   |
| 556.00                       | 2.66                      | (N/A)                    | 0.00                   |

### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 2

Return Event: 15 years  
Storm Event: 15-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 15 years  
 Storm Event: 15-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 554.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 554.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 15 years  
 Storm Event: 15-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 554.50 ft                   |
| Diameter                                    | 15.0 in                     |
| Orifice Area                                | 1.2 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 3.93 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 3

Return Event: 15 years  
 Storm Event: 15-year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 554.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.60                       | 0.37                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.05                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.94                      | (N/A)                    | 0.00                   |
| 554.90                       | 2.98                      | (N/A)                    | 0.00                   |
| 555.00                       | 4.17                      | (N/A)                    | 0.00                   |
| 555.10                       | 4.58                      | (N/A)                    | 0.00                   |
| 555.20                       | 4.94                      | (N/A)                    | 0.00                   |
| 555.30                       | 5.28                      | (N/A)                    | 0.00                   |
| 555.40                       | 5.60                      | (N/A)                    | 0.00                   |
| 555.50                       | 5.91                      | (N/A)                    | 0.00                   |
| 555.60                       | 6.19                      | (N/A)                    | 0.00                   |
| 555.70                       | 6.47                      | (N/A)                    | 0.00                   |
| 555.80                       | 6.73                      | (N/A)                    | 0.00                   |
| 555.90                       | 6.99                      | (N/A)                    | 0.00                   |
| 556.00                       | 7.23                      | (N/A)                    | 0.00                   |

Computation Messages

HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 Weir: H =0ft  
 Weir: H =0.1ft  
 Weir: H =0.2ft  
 Weir: H =0.3ft  
 Weir: H =0.4ft  
 Weir: H =0.5ft  
 Orifice: H =.60; Riser orifice equation controlling.  
 Orifice: H =.70; Riser orifice equation controlling.

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 3

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                   |
|--|
| Orifice: H = .80; Riser orifice equation controlling.  |
| Orifice: H = .90; Riser orifice equation controlling.  |
| Orifice: H = 1.00; Riser orifice equation controlling. |
| Orifice: H = 1.10; Riser orifice equation controlling. |
| Orifice: H = 1.20; Riser orifice equation controlling. |
| Orifice: H = 1.30; Riser orifice equation controlling. |
| Orifice: H = 1.40; Riser orifice equation controlling. |
| Orifice: H = 1.50; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 3

Return Event: 15 years  
 Storm Event: 15-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 554.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.60                       | 0.37                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.05                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.94                      | (N/A)                    | 0.00                   |
| 554.90                       | 2.98                      | (N/A)                    | 0.00                   |
| 555.00                       | 4.17                      | (N/A)                    | 0.00                   |
| 555.10                       | 4.58                      | (N/A)                    | 0.00                   |
| 555.20                       | 4.94                      | (N/A)                    | 0.00                   |
| 555.30                       | 5.28                      | (N/A)                    | 0.00                   |
| 555.40                       | 5.60                      | (N/A)                    | 0.00                   |
| 555.50                       | 5.91                      | (N/A)                    | 0.00                   |
| 555.60                       | 6.19                      | (N/A)                    | 0.00                   |
| 555.70                       | 6.47                      | (N/A)                    | 0.00                   |
| 555.80                       | 6.73                      | (N/A)                    | 0.00                   |
| 555.90                       | 6.99                      | (N/A)                    | 0.00                   |
| 556.00                       | 7.23                      | (N/A)                    | 0.00                   |

#### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 4

Return Event: 15 years

Storm Event: 15-year

---

### Requested Pond Water Surface Elevations

---

|                       |           |
|-----------------------|-----------|
| Minimum (Headwater)   | 545.00 ft |
| Increment (Headwater) | 0.10 ft   |
| Maximum (Headwater)   | 549.00 ft |

---

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 545.50     | 549.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 547.50     | 549.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 15 years  
 Storm Event: 15-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 545.50 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 547.50 ft                   |
| Weir Length                                 | 3.50 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.02                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.07                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.14                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.20                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.24                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.28                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.31                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.33                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.36                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.38                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.41                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.43                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.45                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.47                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.48                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.50                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.52                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.54                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.55                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.57                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.58                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.60                         | (N/A)                       | 0.00                      |
| 547.80                             | 0.61                         | (N/A)                       | 0.00                      |
| 547.90                             | 0.63                         | (N/A)                       | 0.00                      |
| 548.00                             | 0.64                         | (N/A)                       | 0.00                      |
| 548.10                             | 0.66                         | (N/A)                       | 0.00                      |
| 548.20                             | 0.67                         | (N/A)                       | 0.00                      |
| 548.30                             | 0.68                         | (N/A)                       | 0.00                      |
| 548.40                             | 0.69                         | (N/A)                       | 0.00                      |
| 548.50                             | 0.71                         | (N/A)                       | 0.00                      |
| 548.60                             | 0.72                         | (N/A)                       | 0.00                      |
| 548.70                             | 0.73                         | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 0.74                      | (N/A)                    | 0.00                   |
| 548.90                       | 0.76                      | (N/A)                    | 0.00                   |
| 549.00                       | 0.77                      | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
H =.93
H =1.03
H =1.13
H =1.23
H =1.33
H =1.43
H =1.53
H =1.63
H =1.73
H =1.83
H =1.93
H =2.03
H =2.13
H =2.23
H =2.33
    
```



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =2.43              |
| H =2.53              |
| H =2.63              |
| H =2.73              |
| H =2.83              |
| H =2.93              |
| H =3.03              |
| H =3.13              |
| H =3.23              |
| H =3.33              |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.33                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.94                         | (N/A)                       | 0.00                      |
| 547.80                             | 1.73                         | (N/A)                       | 0.00                      |
| 547.90                             | 2.66                         | (N/A)                       | 0.00                      |
| 548.00                             | 3.71                         | (N/A)                       | 0.00                      |
| 548.10                             | 4.88                         | (N/A)                       | 0.00                      |
| 548.20                             | 6.15                         | (N/A)                       | 0.00                      |
| 548.30                             | 7.51                         | (N/A)                       | 0.00                      |
| 548.40                             | 8.97                         | (N/A)                       | 0.00                      |
| 548.50                             | 10.50                        | (N/A)                       | 0.00                      |
| 548.60                             | 12.11                        | (N/A)                       | 0.00                      |
| 548.70                             | 13.80                        | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 15.56                     | (N/A)                    | 0.00                   |
| 548.90                       | 17.39                     | (N/A)                    | 0.00                   |
| 549.00                       | 19.29                     | (N/A)                    | 0.00                   |

Computation Messages

HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 HW & TW below Inv.El.=547.500  
 H=.00; Htw=.00; Qfree=.00;  
 H=.10; Htw=.00; Qfree=.33;  
 H=.20; Htw=.00; Qfree=.94;  
 H=.30; Htw=.00; Qfree=1.73;  
 H=.40; Htw=.00; Qfree=2.66;  
 H=.50; Htw=.00; Qfree=3.71;  
 H=.60; Htw=.00; Qfree=4.88;  
 H=.70; Htw=.00; Qfree=6.15;  
 H=.80; Htw=.00; Qfree=7.51;

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.90; Htw=.00; Qfree=8.97;   |
| H=1.00; Htw=.00; Qfree=10.50; |
| H=1.10; Htw=.00; Qfree=12.11; |
| H=1.20; Htw=.00; Qfree=13.80; |
| H=1.30; Htw=.00; Qfree=15.56; |
| H=1.40; Htw=.00; Qfree=17.39; |
| H=1.50; Htw=.00; Qfree=19.29; |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 4

Return Event: 15 years  
 Storm Event: 15-year

### Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.02                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.07                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.14                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.20                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.24                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.28                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.31                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.33                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.36                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.38                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.41                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.43                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.45                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.47                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.48                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.50                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.52                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.54                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.55                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.57                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.92                         | (N/A)                       | 0.00                      |
| 547.70                             | 1.54                         | (N/A)                       | 0.00                      |
| 547.80                             | 2.34                         | (N/A)                       | 0.00                      |
| 547.90                             | 3.28                         | (N/A)                       | 0.00                      |
| 548.00                             | 4.35                         | (N/A)                       | 0.00                      |
| 548.10                             | 5.54                         | (N/A)                       | 0.00                      |
| 548.20                             | 6.82                         | (N/A)                       | 0.00                      |
| 548.30                             | 8.19                         | (N/A)                       | 0.00                      |
| 548.40                             | 9.66                         | (N/A)                       | 0.00                      |
| 548.50                             | 11.21                        | (N/A)                       | 0.00                      |
| 548.60                             | 12.83                        | (N/A)                       | 0.00                      |
| 548.70                             | 14.53                        | (N/A)                       | 0.00                      |
| 548.80                             | 16.31                        | (N/A)                       | 0.00                      |
| 548.90                             | 18.15                        | (N/A)                       | 0.00                      |
| 549.00                             | 20.06                        | (N/A)                       | 0.00                      |

#### Contributing Structures

None Contributing

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 4

Return Event: 15 years  
Storm Event: 15-year

### Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
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| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
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| Orifice - 1 + Weir - 1  |
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| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 15 years  
 Storm Event: 15-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 563.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 565.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 563.75     | 565.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 15 years  
 Storm Event: 15-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 563.75 ft                   |
| Weir Length                                 | 10.50 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 5

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 563.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.75                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.80                             | 0.35                         | (N/A)                       | 0.00                      |
| 563.90                             | 1.83                         | (N/A)                       | 0.00                      |
| 564.00                             | 3.94                         | (N/A)                       | 0.00                      |
| 564.10                             | 6.52                         | (N/A)                       | 0.00                      |
| 564.20                             | 9.51                         | (N/A)                       | 0.00                      |
| 564.30                             | 12.85                        | (N/A)                       | 0.00                      |
| 564.40                             | 16.51                        | (N/A)                       | 0.00                      |
| 564.50                             | 20.46                        | (N/A)                       | 0.00                      |
| 564.60                             | 24.69                        | (N/A)                       | 0.00                      |
| 564.70                             | 29.17                        | (N/A)                       | 0.00                      |
| 564.80                             | 33.89                        | (N/A)                       | 0.00                      |
| 564.90                             | 38.85                        | (N/A)                       | 0.00                      |
| 565.00                             | 44.02                        | (N/A)                       | 0.00                      |

Computation Messages

```

HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
H=.00; Htw=.00; Qfree=.00;
H=.05; Htw=.00; Qfree=.35;
H=.15; Htw=.00; Qfree=1.83;
H=.25; Htw=.00; Qfree=3.94;
H=.35; Htw=.00; Qfree=6.52;
H=.45; Htw=.00; Qfree=9.51;
H=.55; Htw=.00; Qfree=12.85;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 5

Return Event: 15 years  
Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.65; Htw=.00; Qfree=16.51;  |
| H=.75; Htw=.00; Qfree=20.46;  |
| H=.85; Htw=.00; Qfree=24.69;  |
| H=.95; Htw=.00; Qfree=29.17;  |
| H=1.05; Htw=.00; Qfree=33.89; |
| H=1.15; Htw=.00; Qfree=38.85; |
| H=1.25; Htw=.00; Qfree=44.02; |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 5

Return Event: 15 years  
 Storm Event: 15-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 563.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.75                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.80                       | 0.35                      | (N/A)                    | 0.00                   |
| 563.90                       | 1.83                      | (N/A)                    | 0.00                   |
| 564.00                       | 3.94                      | (N/A)                    | 0.00                   |
| 564.10                       | 6.52                      | (N/A)                    | 0.00                   |
| 564.20                       | 9.51                      | (N/A)                    | 0.00                   |
| 564.30                       | 12.85                     | (N/A)                    | 0.00                   |
| 564.40                       | 16.51                     | (N/A)                    | 0.00                   |
| 564.50                       | 20.46                     | (N/A)                    | 0.00                   |
| 564.60                       | 24.69                     | (N/A)                    | 0.00                   |
| 564.70                       | 29.17                     | (N/A)                    | 0.00                   |
| 564.80                       | 33.89                     | (N/A)                    | 0.00                   |
| 564.90                       | 38.85                     | (N/A)                    | 0.00                   |
| 565.00                       | 44.02                     | (N/A)                    | 0.00                   |

### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |
| Weir - 1          |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 5

Return Event: 15 years  
Storm Event: 15-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Weir - 1                |
| Weir - 1                |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 15 years  
 Storm Event: 15-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 529.00 ft |
| Increment (Headwater)                   | 0.50 ft   |
| Maximum (Headwater)                     | 532.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 529.00     | 532.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 531.00     | 532.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 15 years  
 Storm Event: 15-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 529.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 531.00 ft                   |
| Weir Length                                 | 14.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.71                      | (N/A)                    | 0.00                   |

Computation Messages

Upstream HW & DNstream TW < Inv.El  
 H =.33  
 H =.83  
 H =1.33  
 H =1.83  
 H =2.33  
 H =2.83

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 15 years  
 Storm Event: 15-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.50                       | 14.85                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.00                     | (N/A)                    | 0.00                   |

Computation Messages

|   |
|---|
| HW & TW below Inv.El.=531.000<br>HW & TW below Inv.El.=531.000<br>HW & TW below Inv.El.=531.000<br>HW & TW below Inv.El.=531.000<br>H=.00; Htw=.00; Qfree=.00;<br>H=.50; Htw=.00; Qfree=14.85;<br>H=1.00; Htw=.00; Qfree=42.00; |
|---|



## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 7

Return Event: 15 years  
 Storm Event: 15-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 15.49                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.71                     | (N/A)                    | 0.00                   |

#### Contributing Structures

|                        |
|------------------------|
| None Contributing      |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 7.53 ft <sup>3</sup> /s |
| Time to Peak      | 12.250 hours            |
| Hydrograph Volume | 0.507 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.100          | 0.00                         | 2.13                         | 7.33                         | 7.53                         | 6.88                         |
| 12.350          | 6.02                         | 5.16                         | 4.38                         | 3.73                         | 3.20                         |
| 12.600          | 2.79                         | 2.53                         | 2.25                         | 1.99                         | 1.77                         |
| 12.850          | 1.58                         | 1.43                         | 1.31                         | 1.20                         | 1.11                         |
| 13.100          | 1.04                         | 0.98                         | 0.92                         | 0.87                         | 0.83                         |
| 13.350          | 0.79                         | 0.76                         | 0.73                         | 0.70                         | 0.68                         |
| 13.600          | 0.66                         | 0.64                         | 0.62                         | 0.60                         | 0.59                         |
| 13.850          | 0.57                         | 0.56                         | 0.54                         | 0.53                         | 0.52                         |
| 14.100          | 0.51                         | 0.49                         | 0.48                         | 0.47                         | 0.46                         |
| 14.350          | 0.45                         | 0.44                         | 0.44                         | 0.43                         | 0.42                         |
| 14.600          | 0.42                         | 0.41                         | 0.41                         | 0.40                         | 0.40                         |
| 14.850          | 0.40                         | 0.39                         | 0.39                         | 0.38                         | 0.38                         |
| 15.100          | 0.37                         | 0.37                         | 0.37                         | 0.36                         | 0.36                         |
| 15.350          | 0.35                         | 0.35                         | 0.35                         | 0.34                         | 0.34                         |
| 15.600          | 0.33                         | 0.33                         | 0.33                         | 0.32                         | 0.32                         |
| 15.850          | 0.31                         | 0.31                         | 0.31                         | 0.30                         | 0.30                         |
| 16.100          | 0.29                         | 0.29                         | 0.29                         | 0.28                         | 0.28                         |
| 16.350          | 0.28                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 16.600          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 16.850          | 0.26                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 17.100          | 0.25                         | 0.25                         | 0.25                         | 0.24                         | 0.24                         |
| 17.350          | 0.24                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.600          | 0.23                         | 0.23                         | 0.23                         | 0.23                         | 0.23                         |
| 17.850          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.22                         |
| 18.100          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.21                         |
| 18.350          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.600          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 18.850          | 0.20                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 19.100          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 19.350          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.600          | 0.18                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 19.850          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 20.100          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.350          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 20.600          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 20.850          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.350          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.600          | 0.15                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 21.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.100          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.350          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.600          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.100          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.350          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 23.600          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 23.850          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.74 ft <sup>3</sup> /s |
| Time to Peak      | 13.650 hours            |
| Hydrograph Volume | 0.636 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.650           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 7.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.900           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.150           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.400           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.650           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 9.900           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.150          | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.400          | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 10.650          | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 10.900          | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 11.150          | 0.09                         | 0.09                         | 0.10                         | 0.11                         | 0.12                         |
| 11.400          | 0.13                         | 0.13                         | 0.14                         | 0.16                         | 0.21                         |
| 11.650          | 0.24                         | 0.28                         | 0.32                         | 0.36                         | 0.39                         |
| 11.900          | 0.43                         | 0.46                         | 0.48                         | 0.49                         | 0.50                         |
| 12.150          | 0.51                         | 0.54                         | 0.58                         | 0.61                         | 0.64                         |
| 12.400          | 0.66                         | 0.67                         | 0.68                         | 0.69                         | 0.70                         |
| 12.650          | 0.71                         | 0.71                         | 0.72                         | 0.72                         | 0.73                         |
| 12.900          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 13.150          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 13.400          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 13.650          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 13.900          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 14.150          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 14.400          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 14.650          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 14.900          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 15.150          | 0.72                         | 0.72                         | 0.72                         | 0.72                         | 0.72                         |
| 15.400          | 0.72                         | 0.72                         | 0.72                         | 0.72                         | 0.72                         |
| 15.650          | 0.72                         | 0.71                         | 0.71                         | 0.71                         | 0.71                         |
| 15.900          | 0.71                         | 0.71                         | 0.71                         | 0.71                         | 0.71                         |
| 16.150          | 0.71                         | 0.70                         | 0.70                         | 0.70                         | 0.70                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.400       | 0.70                      | 0.70                      | 0.70                      | 0.70                      | 0.70                      |
| 16.650       | 0.69                      | 0.69                      | 0.69                      | 0.69                      | 0.69                      |
| 16.900       | 0.69                      | 0.69                      | 0.69                      | 0.68                      | 0.68                      |
| 17.150       | 0.68                      | 0.68                      | 0.68                      | 0.68                      | 0.68                      |
| 17.400       | 0.68                      | 0.67                      | 0.67                      | 0.67                      | 0.67                      |
| 17.650       | 0.67                      | 0.67                      | 0.67                      | 0.66                      | 0.66                      |
| 17.900       | 0.66                      | 0.66                      | 0.66                      | 0.66                      | 0.66                      |
| 18.150       | 0.65                      | 0.65                      | 0.65                      | 0.65                      | 0.65                      |
| 18.400       | 0.65                      | 0.65                      | 0.64                      | 0.64                      | 0.64                      |
| 18.650       | 0.64                      | 0.64                      | 0.64                      | 0.63                      | 0.63                      |
| 18.900       | 0.63                      | 0.63                      | 0.63                      | 0.63                      | 0.63                      |
| 19.150       | 0.62                      | 0.62                      | 0.62                      | 0.62                      | 0.62                      |
| 19.400       | 0.62                      | 0.61                      | 0.61                      | 0.61                      | 0.61                      |
| 19.650       | 0.61                      | 0.60                      | 0.60                      | 0.60                      | 0.60                      |
| 19.900       | 0.60                      | 0.60                      | 0.59                      | 0.59                      | 0.59                      |
| 20.150       | 0.59                      | 0.59                      | 0.58                      | 0.58                      | 0.58                      |
| 20.400       | 0.58                      | 0.58                      | 0.58                      | 0.57                      | 0.57                      |
| 20.650       | 0.57                      | 0.57                      | 0.57                      | 0.56                      | 0.56                      |
| 20.900       | 0.56                      | 0.56                      | 0.55                      | 0.55                      | 0.55                      |
| 21.150       | 0.55                      | 0.55                      | 0.54                      | 0.54                      | 0.54                      |
| 21.400       | 0.54                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 21.650       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.51                      |
| 21.900       | 0.51                      | 0.51                      | 0.50                      | 0.50                      | 0.50                      |
| 22.150       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.48                      |
| 22.400       | 0.48                      | 0.47                      | 0.47                      | 0.47                      | 0.46                      |
| 22.650       | 0.46                      | 0.46                      | 0.45                      | 0.45                      | 0.44                      |
| 22.900       | 0.44                      | 0.43                      | 0.43                      | 0.42                      | 0.42                      |
| 23.150       | 0.41                      | 0.41                      | 0.40                      | 0.39                      | 0.39                      |
| 23.400       | 0.38                      | 0.37                      | 0.37                      | 0.36                      | 0.35                      |
| 23.650       | 0.34                      | 0.33                      | 0.32                      | 0.31                      | 0.30                      |
| 23.900       | 0.29                      | 0.28                      | 0.26                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.72 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours            |
| Hydrograph Volume | 0.167 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.050           | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.03                         |
| 8.300           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.550           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.800           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 9.050           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.300           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.550           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 9.800           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.050          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.300          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 10.550          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 10.800          | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 11.050          | 0.14                         | 0.15                         | 0.15                         | 0.16                         | 0.17                         |
| 11.300          | 0.18                         | 0.19                         | 0.20                         | 0.22                         | 0.23                         |
| 11.550          | 0.27                         | 0.34                         | 0.48                         | 0.66                         | 0.89                         |
| 11.800          | 1.03                         | 1.20                         | 1.41                         | 1.59                         | 1.69                         |
| 12.050          | 1.72                         | 1.67                         | 1.56                         | 1.43                         | 1.28                         |
| 12.300          | 1.13                         | 0.98                         | 0.73                         | 0.51                         | 0.38                         |
| 12.550          | 0.31                         | 0.26                         | 0.23                         | 0.21                         | 0.20                         |
| 12.800          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 13.050          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.14                         |
| 13.300          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 13.550          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 13.800          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.050          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 14.300          | 0.09                         | 0.09                         | 0.09                         | 0.08                         | 0.08                         |
| 14.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.800          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.050          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.300          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.550          | 0.07                         | 0.07                         | 0.06                         | 0.06                         | 0.06                         |
| 15.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.050          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.550       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.800       | 0.05                      | 0.05                      | 0.05                      | 0.04                      | 0.04                      |
| 18.050       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.300       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.550       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.800       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.050       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.300       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.550       | 0.04                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.32 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.224 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.100          | 0.00                         | 0.01                         | 0.04                         | 0.05                         | 0.06                         |
| 10.350          | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.09                         |
| 10.600          | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 10.850          | 0.11                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 11.100          | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.16                         |
| 11.350          | 0.16                         | 0.17                         | 0.18                         | 0.19                         | 0.21                         |
| 11.600          | 0.22                         | 0.24                         | 0.28                         | 0.33                         | 0.42                         |
| 11.850          | 0.58                         | 0.78                         | 1.02                         | 1.35                         | 1.68                         |
| 12.100          | 1.98                         | 2.21                         | 2.32                         | 2.29                         | 2.17                         |
| 12.350          | 1.98                         | 1.77                         | 1.54                         | 1.33                         | 1.15                         |
| 12.600          | 1.00                         | 0.89                         | 0.79                         | 0.69                         | 0.62                         |
| 12.850          | 0.55                         | 0.50                         | 0.45                         | 0.41                         | 0.38                         |
| 13.100          | 0.36                         | 0.34                         | 0.32                         | 0.31                         | 0.29                         |
| 13.350          | 0.28                         | 0.26                         | 0.25                         | 0.24                         | 0.23                         |
| 13.600          | 0.22                         | 0.21                         | 0.21                         | 0.20                         | 0.19                         |
| 13.850          | 0.19                         | 0.18                         | 0.18                         | 0.17                         | 0.17                         |
| 14.100          | 0.17                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 14.350          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 14.600          | 0.14                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 14.850          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 15.100          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 15.350          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 15.600          | 0.11                         | 0.11                         | 0.11                         | 0.10                         | 0.10                         |
| 15.850          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 16.100          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.600          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 16.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.600          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 17.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.600          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 18.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |



## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19.600       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 19.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.100       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.600       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.100       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.600       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.100       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.04                      |
| 22.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.53 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.121 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.300           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 8.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.800           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 9.050           | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.03                         |
| 9.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 9.550           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 10.050          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.300          | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 10.550          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.800          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 11.050          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.11                         |
| 11.300          | 0.11                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 11.550          | 0.15                         | 0.17                         | 0.21                         | 0.24                         | 0.28                         |
| 11.800          | 0.32                         | 0.37                         | 0.42                         | 0.47                         | 0.50                         |
| 12.050          | 0.53                         | 0.53                         | 0.53                         | 0.53                         | 0.52                         |
| 12.300          | 0.52                         | 0.51                         | 0.51                         | 0.50                         | 0.49                         |
| 12.550          | 0.49                         | 0.48                         | 0.47                         | 0.46                         | 0.45                         |
| 12.800          | 0.44                         | 0.44                         | 0.43                         | 0.42                         | 0.41                         |
| 13.050          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.300          | 0.35                         | 0.33                         | 0.32                         | 0.31                         | 0.30                         |
| 13.550          | 0.29                         | 0.28                         | 0.26                         | 0.25                         | 0.24                         |
| 13.800          | 0.23                         | 0.21                         | 0.20                         | 0.19                         | 0.17                         |
| 14.050          | 0.16                         | 0.14                         | 0.13                         | 0.12                         | 0.11                         |
| 14.300          | 0.11                         | 0.10                         | 0.09                         | 0.09                         | 0.08                         |
| 14.550          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 14.800          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 15.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.05                         |
| 15.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.050          | 0.05                         | 0.05                         | 0.05                         | 0.04                         | 0.04                         |
| 16.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.800       | 0.04                      | 0.04                      | 0.03                      | 0.03                      | 0.03                      |
| 18.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.050       | 0.03                      | 0.03                      | 0.02                      | 0.02                      | 0.02                      |
| 20.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 5.82 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.321 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.650           | 0.00                         | 0.05                         | 0.09                         | 0.11                         | 0.12                         |
| 9.900           | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 10.150          | 0.15                         | 0.15                         | 0.16                         | 0.16                         | 0.17                         |
| 10.400          | 0.18                         | 0.18                         | 0.19                         | 0.19                         | 0.20                         |
| 10.650          | 0.21                         | 0.21                         | 0.22                         | 0.23                         | 0.24                         |
| 10.900          | 0.25                         | 0.26                         | 0.27                         | 0.28                         | 0.29                         |
| 11.150          | 0.30                         | 0.32                         | 0.34                         | 0.37                         | 0.40                         |
| 11.400          | 0.42                         | 0.44                         | 0.47                         | 0.56                         | 0.76                         |
| 11.650          | 1.08                         | 1.53                         | 2.13                         | 2.85                         | 3.80                         |
| 11.900          | 5.21                         | 5.82                         | 5.29                         | 4.12                         | 2.56                         |
| 12.150          | 1.46                         | 1.06                         | 0.87                         | 0.78                         | 0.71                         |
| 12.400          | 0.65                         | 0.60                         | 0.54                         | 0.49                         | 0.45                         |
| 12.650          | 0.42                         | 0.40                         | 0.39                         | 0.38                         | 0.36                         |
| 12.900          | 0.35                         | 0.34                         | 0.33                         | 0.32                         | 0.31                         |
| 13.150          | 0.30                         | 0.29                         | 0.29                         | 0.28                         | 0.27                         |
| 13.400          | 0.26                         | 0.26                         | 0.25                         | 0.24                         | 0.24                         |
| 13.650          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.21                         |
| 13.900          | 0.21                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 14.150          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 14.400          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 14.650          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 14.900          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 15.150          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 15.400          | 0.14                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 15.650          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 15.900          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.150          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.400          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.650          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 16.900          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.150          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.400          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.650          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 17.900          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.150          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.400          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 18.650          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 18.900          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 19.150          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 19.400          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 19.650          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 19.900          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 20.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 20.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 20.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 20.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.900          | 0.06                         | 0.05                         | 0.05                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 4.67 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.672 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.500           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.01                         |
| 6.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.000           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.500           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.750           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 8.000           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 8.250           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 8.500           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.750           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 9.000           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 9.250           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 9.500           | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.13                         |
| 9.750           | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 10.000          | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.17                         |
| 10.250          | 0.18                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 10.500          | 0.22                         | 0.23                         | 0.24                         | 0.24                         | 0.24                         |
| 10.750          | 0.24                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 11.000          | 0.25                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 11.250          | 0.27                         | 0.27                         | 0.28                         | 0.28                         | 0.29                         |
| 11.500          | 0.29                         | 0.30                         | 0.31                         | 0.33                         | 0.36                         |
| 11.750          | 0.39                         | 0.41                         | 0.45                         | 0.49                         | 0.53                         |
| 12.000          | 0.57                         | 3.99                         | 4.67                         | 3.96                         | 3.24                         |
| 12.250          | 2.70                         | 2.33                         | 2.05                         | 1.84                         | 1.66                         |
| 12.500          | 1.50                         | 1.36                         | 1.24                         | 1.14                         | 1.07                         |
| 12.750          | 1.01                         | 0.97                         | 0.93                         | 0.89                         | 0.86                         |
| 13.000          | 0.83                         | 0.80                         | 0.77                         | 0.75                         | 0.73                         |
| 13.250          | 0.71                         | 0.69                         | 0.67                         | 0.65                         | 0.64                         |
| 13.500          | 0.62                         | 0.60                         | 0.59                         | 0.57                         | 0.57                         |
| 13.750          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.000          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.250          | 0.57                         | 0.57                         | 0.56                         | 0.56                         | 0.56                         |
| 14.500          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 14.750          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.000          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.250          | 0.55                         | 0.55                         | 0.55                         | 0.55                         | 0.55                         |
| 15.500          | 0.55                         | 0.55                         | 0.55                         | 0.55                         | 0.55                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.750       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.54                      |
| 16.000       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.250       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.500       | 0.54                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 16.750       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 17.000       | 0.53                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 17.250       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 17.500       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.51                      |
| 17.750       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.000       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.250       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 18.500       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 18.750       | 0.50                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 19.000       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 19.250       | 0.49                      | 0.49                      | 0.48                      | 0.48                      | 0.48                      |
| 19.500       | 0.48                      | 0.48                      | 0.48                      | 0.48                      | 0.48                      |
| 19.750       | 0.47                      | 0.47                      | 0.47                      | 0.47                      | 0.47                      |
| 20.000       | 0.47                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 20.250       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 20.500       | 0.46                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 20.750       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.44                      |
| 21.000       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.250       | 0.44                      | 0.44                      | 0.44                      | 0.43                      | 0.43                      |
| 21.500       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 21.750       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.000       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.250       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 22.500       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.40                      |
| 22.750       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 23.000       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.39                      |
| 23.250       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 23.500       | 0.39                      | 0.39                      | 0.39                      | 0.38                      | 0.38                      |
| 23.750       | 0.38                      | 0.38                      | 0.38                      | 0.37                      | 0.37                      |
| 24.000       | 0.37                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond1A

Return Event: 15 years

Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 533.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.00                         | 0.000           | 0.064        | 0.00                              | 0.00                              | 0.00                          |
| 533.10         | 0.00                         | 0.006           | 0.066        | 0.00                              | 0.00                              | 3.13                          |
| 533.20         | 0.00                         | 0.013           | 0.067        | 0.00                              | 0.00                              | 6.34                          |
| 533.30         | 0.00                         | 0.020           | 0.069        | 0.00                              | 0.00                              | 9.63                          |
| 533.40         | 0.00                         | 0.027           | 0.070        | 0.00                              | 0.00                              | 12.98                         |
| 533.50         | 0.00                         | 0.034           | 0.072        | 0.00                              | 0.00                              | 16.42                         |
| 533.60         | 0.00                         | 0.041           | 0.073        | 0.00                              | 0.00                              | 19.93                         |
| 533.70         | 0.00                         | 0.049           | 0.075        | 0.00                              | 0.00                              | 23.52                         |
| 533.80         | 0.00                         | 0.056           | 0.077        | 0.00                              | 0.00                              | 27.19                         |
| 533.90         | 0.00                         | 0.064           | 0.078        | 0.00                              | 0.00                              | 30.94                         |
| 534.00         | 0.00                         | 0.072           | 0.080        | 0.00                              | 0.00                              | 34.78                         |
| 534.10         | 0.00                         | 0.080           | 0.082        | 0.00                              | 0.00                              | 38.69                         |
| 534.20         | 0.00                         | 0.088           | 0.083        | 0.00                              | 0.00                              | 42.69                         |
| 534.30         | 0.00                         | 0.097           | 0.085        | 0.00                              | 0.00                              | 46.77                         |
| 534.40         | 0.00                         | 0.105           | 0.087        | 0.00                              | 0.00                              | 50.94                         |
| 534.50         | 0.00                         | 0.114           | 0.089        | 0.00                              | 0.00                              | 55.19                         |
| 534.60         | 0.00                         | 0.123           | 0.091        | 0.00                              | 0.00                              | 59.53                         |
| 534.70         | 0.00                         | 0.132           | 0.092        | 0.00                              | 0.00                              | 63.96                         |
| 534.80         | 0.00                         | 0.141           | 0.094        | 0.00                              | 0.00                              | 68.47                         |
| 534.90         | 0.00                         | 0.151           | 0.096        | 0.00                              | 0.00                              | 73.08                         |
| 535.00         | 0.00                         | 0.161           | 0.098        | 0.00                              | 0.00                              | 77.78                         |
| 535.10         | 0.00                         | 0.171           | 0.100        | 0.00                              | 0.00                              | 82.57                         |
| 535.20         | 0.00                         | 0.181           | 0.102        | 0.00                              | 0.00                              | 87.44                         |
| 535.30         | 0.00                         | 0.191           | 0.104        | 0.00                              | 0.00                              | 92.41                         |
| 535.40         | 0.00                         | 0.201           | 0.105        | 0.00                              | 0.00                              | 97.46                         |
| 535.50         | 0.00                         | 0.212           | 0.107        | 0.00                              | 0.00                              | 102.61                        |
| 535.60         | 0.00                         | 0.223           | 0.109        | 0.00                              | 0.00                              | 107.85                        |
| 535.70         | 0.00                         | 0.234           | 0.111        | 0.00                              | 0.00                              | 113.18                        |
| 535.80         | 0.00                         | 0.245           | 0.113        | 0.00                              | 0.00                              | 118.61                        |
| 535.90         | 0.00                         | 0.256           | 0.115        | 0.00                              | 0.00                              | 124.13                        |



## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 15 years

Label: Pond1A

Storm Event: 15-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 536.00            | 0.00                            | 0.268              | 0.117           | 0.00                                 | 0.00                                 | 129.74                           |
| 536.10            | 2.85                            | 0.280              | 0.119           | 0.00                                 | 2.85                                 | 138.30                           |
| 536.20            | 8.05                            | 0.292              | 0.121           | 0.00                                 | 8.05                                 | 149.31                           |
| 536.30            | 14.79                           | 0.304              | 0.123           | 0.00                                 | 14.79                                | 161.96                           |
| 536.40            | 22.77                           | 0.316              | 0.125           | 0.00                                 | 22.77                                | 175.95                           |
| 536.50            | 31.82                           | 0.329              | 0.127           | 0.00                                 | 31.82                                | 191.11                           |
| 536.60            | 41.83                           | 0.342              | 0.129           | 0.00                                 | 41.83                                | 207.33                           |
| 536.70            | 52.71                           | 0.355              | 0.132           | 0.00                                 | 52.71                                | 224.53                           |
| 536.80            | 64.40                           | 0.368              | 0.134           | 0.00                                 | 64.40                                | 242.63                           |
| 536.90            | 76.84                           | 0.382              | 0.136           | 0.00                                 | 76.84                                | 261.60                           |
| 537.00            | 90.00                           | 0.395              | 0.138           | 0.00                                 | 90.00                                | 281.38                           |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1A (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 533.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 8.06 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 7.53 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.250 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 536.19 ft               |                             |              |
| Volume (Peak)                      | 0.291 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.776 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.507 ac-ft             |                             |              |
| Volume (Retained)                  | 0.268 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.0 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 7.53 ft <sup>3</sup> /s |
| Time to Peak      | 12.250 hours            |
| Hydrograph Volume | 0.507 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.100          | 0.00                         | 2.13                         | 7.33                         | 7.53                         | 6.88                         |
| 12.350          | 6.02                         | 5.16                         | 4.38                         | 3.73                         | 3.20                         |
| 12.600          | 2.79                         | 2.53                         | 2.25                         | 1.99                         | 1.77                         |
| 12.850          | 1.58                         | 1.43                         | 1.31                         | 1.20                         | 1.11                         |
| 13.100          | 1.04                         | 0.98                         | 0.92                         | 0.87                         | 0.83                         |
| 13.350          | 0.79                         | 0.76                         | 0.73                         | 0.70                         | 0.68                         |
| 13.600          | 0.66                         | 0.64                         | 0.62                         | 0.60                         | 0.59                         |
| 13.850          | 0.57                         | 0.56                         | 0.54                         | 0.53                         | 0.52                         |
| 14.100          | 0.51                         | 0.49                         | 0.48                         | 0.47                         | 0.46                         |
| 14.350          | 0.45                         | 0.44                         | 0.44                         | 0.43                         | 0.42                         |
| 14.600          | 0.42                         | 0.41                         | 0.41                         | 0.40                         | 0.40                         |
| 14.850          | 0.40                         | 0.39                         | 0.39                         | 0.38                         | 0.38                         |
| 15.100          | 0.37                         | 0.37                         | 0.37                         | 0.36                         | 0.36                         |
| 15.350          | 0.35                         | 0.35                         | 0.35                         | 0.34                         | 0.34                         |
| 15.600          | 0.33                         | 0.33                         | 0.33                         | 0.32                         | 0.32                         |
| 15.850          | 0.31                         | 0.31                         | 0.31                         | 0.30                         | 0.30                         |
| 16.100          | 0.29                         | 0.29                         | 0.29                         | 0.28                         | 0.28                         |
| 16.350          | 0.28                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 16.600          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 16.850          | 0.26                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 17.100          | 0.25                         | 0.25                         | 0.25                         | 0.24                         | 0.24                         |
| 17.350          | 0.24                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.600          | 0.23                         | 0.23                         | 0.23                         | 0.23                         | 0.23                         |
| 17.850          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.22                         |
| 18.100          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.21                         |
| 18.350          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.600          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 18.850          | 0.20                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 19.100          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 19.350          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.600          | 0.18                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 19.850          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 20.100          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.350          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 20.600          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 20.850          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.350          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.600          | 0.15                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 21.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.100          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.350          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.600          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.100          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.350          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 23.600          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 23.850          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1A (IN)

Return Event: 15 years

Storm Event: 15-year

## Summary for Hydrograph Addition at 'Pond1A'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin1A       |

## Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin1A | 0.776          | 12.150               | 8.06                             |
| Flow (In)   | Pond1A  | 0.776          | 12.150               | 8.06                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)  
 Label: Pond1B

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 530.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 530.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 530.10         | 0.02                         | 0.000           | 0.000        | 0.00                              | 0.02                              | 0.02                          |
| 530.20         | 0.07                         | 0.000           | 0.001        | 0.00                              | 0.07                              | 0.11                          |
| 530.30         | 0.14                         | 0.000           | 0.003        | 0.00                              | 0.14                              | 0.28                          |
| 530.40         | 0.20                         | 0.001           | 0.005        | 0.00                              | 0.20                              | 0.53                          |
| 530.50         | 0.24                         | 0.001           | 0.008        | 0.00                              | 0.24                              | 0.87                          |
| 530.60         | 0.28                         | 0.002           | 0.011        | 0.00                              | 0.28                              | 1.37                          |
| 530.70         | 0.31                         | 0.004           | 0.015        | 0.00                              | 0.31                              | 2.04                          |
| 530.80         | 0.33                         | 0.005           | 0.020        | 0.00                              | 0.33                              | 2.92                          |
| 530.90         | 0.36                         | 0.008           | 0.025        | 0.00                              | 0.36                              | 4.04                          |
| 531.00         | 0.38                         | 0.010           | 0.031        | 0.00                              | 0.38                              | 5.43                          |
| 531.10         | 0.41                         | 0.014           | 0.038        | 0.00                              | 0.41                              | 7.12                          |
| 531.20         | 0.43                         | 0.018           | 0.045        | 0.00                              | 0.43                              | 9.14                          |
| 531.30         | 0.45                         | 0.023           | 0.053        | 0.00                              | 0.45                              | 11.52                         |
| 531.40         | 0.47                         | 0.029           | 0.061        | 0.00                              | 0.47                              | 14.30                         |
| 531.50         | 0.48                         | 0.035           | 0.070        | 0.00                              | 0.48                              | 17.50                         |
| 531.60         | 0.50                         | 0.043           | 0.080        | 0.00                              | 0.50                              | 21.15                         |
| 531.70         | 0.52                         | 0.051           | 0.090        | 0.00                              | 0.52                              | 25.29                         |
| 531.80         | 0.54                         | 0.061           | 0.101        | 0.00                              | 0.54                              | 29.94                         |
| 531.90         | 0.55                         | 0.071           | 0.113        | 0.00                              | 0.55                              | 35.13                         |
| 532.00         | 0.57                         | 0.083           | 0.125        | 0.00                              | 0.57                              | 40.90                         |
| 532.10         | 0.58                         | 0.096           | 0.130        | 0.00                              | 0.58                              | 47.08                         |
| 532.20         | 0.60                         | 0.109           | 0.134        | 0.00                              | 0.60                              | 53.47                         |
| 532.30         | 0.61                         | 0.123           | 0.139        | 0.00                              | 0.61                              | 60.09                         |
| 532.40         | 0.63                         | 0.137           | 0.144        | 0.00                              | 0.63                              | 66.94                         |
| 532.50         | 0.64                         | 0.152           | 0.148        | 0.00                              | 0.64                              | 74.03                         |
| 532.60         | 0.66                         | 0.167           | 0.153        | 0.00                              | 0.66                              | 81.35                         |
| 532.70         | 0.67                         | 0.182           | 0.158        | 0.00                              | 0.67                              | 88.91                         |
| 532.80         | 0.68                         | 0.198           | 0.164        | 0.00                              | 0.68                              | 96.71                         |
| 532.90         | 0.69                         | 0.215           | 0.169        | 0.00                              | 0.69                              | 104.77                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 15 years

Label: Pond1B

Storm Event: 15-year

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.71                         | 0.232           | 0.174        | 0.00                              | 0.71                              | 113.07                        |
| 533.10         | 0.72                         | 0.250           | 0.177        | 0.00                              | 0.72                              | 121.57                        |
| 533.20         | 0.73                         | 0.267           | 0.179        | 0.00                              | 0.73                              | 130.18                        |
| 533.30         | 0.74                         | 0.285           | 0.182        | 0.00                              | 0.74                              | 138.92                        |
| 533.40         | 0.76                         | 0.304           | 0.184        | 0.00                              | 0.76                              | 147.79                        |
| 533.50         | 0.77                         | 0.322           | 0.187        | 0.00                              | 0.77                              | 156.78                        |
| 533.60         | 0.78                         | 0.341           | 0.189        | 0.00                              | 0.78                              | 165.89                        |
| 533.70         | 0.79                         | 0.360           | 0.192        | 0.00                              | 0.79                              | 175.13                        |
| 533.80         | 0.80                         | 0.380           | 0.195        | 0.00                              | 0.80                              | 184.50                        |
| 533.90         | 0.81                         | 0.399           | 0.197        | 0.00                              | 0.81                              | 194.00                        |
| 534.00         | 0.82                         | 0.419           | 0.200        | 0.00                              | 0.82                              | 203.62                        |
| 534.10         | 1.69                         | 0.439           | 0.203        | 0.00                              | 1.69                              | 214.23                        |
| 534.20         | 3.26                         | 0.460           | 0.205        | 0.00                              | 3.26                              | 225.68                        |
| 534.30         | 5.29                         | 0.480           | 0.208        | 0.00                              | 5.29                              | 237.72                        |
| 534.40         | 7.69                         | 0.501           | 0.211        | 0.00                              | 7.69                              | 250.27                        |
| 534.50         | 10.42                        | 0.522           | 0.214        | 0.00                              | 10.42                             | 263.28                        |
| 534.60         | 13.43                        | 0.544           | 0.217        | 0.00                              | 13.43                             | 276.70                        |
| 534.70         | 16.71                        | 0.566           | 0.219        | 0.00                              | 16.71                             | 290.53                        |
| 534.80         | 20.22                        | 0.588           | 0.222        | 0.00                              | 20.22                             | 304.73                        |
| 534.90         | 23.97                        | 0.610           | 0.225        | 0.00                              | 23.97                             | 319.30                        |
| 535.00         | 27.92                        | 0.633           | 0.228        | 0.00                              | 27.92                             | 334.23                        |
| 535.10         | 32.08                        | 0.656           | 0.231        | 0.00                              | 32.08                             | 349.49                        |
| 535.20         | 36.43                        | 0.679           | 0.234        | 0.00                              | 36.43                             | 365.08                        |
| 535.30         | 40.97                        | 0.703           | 0.237        | 0.00                              | 40.97                             | 381.00                        |
| 535.40         | 45.69                        | 0.726           | 0.239        | 0.00                              | 45.69                             | 397.23                        |
| 535.50         | 50.57                        | 0.750           | 0.242        | 0.00                              | 50.57                             | 413.77                        |
| 535.60         | 55.62                        | 0.775           | 0.245        | 0.00                              | 55.62                             | 430.62                        |
| 535.70         | 60.83                        | 0.799           | 0.248        | 0.00                              | 60.83                             | 447.77                        |
| 535.80         | 66.20                        | 0.824           | 0.251        | 0.00                              | 66.20                             | 465.21                        |
| 535.90         | 71.72                        | 0.850           | 0.254        | 0.00                              | 71.72                             | 482.95                        |
| 536.00         | 77.38                        | 0.875           | 0.257        | 0.00                              | 77.38                             | 500.98                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1B (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 530.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 7.87 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.250 hours |
| Flow (Peak Outlet)                 | 0.74 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 13.650 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 533.27 ft               |                             |              |
| Volume (Peak)                      | 0.280 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.637 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.636 ac-ft             |                             |              |
| Volume (Retained)                  | 0.001 ac-ft             |                             |              |
| Volume (Unrouted)                  | -0.001 ac-ft            |                             |              |
| Error (Mass Balance)               | 0.2 %                   |                             |              |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.74 ft <sup>3</sup> /s |
| Time to Peak      | 13.650 hours            |
| Hydrograph Volume | 0.636 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.650           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 7.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.900           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.150           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.400           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.650           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 9.900           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 10.150          | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 10.400          | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 10.650          | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 10.900          | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 11.150          | 0.09                         | 0.09                         | 0.10                         | 0.11                         | 0.12                         |
| 11.400          | 0.13                         | 0.13                         | 0.14                         | 0.16                         | 0.21                         |
| 11.650          | 0.24                         | 0.28                         | 0.32                         | 0.36                         | 0.39                         |
| 11.900          | 0.43                         | 0.46                         | 0.48                         | 0.49                         | 0.50                         |
| 12.150          | 0.51                         | 0.54                         | 0.58                         | 0.61                         | 0.64                         |
| 12.400          | 0.66                         | 0.67                         | 0.68                         | 0.69                         | 0.70                         |
| 12.650          | 0.71                         | 0.71                         | 0.72                         | 0.72                         | 0.73                         |
| 12.900          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 13.150          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 13.400          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 13.650          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 13.900          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 14.150          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 14.400          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 14.650          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 14.900          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 15.150          | 0.72                         | 0.72                         | 0.72                         | 0.72                         | 0.72                         |
| 15.400          | 0.72                         | 0.72                         | 0.72                         | 0.72                         | 0.72                         |
| 15.650          | 0.72                         | 0.71                         | 0.71                         | 0.71                         | 0.71                         |
| 15.900          | 0.71                         | 0.71                         | 0.71                         | 0.71                         | 0.71                         |
| 16.150          | 0.71                         | 0.70                         | 0.70                         | 0.70                         | 0.70                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.400       | 0.70                      | 0.70                      | 0.70                      | 0.70                      | 0.70                      |
| 16.650       | 0.69                      | 0.69                      | 0.69                      | 0.69                      | 0.69                      |
| 16.900       | 0.69                      | 0.69                      | 0.69                      | 0.68                      | 0.68                      |
| 17.150       | 0.68                      | 0.68                      | 0.68                      | 0.68                      | 0.68                      |
| 17.400       | 0.68                      | 0.67                      | 0.67                      | 0.67                      | 0.67                      |
| 17.650       | 0.67                      | 0.67                      | 0.67                      | 0.66                      | 0.66                      |
| 17.900       | 0.66                      | 0.66                      | 0.66                      | 0.66                      | 0.66                      |
| 18.150       | 0.65                      | 0.65                      | 0.65                      | 0.65                      | 0.65                      |
| 18.400       | 0.65                      | 0.65                      | 0.64                      | 0.64                      | 0.64                      |
| 18.650       | 0.64                      | 0.64                      | 0.64                      | 0.63                      | 0.63                      |
| 18.900       | 0.63                      | 0.63                      | 0.63                      | 0.63                      | 0.63                      |
| 19.150       | 0.62                      | 0.62                      | 0.62                      | 0.62                      | 0.62                      |
| 19.400       | 0.62                      | 0.61                      | 0.61                      | 0.61                      | 0.61                      |
| 19.650       | 0.61                      | 0.60                      | 0.60                      | 0.60                      | 0.60                      |
| 19.900       | 0.60                      | 0.60                      | 0.59                      | 0.59                      | 0.59                      |
| 20.150       | 0.59                      | 0.59                      | 0.58                      | 0.58                      | 0.58                      |
| 20.400       | 0.58                      | 0.58                      | 0.58                      | 0.57                      | 0.57                      |
| 20.650       | 0.57                      | 0.57                      | 0.57                      | 0.56                      | 0.56                      |
| 20.900       | 0.56                      | 0.56                      | 0.55                      | 0.55                      | 0.55                      |
| 21.150       | 0.55                      | 0.55                      | 0.54                      | 0.54                      | 0.54                      |
| 21.400       | 0.54                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 21.650       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.51                      |
| 21.900       | 0.51                      | 0.51                      | 0.50                      | 0.50                      | 0.50                      |
| 22.150       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.48                      |
| 22.400       | 0.48                      | 0.47                      | 0.47                      | 0.47                      | 0.46                      |
| 22.650       | 0.46                      | 0.46                      | 0.45                      | 0.45                      | 0.44                      |
| 22.900       | 0.44                      | 0.43                      | 0.43                      | 0.42                      | 0.42                      |
| 23.150       | 0.41                      | 0.41                      | 0.40                      | 0.39                      | 0.39                      |
| 23.400       | 0.38                      | 0.37                      | 0.37                      | 0.36                      | 0.35                      |
| 23.650       | 0.34                      | 0.33                      | 0.32                      | 0.31                      | 0.30                      |
| 23.900       | 0.29                      | 0.28                      | 0.26                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1B (IN)

Return Event: 15 years

Storm Event: 15-year

### Summary for Hydrograph Addition at 'Pond1B'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| Outlet1A                    | Pond1A        |
| <Catchment to Outflow Node> | Basin1B       |

### Node Inflows

| Inflow Type | Element  | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Outlet1A | 0.507             | 12.250                  | 7.53                                |
| Flow (From) | Basin1B  | 0.130             | 11.900                  | 2.37                                |
| Flow (In)   | Pond1B   | 0.637             | 12.250                  | 7.87                                |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond2

Return Event: 15 years

Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 553.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 553.00         | 0.00                         | 0.000           | 0.015        | 0.00                              | 0.00                              | 0.00                          |
| 553.10         | 0.00                         | 0.002           | 0.016        | 0.00                              | 0.00                              | 0.75                          |
| 553.20         | 0.00                         | 0.003           | 0.017        | 0.00                              | 0.00                              | 1.55                          |
| 553.30         | 0.00                         | 0.005           | 0.018        | 0.00                              | 0.00                              | 2.41                          |
| 553.40         | 0.00                         | 0.007           | 0.019        | 0.00                              | 0.00                              | 3.31                          |
| 553.50         | 0.00                         | 0.009           | 0.020        | 0.00                              | 0.00                              | 4.28                          |
| 553.60         | 0.20                         | 0.011           | 0.022        | 0.00                              | 0.20                              | 5.49                          |
| 553.70         | 0.56                         | 0.013           | 0.023        | 0.00                              | 0.56                              | 6.94                          |
| 553.80         | 0.92                         | 0.016           | 0.024        | 0.00                              | 0.92                              | 8.43                          |
| 553.90         | 1.06                         | 0.018           | 0.025        | 0.00                              | 1.06                              | 9.78                          |
| 554.00         | 1.19                         | 0.021           | 0.027        | 0.00                              | 1.19                              | 11.17                         |
| 554.10         | 1.30                         | 0.023           | 0.028        | 0.00                              | 1.30                              | 12.61                         |
| 554.20         | 1.41                         | 0.026           | 0.029        | 0.00                              | 1.41                              | 14.10                         |
| 554.30         | 1.50                         | 0.029           | 0.031        | 0.00                              | 1.50                              | 15.65                         |
| 554.40         | 1.59                         | 0.032           | 0.032        | 0.00                              | 1.59                              | 17.26                         |
| 554.50         | 1.68                         | 0.036           | 0.033        | 0.00                              | 1.68                              | 18.94                         |
| 554.60         | 1.76                         | 0.039           | 0.035        | 0.00                              | 1.76                              | 20.67                         |
| 554.70         | 1.84                         | 0.043           | 0.036        | 0.00                              | 1.84                              | 22.48                         |
| 554.80         | 1.92                         | 0.046           | 0.038        | 0.00                              | 1.92                              | 24.35                         |
| 554.90         | 1.99                         | 0.050           | 0.039        | 0.00                              | 1.99                              | 26.29                         |
| 555.00         | 2.06                         | 0.054           | 0.041        | 0.00                              | 2.06                              | 28.30                         |
| 555.10         | 2.13                         | 0.058           | 0.042        | 0.00                              | 2.13                              | 30.38                         |
| 555.20         | 2.19                         | 0.063           | 0.044        | 0.00                              | 2.19                              | 32.53                         |
| 555.30         | 2.25                         | 0.067           | 0.045        | 0.00                              | 2.25                              | 34.74                         |
| 555.40         | 2.32                         | 0.072           | 0.047        | 0.00                              | 2.32                              | 37.03                         |
| 555.50         | 2.38                         | 0.076           | 0.048        | 0.00                              | 2.38                              | 39.38                         |
| 555.60         | 2.43                         | 0.081           | 0.050        | 0.00                              | 2.43                              | 41.81                         |
| 555.70         | 2.49                         | 0.086           | 0.051        | 0.00                              | 2.49                              | 44.31                         |
| 555.80         | 2.55                         | 0.092           | 0.053        | 0.00                              | 2.55                              | 46.88                         |
| 555.90         | 2.60                         | 0.097           | 0.054        | 0.00                              | 2.60                              | 49.53                         |

# O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond2

Return Event: 15 years

Storm Event: 15-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 556.00            | 2.66                            | 0.102              | 0.056           | 0.00                                 | 2.66                                 | 52.25                            |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond2 (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 553.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 2.99 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 1.72 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.050 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.55 ft               |                             |              |
| Volume (Peak)                      | 0.037 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.176 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.167 ac-ft             |                             |              |
| Volume (Retained)                  | 0.009 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.72 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours            |
| Hydrograph Volume | 0.167 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.050           | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.03                         |
| 8.300           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.550           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.800           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 9.050           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.300           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.550           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 9.800           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.050          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.300          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 10.550          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 10.800          | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 11.050          | 0.14                         | 0.15                         | 0.15                         | 0.16                         | 0.17                         |
| 11.300          | 0.18                         | 0.19                         | 0.20                         | 0.22                         | 0.23                         |
| 11.550          | 0.27                         | 0.34                         | 0.48                         | 0.66                         | 0.89                         |
| 11.800          | 1.03                         | 1.20                         | 1.41                         | 1.59                         | 1.69                         |
| 12.050          | 1.72                         | 1.67                         | 1.56                         | 1.43                         | 1.28                         |
| 12.300          | 1.13                         | 0.98                         | 0.73                         | 0.51                         | 0.38                         |
| 12.550          | 0.31                         | 0.26                         | 0.23                         | 0.21                         | 0.20                         |
| 12.800          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 13.050          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.14                         |
| 13.300          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 13.550          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 13.800          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.050          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 14.300          | 0.09                         | 0.09                         | 0.09                         | 0.08                         | 0.08                         |
| 14.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.800          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.050          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.300          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.550          | 0.07                         | 0.07                         | 0.06                         | 0.06                         | 0.06                         |
| 15.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.050          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.550       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.800       | 0.05                      | 0.05                      | 0.05                      | 0.04                      | 0.04                      |
| 18.050       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.300       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.550       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.800       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.050       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.300       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.550       | 0.04                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |



# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond2 (IN)

Return Event: 15 years

Storm Event: 15-year

## Summary for Hydrograph Addition at 'Pond2'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin2        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin2  | 0.176          | 11.900               | 2.99                             |
| Flow (In)   | Pond2   | 0.176          | 11.900               | 2.99                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond3

Return Event: 15 years

Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 554.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 554.00         | 0.00                         | 0.000           | 0.016        | 0.00                              | 0.00                              | 0.00                          |
| 554.10         | 0.00                         | 0.002           | 0.018        | 0.00                              | 0.00                              | 0.81                          |
| 554.20         | 0.00                         | 0.004           | 0.019        | 0.00                              | 0.00                              | 1.71                          |
| 554.30         | 0.00                         | 0.006           | 0.021        | 0.00                              | 0.00                              | 2.69                          |
| 554.40         | 0.00                         | 0.008           | 0.023        | 0.00                              | 0.00                              | 3.76                          |
| 554.50         | 0.00                         | 0.010           | 0.025        | 0.00                              | 0.00                              | 4.92                          |
| 554.60         | 0.37                         | 0.013           | 0.027        | 0.00                              | 0.37                              | 6.55                          |
| 554.70         | 1.05                         | 0.016           | 0.029        | 0.00                              | 1.05                              | 8.59                          |
| 554.80         | 1.94                         | 0.019           | 0.031        | 0.00                              | 1.94                              | 10.94                         |
| 554.90         | 2.98                         | 0.022           | 0.034        | 0.00                              | 2.98                              | 13.56                         |
| 555.00         | 4.17                         | 0.025           | 0.036        | 0.00                              | 4.17                              | 16.43                         |
| 555.10         | 4.58                         | 0.029           | 0.038        | 0.00                              | 4.58                              | 18.63                         |
| 555.20         | 4.94                         | 0.033           | 0.040        | 0.00                              | 4.94                              | 20.88                         |
| 555.30         | 5.28                         | 0.037           | 0.042        | 0.00                              | 5.28                              | 23.21                         |
| 555.40         | 5.60                         | 0.041           | 0.044        | 0.00                              | 5.60                              | 25.61                         |
| 555.50         | 5.91                         | 0.046           | 0.046        | 0.00                              | 5.91                              | 28.11                         |
| 555.60         | 6.19                         | 0.051           | 0.049        | 0.00                              | 6.19                              | 30.69                         |
| 555.70         | 6.47                         | 0.056           | 0.051        | 0.00                              | 6.47                              | 33.37                         |
| 555.80         | 6.73                         | 0.061           | 0.053        | 0.00                              | 6.73                              | 36.15                         |
| 555.90         | 6.99                         | 0.066           | 0.056        | 0.00                              | 6.99                              | 39.04                         |
| 556.00         | 7.23                         | 0.072           | 0.058        | 0.00                              | 7.23                              | 42.03                         |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond3 (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 554.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 2.35 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 2.32 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.200 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.84 ft               |                             |              |
| Volume (Peak)                      | 0.020 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.235 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.224 ac-ft             |                             |              |
| Volume (Retained)                  | 0.010 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.32 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.224 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.100          | 0.00                         | 0.01                         | 0.04                         | 0.05                         | 0.06                         |
| 10.350          | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.09                         |
| 10.600          | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 10.850          | 0.11                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 11.100          | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.16                         |
| 11.350          | 0.16                         | 0.17                         | 0.18                         | 0.19                         | 0.21                         |
| 11.600          | 0.22                         | 0.24                         | 0.28                         | 0.33                         | 0.42                         |
| 11.850          | 0.58                         | 0.78                         | 1.02                         | 1.35                         | 1.68                         |
| 12.100          | 1.98                         | 2.21                         | 2.32                         | 2.29                         | 2.17                         |
| 12.350          | 1.98                         | 1.77                         | 1.54                         | 1.33                         | 1.15                         |
| 12.600          | 1.00                         | 0.89                         | 0.79                         | 0.69                         | 0.62                         |
| 12.850          | 0.55                         | 0.50                         | 0.45                         | 0.41                         | 0.38                         |
| 13.100          | 0.36                         | 0.34                         | 0.32                         | 0.31                         | 0.29                         |
| 13.350          | 0.28                         | 0.26                         | 0.25                         | 0.24                         | 0.23                         |
| 13.600          | 0.22                         | 0.21                         | 0.21                         | 0.20                         | 0.19                         |
| 13.850          | 0.19                         | 0.18                         | 0.18                         | 0.17                         | 0.17                         |
| 14.100          | 0.17                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 14.350          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 14.600          | 0.14                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 14.850          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |
| 15.100          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 15.350          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 15.600          | 0.11                         | 0.11                         | 0.11                         | 0.10                         | 0.10                         |
| 15.850          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 16.100          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.600          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 16.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.600          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 17.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.600          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 18.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 19.600          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.04                         |
| 22.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond3 (IN)

Return Event: 15 years

Storm Event: 15-year

## Summary for Hydrograph Addition at 'Pond3'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin3        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin3  | 0.235          | 12.150               | 2.35                             |
| Flow (In)   | Pond3   | 0.235          | 12.150               | 2.35                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond4

Return Event: 15 years

Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 545.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 545.00         | 0.00                         | 0.000           | 0.010        | 0.00                              | 0.00                              | 0.00                          |
| 545.10         | 0.00                         | 0.001           | 0.011        | 0.00                              | 0.00                              | 0.51                          |
| 545.20         | 0.00                         | 0.002           | 0.012        | 0.00                              | 0.00                              | 1.07                          |
| 545.30         | 0.00                         | 0.003           | 0.013        | 0.00                              | 0.00                              | 1.67                          |
| 545.40         | 0.00                         | 0.005           | 0.014        | 0.00                              | 0.00                              | 2.31                          |
| 545.50         | 0.00                         | 0.006           | 0.015        | 0.00                              | 0.00                              | 3.00                          |
| 545.60         | 0.02                         | 0.008           | 0.016        | 0.00                              | 0.02                              | 3.75                          |
| 545.70         | 0.07                         | 0.009           | 0.017        | 0.00                              | 0.07                              | 4.58                          |
| 545.80         | 0.14                         | 0.011           | 0.018        | 0.00                              | 0.14                              | 5.49                          |
| 545.90         | 0.20                         | 0.013           | 0.019        | 0.00                              | 0.20                              | 6.44                          |
| 546.00         | 0.24                         | 0.015           | 0.020        | 0.00                              | 0.24                              | 7.42                          |
| 546.10         | 0.28                         | 0.017           | 0.021        | 0.00                              | 0.28                              | 8.45                          |
| 546.20         | 0.31                         | 0.019           | 0.022        | 0.00                              | 0.31                              | 9.52                          |
| 546.30         | 0.33                         | 0.021           | 0.023        | 0.00                              | 0.33                              | 10.65                         |
| 546.40         | 0.36                         | 0.024           | 0.024        | 0.00                              | 0.36                              | 11.83                         |
| 546.50         | 0.38                         | 0.026           | 0.026        | 0.00                              | 0.38                              | 13.07                         |
| 546.60         | 0.41                         | 0.029           | 0.027        | 0.00                              | 0.41                              | 14.36                         |
| 546.70         | 0.43                         | 0.032           | 0.028        | 0.00                              | 0.43                              | 15.71                         |
| 546.80         | 0.45                         | 0.034           | 0.029        | 0.00                              | 0.45                              | 17.12                         |
| 546.90         | 0.47                         | 0.037           | 0.031        | 0.00                              | 0.47                              | 18.60                         |
| 547.00         | 0.48                         | 0.041           | 0.032        | 0.00                              | 0.48                              | 20.13                         |
| 547.10         | 0.50                         | 0.044           | 0.033        | 0.00                              | 0.50                              | 21.73                         |
| 547.20         | 0.52                         | 0.047           | 0.035        | 0.00                              | 0.52                              | 23.39                         |
| 547.30         | 0.54                         | 0.051           | 0.036        | 0.00                              | 0.54                              | 25.11                         |
| 547.40         | 0.55                         | 0.054           | 0.037        | 0.00                              | 0.55                              | 26.89                         |
| 547.50         | 0.57                         | 0.058           | 0.039        | 0.00                              | 0.57                              | 28.75                         |
| 547.60         | 0.92                         | 0.062           | 0.040        | 0.00                              | 0.92                              | 30.99                         |
| 547.70         | 1.54                         | 0.066           | 0.041        | 0.00                              | 1.54                              | 33.59                         |
| 547.80         | 2.34                         | 0.070           | 0.043        | 0.00                              | 2.34                              | 36.42                         |
| 547.90         | 3.28                         | 0.075           | 0.044        | 0.00                              | 3.28                              | 39.48                         |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond4

Return Event: 15 years

Storm Event: 15-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 548.00            | 4.35                            | 0.079              | 0.046           | 0.00                                 | 4.35                                 | 42.73                            |
| 548.10            | 5.54                            | 0.084              | 0.047           | 0.00                                 | 5.54                                 | 46.15                            |
| 548.20            | 6.82                            | 0.089              | 0.048           | 0.00                                 | 6.82                                 | 49.73                            |
| 548.30            | 8.19                            | 0.094              | 0.049           | 0.00                                 | 8.19                                 | 53.45                            |
| 548.40            | 9.66                            | 0.098              | 0.050           | 0.00                                 | 9.66                                 | 57.31                            |
| 548.50            | 11.21                           | 0.104              | 0.051           | 0.00                                 | 11.21                                | 61.31                            |
| 548.60            | 12.83                           | 0.109              | 0.052           | 0.00                                 | 12.83                                | 65.44                            |
| 548.70            | 14.53                           | 0.114              | 0.053           | 0.00                                 | 14.53                                | 69.70                            |
| 548.80            | 16.31                           | 0.119              | 0.055           | 0.00                                 | 16.31                                | 74.09                            |
| 548.90            | 18.15                           | 0.125              | 0.056           | 0.00                                 | 18.15                                | 78.60                            |
| 549.00            | 20.06                           | 0.131              | 0.057           | 0.00                                 | 20.06                                | 83.24                            |



## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond4 (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 545.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 2.21 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 0.53 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.100 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 547.27 ft               |                             |              |
| Volume (Peak)                      | 0.050 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.129 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.121 ac-ft             |                             |              |
| Volume (Retained)                  | 0.008 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.53 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.121 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.300           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 8.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.800           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 9.050           | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.03                         |
| 9.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 9.550           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 10.050          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.300          | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 10.550          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.800          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 11.050          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.11                         |
| 11.300          | 0.11                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 11.550          | 0.15                         | 0.17                         | 0.21                         | 0.24                         | 0.28                         |
| 11.800          | 0.32                         | 0.37                         | 0.42                         | 0.47                         | 0.50                         |
| 12.050          | 0.53                         | 0.53                         | 0.53                         | 0.53                         | 0.52                         |
| 12.300          | 0.52                         | 0.51                         | 0.51                         | 0.50                         | 0.49                         |
| 12.550          | 0.49                         | 0.48                         | 0.47                         | 0.46                         | 0.45                         |
| 12.800          | 0.44                         | 0.44                         | 0.43                         | 0.42                         | 0.41                         |
| 13.050          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.300          | 0.35                         | 0.33                         | 0.32                         | 0.31                         | 0.30                         |
| 13.550          | 0.29                         | 0.28                         | 0.26                         | 0.25                         | 0.24                         |
| 13.800          | 0.23                         | 0.21                         | 0.20                         | 0.19                         | 0.17                         |
| 14.050          | 0.16                         | 0.14                         | 0.13                         | 0.12                         | 0.11                         |
| 14.300          | 0.11                         | 0.10                         | 0.09                         | 0.09                         | 0.08                         |
| 14.550          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 14.800          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 15.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.05                         |
| 15.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.050          | 0.05                         | 0.05                         | 0.05                         | 0.04                         | 0.04                         |
| 16.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.800       | 0.04                      | 0.04                      | 0.03                      | 0.03                      | 0.03                      |
| 18.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.050       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.300       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.550       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.800       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.050       | 0.03                      | 0.03                      | 0.02                      | 0.02                      | 0.02                      |
| 20.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.050       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.300       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.550       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.800       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond4 (IN)

Return Event: 15 years

Storm Event: 15-year

## Summary for Hydrograph Addition at 'Pond4'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin4        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin4  | 0.129          | 11.900               | 2.21                             |
| Flow (In)   | Pond4   | 0.129          | 11.900               | 2.21                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)  
 Label: Pond5

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

---

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 563.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 563.00         | 0.00                         | 0.000           | 0.023        | 0.00                              | 0.00                              | 0.00                          |
| 563.10         | 0.00                         | 0.002           | 0.026        | 0.00                              | 0.00                              | 1.19                          |
| 563.20         | 0.00                         | 0.005           | 0.029        | 0.00                              | 0.00                              | 2.51                          |
| 563.30         | 0.00                         | 0.008           | 0.032        | 0.00                              | 0.00                              | 3.97                          |
| 563.40         | 0.00                         | 0.012           | 0.035        | 0.00                              | 0.00                              | 5.58                          |
| 563.50         | 0.00                         | 0.015           | 0.038        | 0.00                              | 0.00                              | 7.34                          |
| 563.60         | 0.00                         | 0.019           | 0.041        | 0.00                              | 0.00                              | 9.26                          |
| 563.70         | 0.00                         | 0.023           | 0.045        | 0.00                              | 0.00                              | 11.34                         |
| 563.75         | 0.00                         | 0.026           | 0.047        | 0.00                              | 0.00                              | 12.45                         |
| 563.80         | 0.35                         | 0.028           | 0.048        | 0.00                              | 0.35                              | 13.95                         |
| 563.90         | 1.83                         | 0.033           | 0.052        | 0.00                              | 1.83                              | 17.87                         |
| 564.00         | 3.94                         | 0.039           | 0.056        | 0.00                              | 3.94                              | 22.60                         |
| 564.10         | 6.52                         | 0.044           | 0.060        | 0.00                              | 6.52                              | 27.99                         |
| 564.20         | 9.51                         | 0.051           | 0.063        | 0.00                              | 9.51                              | 33.95                         |
| 564.30         | 12.85                        | 0.057           | 0.067        | 0.00                              | 12.85                             | 40.44                         |
| 564.40         | 16.51                        | 0.064           | 0.071        | 0.00                              | 16.51                             | 47.44                         |
| 564.50         | 20.46                        | 0.071           | 0.075        | 0.00                              | 20.46                             | 54.92                         |
| 564.60         | 24.69                        | 0.079           | 0.079        | 0.00                              | 24.69                             | 62.86                         |
| 564.70         | 29.17                        | 0.087           | 0.083        | 0.00                              | 29.17                             | 71.25                         |
| 564.80         | 33.89                        | 0.095           | 0.087        | 0.00                              | 33.89                             | 80.10                         |
| 564.90         | 38.85                        | 0.104           | 0.092        | 0.00                              | 38.85                             | 89.38                         |
| 565.00         | 44.02                        | 0.114           | 0.096        | 0.00                              | 44.02                             | 99.09                         |

## O'Day Park Detention Calculations

Subsection: Detention Time

Label: Pond5 (IN)

Return Event: 15 years

Storm Event: 15-year

| Infiltration   |                 |
|--|-----------------|
| Infiltration Method<br>(Computed)  | No Infiltration |
| <b>Approximate Detention Times</b>                                       |                 |
| Time to Peak (Outflow +<br>Infiltration, Peak to Peak<br>Detention Time) | 11.950 hours    |
| Time to Peak (Inflow, Peak<br>to Peak Detention Time)                    | 11.900 hours    |
| Detention Time (Peak to<br>Peak)   | 0.050 hours     |
| Time to Centroid (Outflow)   | 13.374 hours    |
| Time to Centroid (Inflow)  | 12.903 hours    |
| Detention Time (Centroid to<br>Centroid)                                 | 0.471 hours     |
| Weighted Average Plug Time   | 1.279 hours     |
| Maximum Plug Volume Plug<br>Time   | 0.101 hours     |
| Maximum Inflow Plug<br>Volume  | 0.024 ac-ft     |
| Time (Maximum Plug<br>Volume, Start)                                     | 11.900 hours    |
| Time (Maximum Plug<br>Volume, End)                                       | 11.950 hours    |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond5 (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 563.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 6.01 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 5.82 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 11.950 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 564.07 ft               |                             |              |
| Volume (Peak)                      | 0.043 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.347 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.321 ac-ft             |                             |              |
| Volume (Retained)                  | 0.026 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 5.82 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.321 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.650           | 0.00                         | 0.05                         | 0.09                         | 0.11                         | 0.12                         |
| 9.900           | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 10.150          | 0.15                         | 0.15                         | 0.16                         | 0.16                         | 0.17                         |
| 10.400          | 0.18                         | 0.18                         | 0.19                         | 0.19                         | 0.20                         |
| 10.650          | 0.21                         | 0.21                         | 0.22                         | 0.23                         | 0.24                         |
| 10.900          | 0.25                         | 0.26                         | 0.27                         | 0.28                         | 0.29                         |
| 11.150          | 0.30                         | 0.32                         | 0.34                         | 0.37                         | 0.40                         |
| 11.400          | 0.42                         | 0.44                         | 0.47                         | 0.56                         | 0.76                         |
| 11.650          | 1.08                         | 1.53                         | 2.13                         | 2.85                         | 3.80                         |
| 11.900          | 5.21                         | 5.82                         | 5.29                         | 4.12                         | 2.56                         |
| 12.150          | 1.46                         | 1.06                         | 0.87                         | 0.78                         | 0.71                         |
| 12.400          | 0.65                         | 0.60                         | 0.54                         | 0.49                         | 0.45                         |
| 12.650          | 0.42                         | 0.40                         | 0.39                         | 0.38                         | 0.36                         |
| 12.900          | 0.35                         | 0.34                         | 0.33                         | 0.32                         | 0.31                         |
| 13.150          | 0.30                         | 0.29                         | 0.29                         | 0.28                         | 0.27                         |
| 13.400          | 0.26                         | 0.26                         | 0.25                         | 0.24                         | 0.24                         |
| 13.650          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.21                         |
| 13.900          | 0.21                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 14.150          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 14.400          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 14.650          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 14.900          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 15.150          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 15.400          | 0.14                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 15.650          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 15.900          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.150          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.400          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.650          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 16.900          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.150          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.400          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.650          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 17.900          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.150          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.400          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 18.650          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 18.900          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19.150       | 0.08                      | 0.08                      | 0.08                      | 0.07                      | 0.07                      |
| 19.400       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.650       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.900       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.06                      |
| 20.150       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 20.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 20.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 20.900       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.150       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.900       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.150       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.900       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.150       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.900       | 0.06                      | 0.05                      | 0.05                      | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond5 (IN)

Return Event: 15 years

Storm Event: 15-year

## Summary for Hydrograph Addition at 'Pond5'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin5        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin5  | 0.347          | 11.900               | 6.01                             |
| Flow (In)   | Pond5   | 0.347          | 11.900               | 6.01                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond7

Return Event: 15 years

Storm Event: 15-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 529.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 529.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 529.50         | 0.24                         | 0.008           | 0.049        | 0.00                              | 0.24                              | 4.15                          |
| 530.00         | 0.38                         | 0.065           | 0.194        | 0.00                              | 0.38                              | 31.68                         |
| 530.50         | 0.48                         | 0.166           | 0.210        | 0.00                              | 0.48                              | 80.68                         |
| 531.00         | 0.57                         | 0.275           | 0.227        | 0.00                              | 0.57                              | 133.64                        |
| 531.50         | 15.49                        | 0.393           | 0.244        | 0.00                              | 15.49                             | 205.51                        |
| 532.00         | 42.71                        | 0.519           | 0.261        | 0.00                              | 42.71                             | 293.78                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond7 (IN)

Return Event: 15 years  
 Storm Event: 15-year

| Infiltration                       |                          |                             |              |
|------------------------------------|--------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration          |                             |              |
| Initial Conditions                 |                          |                             |              |
| Elevation (Water Surface, Initial) | 529.00 ft                |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Time Increment                     | 0.050 hours              |                             |              |
| Inflow/Outflow Hydrograph Summary  |                          |                             |              |
| Flow (Peak In)                     | 13.27 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 4.67 ft <sup>3</sup> /s  | Time to Peak (Flow, Outlet) | 12.100 hours |
| Peak Conditions                    |                          |                             |              |
| Elevation (Water Surface, Peak)    | 531.14 ft                |                             |              |
| Volume (Peak)                      | 0.306 ac-ft              |                             |              |
| Mass Balance (ac-ft)               |                          |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Volume (Total Inflow)              | 0.732 ac-ft              |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft              |                             |              |
| Volume (Total Outlet Outflow)      | 0.672 ac-ft              |                             |              |
| Volume (Retained)                  | 0.054 ac-ft              |                             |              |
| Volume (Unrouted)                  | -0.006 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.8 %                    |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 4.67 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.672 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.500           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.01                         |
| 6.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.000           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.500           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.750           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 8.000           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 8.250           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 8.500           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.750           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 9.000           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 9.250           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 9.500           | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.13                         |
| 9.750           | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 10.000          | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.17                         |
| 10.250          | 0.18                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 10.500          | 0.22                         | 0.23                         | 0.24                         | 0.24                         | 0.24                         |
| 10.750          | 0.24                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 11.000          | 0.25                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 11.250          | 0.27                         | 0.27                         | 0.28                         | 0.28                         | 0.29                         |
| 11.500          | 0.29                         | 0.30                         | 0.31                         | 0.33                         | 0.36                         |
| 11.750          | 0.39                         | 0.41                         | 0.45                         | 0.49                         | 0.53                         |
| 12.000          | 0.57                         | 3.99                         | 4.67                         | 3.96                         | 3.24                         |
| 12.250          | 2.70                         | 2.33                         | 2.05                         | 1.84                         | 1.66                         |
| 12.500          | 1.50                         | 1.36                         | 1.24                         | 1.14                         | 1.07                         |
| 12.750          | 1.01                         | 0.97                         | 0.93                         | 0.89                         | 0.86                         |
| 13.000          | 0.83                         | 0.80                         | 0.77                         | 0.75                         | 0.73                         |
| 13.250          | 0.71                         | 0.69                         | 0.67                         | 0.65                         | 0.64                         |
| 13.500          | 0.62                         | 0.60                         | 0.59                         | 0.57                         | 0.57                         |
| 13.750          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.000          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.250          | 0.57                         | 0.57                         | 0.56                         | 0.56                         | 0.56                         |
| 14.500          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 14.750          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.000          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.250          | 0.55                         | 0.55                         | 0.55                         | 0.55                         | 0.55                         |
| 15.500          | 0.55                         | 0.55                         | 0.55                         | 0.55                         | 0.55                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 15 years  
 Storm Event: 15-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.750       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.54                      |
| 16.000       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.250       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.500       | 0.54                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 16.750       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 17.000       | 0.53                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 17.250       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 17.500       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.51                      |
| 17.750       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.000       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.250       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 18.500       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 18.750       | 0.50                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 19.000       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 19.250       | 0.49                      | 0.49                      | 0.48                      | 0.48                      | 0.48                      |
| 19.500       | 0.48                      | 0.48                      | 0.48                      | 0.48                      | 0.48                      |
| 19.750       | 0.47                      | 0.47                      | 0.47                      | 0.47                      | 0.47                      |
| 20.000       | 0.47                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 20.250       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 20.500       | 0.46                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 20.750       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.44                      |
| 21.000       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.250       | 0.44                      | 0.44                      | 0.44                      | 0.43                      | 0.43                      |
| 21.500       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 21.750       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.000       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.250       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 22.500       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.40                      |
| 22.750       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 23.000       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.39                      |
| 23.250       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 23.500       | 0.39                      | 0.39                      | 0.39                      | 0.38                      | 0.38                      |
| 23.750       | 0.38                      | 0.38                      | 0.38                      | 0.37                      | 0.37                      |
| 24.000       | 0.37                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond7 (IN)

Return Event: 15 years

Storm Event: 15-year

## Summary for Hydrograph Addition at 'Pond7'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin 7       |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin 7 | 0.732          | 11.900               | 13.27                            |
| Flow (In)   | Pond7   | 0.732          | 11.900               | 13.27                            |

## **Appendix G**

### **25-Yr Proposed Hydraulic Runoff Calculations**



# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Catchments Summary

| Label    | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|----------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| Basin 7  | Post-Development 25 year | 25                   | 0.769                     | 11.900               | 13.94                          |
| Basin1A  | Post-Development 25 year | 25                   | 0.811                     | 12.150               | 8.41                           |
| Basin1B  | Post-Development 25 year | 25                   | 0.137                     | 11.900               | 2.50                           |
| Basin2   | Post-Development 25 year | 25                   | 0.183                     | 11.900               | 3.11                           |
| Basin3   | Post-Development 25 year | 25                   | 0.246                     | 12.150               | 2.46                           |
| Basin4   | Post-Development 25 year | 25                   | 0.134                     | 11.900               | 2.30                           |
| Basin5   | Post-Development 25 year | 25                   | 0.362                     | 11.900               | 6.25                           |
| Bypass 4 | Post-Development 25 year | 25                   | 2.001                     | 12.100               | 24.21                          |
| Bypass1  | Post-Development 25 year | 25                   | 1.541                     | 12.000               | 24.03                          |
| Bypass2  | Post-Development 25 year | 25                   | 8.255                     | 12.150               | 92.29                          |
| Bypass3  | Post-Development 25 year | 25                   | 12.251                    | 12.100               | 143.14                         |

## Node Summary

| Label     | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| J-14      | Post-Development 25 year | 25                   | 0.705                     | 12.100               | 5.52                           |
| J-3       | Post-Development 25 year | 25                   | 0.335                     | 12.000               | 5.77                           |
| J-4       | Post-Development 25 year | 25                   | 1.554                     | 12.150               | 8.11                           |
| J-5       | Post-Development 25 year | 25                   | 0.336                     | 11.950               | 6.05                           |
| J-6       | Post-Development 25 year | 25                   | 0.536                     | 12.150               | 4.46                           |
| J-8       | Post-Development 25 year | 25                   | 1.231                     | 12.100               | 7.31                           |
| O-1       | Post-Development 25 year | 25                   | 25.564                    | 12.100               | 281.12                         |
| Outfall1B | Post-Development 25 year | 25                   | 0.667                     | 13.650               | 0.76                           |

## Pond Summary

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Pond Summary

| Label        | Scenario                 | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) | Maximum Water Surface Elevation (ft) | Maximum Pond Storage (ac-ft) |
|--------------|--------------------------|----------------------|---------------------------|----------------------|--------------------------------|--------------------------------------|------------------------------|
| Pond1A (IN)  | Post-Development 25 year | 25                   | 0.811                     | 12.150               | 8.41                           | (N/A)                                | (N/A)                        |
| Pond1A (OUT) | Post-Development 25 year | 25                   | 0.542                     | 12.200               | 8.14                           | 536.20                               | 0.292                        |
| Pond1B (IN)  | Post-Development 25 year | 25                   | 0.680                     | 12.200               | 8.53                           | (N/A)                                | (N/A)                        |
| Pond1B (OUT) | Post-Development 25 year | 25                   | 0.667                     | 13.650               | 0.76                           | 533.43                               | 0.309                        |
| Pond2 (IN)   | Post-Development 25 year | 25                   | 0.183                     | 11.900               | 3.11                           | (N/A)                                | (N/A)                        |
| Pond2 (OUT)  | Post-Development 25 year | 25                   | 0.174                     | 12.050               | 1.76                           | 554.60                               | 0.039                        |
| Pond3 (IN)   | Post-Development 25 year | 25                   | 0.246                     | 12.150               | 2.46                           | (N/A)                                | (N/A)                        |
| Pond3 (OUT)  | Post-Development 25 year | 25                   | 0.236                     | 12.200               | 2.43                           | 554.85                               | 0.020                        |
| Pond4 (IN)   | Post-Development 25 year | 25                   | 0.134                     | 11.900               | 2.30                           | (N/A)                                | (N/A)                        |
| Pond4 (OUT)  | Post-Development 25 year | 25                   | 0.126                     | 12.100               | 0.54                           | 547.33                               | 0.052                        |
| Pond5 (IN)   | Post-Development 25 year | 25                   | 0.362                     | 11.900               | 6.25                           | (N/A)                                | (N/A)                        |
| Pond5 (OUT)  | Post-Development 25 year | 25                   | 0.336                     | 11.950               | 6.05                           | 564.08                               | 0.043                        |
| Pond7 (IN)   | Post-Development 25 year | 25                   | 0.769                     | 11.900               | 13.94                          | (N/A)                                | (N/A)                        |
| Pond7 (OUT)  | Post-Development 25 year | 25                   | 0.705                     | 12.100               | 5.52                           | 531.17                               | 0.313                        |

# O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Label: Time-Depth - 1

Return Event: 25 years

Storm Event: 25-year

| Time-Depth Curve: 25-year |              |
|---------------------------|--------------|
| Label                     | 25-year      |
| Start Time                | 0.000 hours  |
| Increment                 | 0.100 hours  |
| End Time                  | 24.000 hours |
| Return Event              | 25 years     |

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 0.000           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           |
| 0.500           | 0.0           | 0.0           | 0.0           | 0.0           | 0.1           |
| 1.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 1.500           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.2           |
| 2.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.000           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.500           | 0.2           | 0.2           | 0.2           | 0.3           | 0.3           |
| 4.000           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 4.500           | 0.3           | 0.3           | 0.3           | 0.3           | 0.4           |
| 5.000           | 0.4           | 0.4           | 0.4           | 0.4           | 0.4           |
| 5.500           | 0.4           | 0.4           | 0.4           | 0.4           | 0.4           |
| 6.000           | 0.5           | 0.5           | 0.5           | 0.5           | 0.5           |
| 6.500           | 0.5           | 0.5           | 0.5           | 0.5           | 0.6           |
| 7.000           | 0.6           | 0.6           | 0.6           | 0.6           | 0.6           |
| 7.500           | 0.6           | 0.6           | 0.6           | 0.7           | 0.7           |
| 8.000           | 0.7           | 0.7           | 0.7           | 0.7           | 0.7           |
| 8.500           | 0.8           | 0.8           | 0.8           | 0.8           | 0.8           |
| 9.000           | 0.8           | 0.9           | 0.9           | 0.9           | 0.9           |
| 9.500           | 0.9           | 0.9           | 1.0           | 1.0           | 1.0           |
| 10.000          | 1.0           | 1.1           | 1.1           | 1.1           | 1.1           |
| 10.500          | 1.2           | 1.2           | 1.2           | 1.3           | 1.3           |
| 11.000          | 1.3           | 1.4           | 1.4           | 1.5           | 1.5           |
| 11.500          | 1.6           | 1.7           | 2.0           | 2.5           | 3.2           |
| 12.000          | 3.8           | 3.9           | 4.0           | 4.1           | 4.1           |
| 12.500          | 4.2           | 4.2           | 4.3           | 4.3           | 4.4           |
| 13.000          | 4.4           | 4.4           | 4.5           | 4.5           | 4.5           |
| 13.500          | 4.6           | 4.6           | 4.6           | 4.6           | 4.7           |
| 14.000          | 4.7           | 4.7           | 4.7           | 4.7           | 4.8           |
| 14.500          | 4.8           | 4.8           | 4.8           | 4.8           | 4.8           |
| 15.000          | 4.9           | 4.9           | 4.9           | 4.9           | 4.9           |
| 15.500          | 4.9           | 5.0           | 5.0           | 5.0           | 5.0           |
| 16.000          | 5.0           | 5.0           | 5.0           | 5.1           | 5.1           |
| 16.500          | 5.1           | 5.1           | 5.1           | 5.1           | 5.1           |
| 17.000          | 5.1           | 5.2           | 5.2           | 5.2           | 5.2           |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Label: Time-Depth - 1

Return Event: 25 years

Storm Event: 25-year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 5.2           | 5.2           | 5.2           | 5.2           | 5.2           |
| 18.000          | 5.2           | 5.3           | 5.3           | 5.3           | 5.3           |
| 18.500          | 5.3           | 5.3           | 5.3           | 5.3           | 5.3           |
| 19.000          | 5.3           | 5.4           | 5.4           | 5.4           | 5.4           |
| 19.500          | 5.4           | 5.4           | 5.4           | 5.4           | 5.4           |
| 20.000          | 5.4           | 5.4           | 5.4           | 5.4           | 5.5           |
| 20.500          | 5.5           | 5.5           | 5.5           | 5.5           | 5.5           |
| 21.000          | 5.5           | 5.5           | 5.5           | 5.5           | 5.5           |
| 21.500          | 5.5           | 5.5           | 5.5           | 5.6           | 5.6           |
| 22.000          | 5.6           | 5.6           | 5.6           | 5.6           | 5.6           |
| 22.500          | 5.6           | 5.6           | 5.6           | 5.6           | 5.6           |
| 23.000          | 5.6           | 5.6           | 5.6           | 5.7           | 5.7           |
| 23.500          | 5.7           | 5.7           | 5.7           | 5.7           | 5.7           |
| 24.000          | 5.7           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin1A

Return Event: 25 years  
 Storm Event: 25-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                     |
|---|---------------------|
| Hydraulic Length                            | 240.00 ft           |
| Manning's n                                 | 0.400               |
| Slope                                       | 0.063 ft/ft         |
| 2 Year 24 Hour Depth                        | 3.5 in              |
| Average Velocity                            | 0.15 ft/s           |
| Segment Time of Concentration               | 0.437 hours         |
| Segment #2: TR-55 Channel Flow              |                     |
| Flow Area                                   | 4.0 ft <sup>2</sup> |
| Hydraulic Length                            | 286.00 ft           |
| Manning's n                                 | 0.030               |
| Slope                                       | 0.039 ft/ft         |
| Wetted Perimeter                            | 8.20 ft             |
| Average Velocity                            | 6.04 ft/s           |
| Segment Time of Concentration               | 0.013 hours         |
| Segment #3: TR-55 Channel Flow              |                     |
| Flow Area                                   | 0.8 ft <sup>2</sup> |
| Hydraulic Length                            | 65.00 ft            |
| Manning's n                                 | 0.013               |
| Slope                                       | 0.108 ft/ft         |
| Wetted Perimeter                            | 3.14 ft             |
| Average Velocity                            | 14.93 ft/s          |
| Segment Time of Concentration               | 0.001 hours         |
| Segment #4: TR-55 Shallow Concentrated Flow |                     |
| Hydraulic Length                            | 185.00 ft           |
| Is Paved?                                   | False               |
| Slope                                       | 0.070 ft/ft         |
| Average Velocity                            | 4.28 ft/s           |
| Segment Time of Concentration               | 0.012 hours         |
| Time of Concentration (Composite)           |                     |
| Time of Concentration (Composite)           | 0.463 hours         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin1B

Return Event: 25 years  
Storm Event: 25-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 94.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.188 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.56 ft/s   |
| Segment Time of Concentration | 0.017 hours |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin2

Return Event: 25 years  
Storm Event: 25-year

## Time of Concentration Results

---

### Segment #1: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 85.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.047 ft/ft |
| Average Velocity              | 3.50 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 57.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 4.55 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin3

Return Event: 25 years

Storm Event: 25-year

## Time of Concentration Results

### Segment #1: TR-55 Sheet Flow

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 250.00 ft   |
| Manning's n                   | 0.400       |
| Slope                         | 0.048 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.14 ft/s   |
| Segment Time of Concentration | 0.502 hours |

### Segment #2: TR-55 Shallow Concentrated Flow

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 49.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.230 ft/ft |
| Average Velocity              | 7.74 ft/s   |
| Segment Time of Concentration | 0.002 hours |

### Segment #3: TR-55 Channel Flow

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.0 ft <sup>2</sup> |
| Hydraulic Length              | 44.00 ft            |
| Manning's n                   | 0.030               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.10 ft             |
| Average Velocity              | 4.86 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

### Time of Concentration (Composite)

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.506 hours |
|-----------------------------------|-------------|



# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin4

Return Event: 25 years

Storm Event: 25-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 148.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.61 ft/s   |
| Segment Time of Concentration | 0.026 hours |

---

### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 20.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.333 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.44 ft/s   |
| Segment Time of Concentration | 0.004 hours |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin5

Return Event: 25 years

Storm Event: 25-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 230.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.045 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.83 ft/s   |
| Segment Time of Concentration | 0.035 hours |

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---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin 7

Return Event: 25 years

Storm Event: 25-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 360.00 ft   |
| Manning's n                   | 0.030       |
| Slope                         | 0.060 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.29 ft/s   |
| Segment Time of Concentration | 0.078 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 64.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.063 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 11.37 ft/s          |
| Segment Time of Concentration | 0.002 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass1

Return Event: 25 years

Storm Event: 25-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 78.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.010 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.47 ft/s   |
| Segment Time of Concentration | 0.046 hours |

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#### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 154.00 ft   |
| Manning's n                   | 0.080       |
| Slope                         | 0.290 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.93 ft/s   |
| Segment Time of Concentration | 0.046 hours |

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#### Segment #3: TR-55 Shallow Concentrated Flow

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 110.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.073 ft/ft |
| Average Velocity              | 4.36 ft/s   |
| Segment Time of Concentration | 0.007 hours |

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#### Segment #4: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,611.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.099 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.198 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass2

Return Event: 25 years

Storm Event: 25-year

### Time of Concentration Results

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#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 287.00 ft   |
| Manning's n                   | 0.150       |
| Slope                         | 0.063 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.35 ft/s   |
| Segment Time of Concentration | 0.229 hours |

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---

#### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 7.5 ft <sup>2</sup> |
| Hydraulic Length              | 1,044.00 ft         |
| Manning's n                   | 0.030               |
| Slope                         | 0.013 ft/ft         |
| Wetted Perimeter              | 15.13 ft            |
| Average Velocity              | 3.55 ft/s           |
| Segment Time of Concentration | 0.082 hours         |

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#### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 60.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,010.00 ft          |
| Manning's n                   | 0.100                |
| Slope                         | 0.049 ft/ft          |
| Wetted Perimeter              | 60.13 ft             |
| Average Velocity              | 3.29 ft/s            |
| Segment Time of Concentration | 0.085 hours          |

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#### Segment #4: TR-55 Channel Flow

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|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 36.0 ft <sup>2</sup> |
| Hydraulic Length              | 745.00 ft            |
| Manning's n                   | 0.045                |
| Slope                         | 0.020 ft/ft          |
| Wetted Perimeter              | 19.70 ft             |
| Average Velocity              | 7.00 ft/s            |
| Segment Time of Concentration | 0.030 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.426 hours |
|-----------------------------------|-------------|

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# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Bypass3

Return Event: 25 years  
 Storm Event: 25-year

## Time of Concentration Results

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**Segment #1: TR-55 Sheet Flow**

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.85 ft/s   |
| Segment Time of Concentration | 0.098 hours |

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**Segment #2: TR-55 Shallow Concentrated Flow**

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 418.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.041 ft/ft |
| Average Velocity              | 3.27 ft/s   |
| Segment Time of Concentration | 0.036 hours |

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**Segment #3: TR-55 Channel Flow**

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|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 32.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,740.00 ft          |
| Manning's n                   | 0.080                |
| Slope                         | 0.030 ft/ft          |
| Wetted Perimeter              | 17.89 ft             |
| Average Velocity              | 4.75 ft/s            |
| Segment Time of Concentration | 0.102 hours          |

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**Segment #4: TR-55 Channel Flow**

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|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.1 ft <sup>2</sup> |
| Hydraulic Length              | 38.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.022 ft/ft         |
| Wetted Perimeter              | 6.28 ft             |
| Average Velocity              | 10.64 ft/s          |
| Segment Time of Concentration | 0.001 hours         |

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**Segment #5: TR-55 Channel Flow**

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|                  |                      |
|------------------|----------------------|
| Flow Area        | 72.0 ft <sup>2</sup> |
| Hydraulic Length | 2,454.00 ft          |
| Manning's n      | 0.040                |
| Slope            | 0.006 ft/ft          |

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# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Bypass3

Return Event: 25 years  
Storm Event: 25-year

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| Segment #5: TR-55 Channel Flow |             |
|--------------------------------|-------------|
| Wetted Perimeter               | 36.88 ft    |
| Average Velocity               | 4.51 ft/s   |
| Segment Time of Concentration  | 0.151 hours |

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| Time of Concentration (Composite) |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.387 hours |

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## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Bypass 4

Return Event: 25 years

Storm Event: 25-year

### Time of Concentration Results

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#### Segment #1: TR-55 Sheet Flow

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

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#### Segment #2: TR-55 Shallow Concentrated Flow

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.57 ft/s   |
| Segment Time of Concentration | 0.075 hours |

---

#### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.199 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.366 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1A

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.060           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.140           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.200           | (N/A)    | (N/A)     | 88.673      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1B

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Open space (Lawns,parks etc.) - Good<br>condition; grass cover > 75% - Soil D | 80.000 | 0.470           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.470           | (N/A)    | (N/A)     | 80.000      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin2

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C | 98.000 | 0.330           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.110           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.440           | (N/A)    | (N/A)     | 93.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin3

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.460        | 0.0   | 0.0    | 80.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.260        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.720        | (N/A) | (N/A)  | 86.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin4

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.240        | 0.0   | 0.0    | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.090        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.330        | (N/A) | (N/A)  | 93.091      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin5

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.680           | 0.0      | 0.0       | 98.000      |
| Brush - brush, weed, grass mix - good - Soil D                                      | 73.000 | 0.230           | 0.0      | 0.0       | 73.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.910           | (N/A)    | (N/A)     | 91.681      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin 7

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.230        | 0.0   | 0.0    | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 2.260        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.490        | (N/A) | (N/A)  | 81.663      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass1

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.160        | 0.0   | 0.0    | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.880        | 0.0   | 0.0    | 80.000      |
| Woods - fair - Soil D   | 79.000 | 4.240        | 0.0   | 0.0    | 79.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.280        | (N/A) | (N/A)  | 79.742      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass2

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.070           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.600           | 0.0      | 0.0       | 80.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 22.430          | 0.0      | 0.0       | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.100          | (N/A)    | (N/A)     | 83.146      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass3

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 4.210        | 0.0   | 0.0    | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 29.890       | 0.0   | 0.0    | 82.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 3.610        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 37.710       | (N/A) | (N/A)  | 83.595      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass 4

Return Event: 25 years  
 Storm Event: 25-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770           | 0.0      | 0.0       | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 5.390           | 0.0      | 0.0       | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 6.160           | (N/A)    | (N/A)     | 84.000      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1A

Return Event: 25 years  
 Storm Event: 25-year

|  |                         |
|--|-------------------------|
| Storm Event  | 25-year                 |
| Return Event   | 25 years                |
| Duration   | 24.000 hours            |
| Depth  | 5.7 in                  |
| Time of Concentration<br>(Composite)                   | 0.463 hours             |
| Area (User Defined)                                    | 2.200 acres             |
| <hr/>  |                         |
| Computational Time<br>Increment                        | 0.062 hours             |
| Time to Peak (Computed)                                | 12.173 hours            |
| Flow (Peak, Computed)                                  | 8.45 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours            |
| Flow (Peak Interpolated<br>Output)                     | 8.41 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 89.000                  |
| Area (User Defined)                                    | 2.200 acres             |
| Maximum Retention<br>(Pervious)                        | 1.2 in                  |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.2 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth<br>(Pervious)                  | 4.4 in                  |
| Runoff Volume (Pervious)                               | 0.815 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.811 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration<br>(Composite)                   | 0.463 hours             |
| Computational Time<br>Increment                        | 0.062 hours             |
| Unit Hydrograph Shape<br>Factor                        | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 5.38 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin1A

Return Event: 25 years  
Storm Event: 25-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.309 hours |
| Unit receding limb, $T_r$      | 1.236 hours |
| Total unit time, $T_b$         | 1.545 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.463 hours  |
| Area (User Defined)                  | 2.200 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 3.950           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.200           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.450           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.700           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.950           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 5.200           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.450           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 5.700           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 5.950           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 6.200           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 6.450           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 6.700           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 6.950           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 7.200           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 7.450           | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 7.700           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 7.950           | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.12                         |
| 8.200           | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.13                         |
| 8.450           | 0.14                         | 0.14                         | 0.14                         | 0.15                         | 0.15                         |
| 8.700           | 0.16                         | 0.16                         | 0.16                         | 0.17                         | 0.17                         |
| 8.950           | 0.18                         | 0.18                         | 0.19                         | 0.19                         | 0.20                         |
| 9.200           | 0.20                         | 0.21                         | 0.21                         | 0.21                         | 0.22                         |
| 9.450           | 0.22                         | 0.22                         | 0.22                         | 0.23                         | 0.23                         |
| 9.700           | 0.23                         | 0.24                         | 0.24                         | 0.24                         | 0.25                         |
| 9.950           | 0.26                         | 0.26                         | 0.27                         | 0.28                         | 0.28                         |
| 10.200          | 0.29                         | 0.30                         | 0.31                         | 0.32                         | 0.33                         |
| 10.450          | 0.34                         | 0.35                         | 0.36                         | 0.38                         | 0.39                         |
| 10.700          | 0.40                         | 0.42                         | 0.43                         | 0.45                         | 0.46                         |
| 10.950          | 0.48                         | 0.50                         | 0.52                         | 0.54                         | 0.57                         |
| 11.200          | 0.59                         | 0.62                         | 0.65                         | 0.69                         | 0.72                         |
| 11.450          | 0.77                         | 0.81                         | 0.87                         | 0.96                         | 1.11                         |
| 11.700          | 1.35                         | 1.71                         | 2.21                         | 2.96                         | 3.92                         |
| 11.950          | 5.06                         | 6.30                         | 7.47                         | 8.20                         | 8.41                         |
| 12.200          | 8.18                         | 7.56                         | 6.70                         | 5.76                         | 4.89                         |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 25 years  
 Storm Event: 25-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.450          | 4.15                         | 3.54                         | 3.05                         | 2.66                         | 2.33                         |
| 12.700          | 2.05                         | 1.82                         | 1.63                         | 1.47                         | 1.35                         |
| 12.950          | 1.24                         | 1.15                         | 1.07                         | 1.01                         | 0.95                         |
| 13.200          | 0.90                         | 0.86                         | 0.82                         | 0.78                         | 0.75                         |
| 13.450          | 0.73                         | 0.70                         | 0.68                         | 0.66                         | 0.64                         |
| 13.700          | 0.63                         | 0.61                         | 0.59                         | 0.58                         | 0.56                         |
| 13.950          | 0.55                         | 0.54                         | 0.52                         | 0.51                         | 0.50                         |
| 14.200          | 0.49                         | 0.48                         | 0.47                         | 0.46                         | 0.45                         |
| 14.450          | 0.45                         | 0.44                         | 0.44                         | 0.43                         | 0.42                         |
| 14.700          | 0.42                         | 0.42                         | 0.41                         | 0.41                         | 0.40                         |
| 14.950          | 0.40                         | 0.39                         | 0.39                         | 0.38                         | 0.38                         |
| 15.200          | 0.38                         | 0.37                         | 0.37                         | 0.36                         | 0.36                         |
| 15.450          | 0.36                         | 0.35                         | 0.35                         | 0.34                         | 0.34                         |
| 15.700          | 0.33                         | 0.33                         | 0.33                         | 0.32                         | 0.32                         |
| 15.950          | 0.31                         | 0.31                         | 0.31                         | 0.30                         | 0.30                         |
| 16.200          | 0.29                         | 0.29                         | 0.29                         | 0.28                         | 0.28                         |
| 16.450          | 0.28                         | 0.28                         | 0.27                         | 0.27                         | 0.27                         |
| 16.700          | 0.27                         | 0.27                         | 0.27                         | 0.26                         | 0.26                         |
| 16.950          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 17.200          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 17.450          | 0.25                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.700          | 0.24                         | 0.24                         | 0.24                         | 0.23                         | 0.23                         |
| 17.950          | 0.23                         | 0.23                         | 0.23                         | 0.23                         | 0.23                         |
| 18.200          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.22                         |
| 18.450          | 0.22                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.700          | 0.21                         | 0.21                         | 0.21                         | 0.20                         | 0.20                         |
| 18.950          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 19.200          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 19.450          | 0.19                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.700          | 0.18                         | 0.18                         | 0.18                         | 0.17                         | 0.17                         |
| 19.950          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 20.200          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.450          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.700          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.950          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.200          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.450          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.700          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.950          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.200          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.450          | 0.15                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 22.700          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.950          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 23.200          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.450          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.700          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.950          | 0.14                         | 0.14                         | (N/A)                        | (N/A)                        | (N/A)                        |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1B

Return Event: 25 years  
 Storm Event: 25-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 25-year      |
| Return Event                      | 25 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.7 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 0.470 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.011 hours             |
| Time to Peak (Computed)                 | 11.922 hours            |
| Flow (Peak, Computed)                   | 2.59 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated Output)         | 2.50 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 80.000      |
| Area (User Defined)                      | 0.470 acres |
| Maximum Retention (Pervious)             | 2.5 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.5 in      |
| Runoff Volume (Pervious)           | 0.138 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.137 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.083 hours             |
| Computational Time Increment          | 0.011 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 6.39 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin1B

Return Event: 25 years

Storm Event: 25-year

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## SCS Unit Hydrograph Parameters

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|                           |             |
|---------------------------|-------------|
| Unit peak time, $T_p$     | 0.056 hours |
| Unit receding limb, $T_r$ | 0.222 hours |
| Total unit time, $T_b$    | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.470 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.700           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.950           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.200           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.450           | 0.00                         | 0.00                         | 0.01                         | 0.01                         | 0.01                         |
| 7.700           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.450           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.700           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.950           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.200           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.450           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 9.700           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.950           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 10.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 10.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 10.700          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.950          | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.10                         |
| 11.200          | 0.11                         | 0.11                         | 0.12                         | 0.13                         | 0.14                         |
| 11.450          | 0.15                         | 0.16                         | 0.23                         | 0.32                         | 0.49                         |
| 11.700          | 0.69                         | 0.95                         | 1.25                         | 1.81                         | 2.50                         |
| 11.950          | 2.44                         | 2.14                         | 1.47                         | 0.67                         | 0.46                         |
| 12.200          | 0.39                         | 0.36                         | 0.33                         | 0.31                         | 0.28                         |
| 12.450          | 0.26                         | 0.23                         | 0.21                         | 0.20                         | 0.19                         |
| 12.700          | 0.18                         | 0.18                         | 0.17                         | 0.16                         | 0.16                         |
| 12.950          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.13                         |
| 13.200          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 13.450          | 0.12                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 13.700          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.09                         |
| 13.950          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.08                         |
| 14.200          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.450          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.700          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 14.950          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.200       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.06                      |
| 15.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 15.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 15.950       | 0.06                      | 0.06                      | 0.05                      | 0.05                      | 0.05                      |
| 16.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.700       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.950       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.200       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.450       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.700       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.950       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.200       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.950       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.950       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.950       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.950       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.200       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.450       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.700       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.950       | 0.03                      | 0.03                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin2

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.440 acres  |

|  |                         |
|--|-------------------------|
| Computational Time<br>Increment            | 0.011 hours             |
| Time to Peak (Computed)                    | 11.922 hours            |
| Flow (Peak, Computed)                      | 3.16 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated<br>Output)         | 3.11 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 94.000      |
| Area (User Defined)                         | 0.440 acres |
| Maximum Retention<br>(Pervious)             | 0.6 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.1 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 5.0 in      |
| Runoff Volume (Pervious)              | 0.183 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.183 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration<br>(Composite)  | 0.083 hours             |
| Computational Time<br>Increment       | 0.011 hours             |
| Unit Hydrograph Shape<br>Factor       | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 5.98 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin2

Return Event: 25 years

Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.440 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.500           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.750           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 3.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.250           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.500           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.250           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.500           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.750           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.000           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.500           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.750           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.000           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.250           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.500           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.750           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.000           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.250           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 7.500           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.750           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.000           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.250           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 8.500           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.750           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.000           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.250           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.500           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 9.750           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 10.000          | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 10.250          | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.11                         |
| 10.500          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.13                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 10.750       | 0.13                      | 0.13                      | 0.14                      | 0.14                      | 0.15                      |
| 11.000       | 0.15                      | 0.16                      | 0.17                      | 0.18                      | 0.19                      |
| 11.250       | 0.20                      | 0.21                      | 0.23                      | 0.24                      | 0.25                      |
| 11.500       | 0.26                      | 0.37                      | 0.51                      | 0.75                      | 1.03                      |
| 11.750       | 1.36                      | 1.72                      | 2.37                      | 3.11                      | 2.92                      |
| 12.000       | 2.49                      | 1.68                      | 0.76                      | 0.51                      | 0.43                      |
| 12.250       | 0.40                      | 0.37                      | 0.34                      | 0.31                      | 0.28                      |
| 12.500       | 0.25                      | 0.23                      | 0.22                      | 0.21                      | 0.20                      |
| 12.750       | 0.19                      | 0.19                      | 0.18                      | 0.17                      | 0.17                      |
| 13.000       | 0.16                      | 0.15                      | 0.15                      | 0.15                      | 0.14                      |
| 13.250       | 0.14                      | 0.14                      | 0.13                      | 0.13                      | 0.13                      |
| 13.500       | 0.12                      | 0.12                      | 0.12                      | 0.11                      | 0.11                      |
| 13.750       | 0.11                      | 0.11                      | 0.10                      | 0.10                      | 0.10                      |
| 14.000       | 0.10                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 14.250       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 14.500       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 14.750       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 15.000       | 0.08                      | 0.08                      | 0.07                      | 0.07                      | 0.07                      |
| 15.250       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 15.500       | 0.07                      | 0.07                      | 0.07                      | 0.06                      | 0.06                      |
| 15.750       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 16.000       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 16.250       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.05                      |
| 16.500       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.750       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.000       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.250       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.500       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.750       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 18.000       | 0.05                      | 0.05                      | 0.04                      | 0.04                      | 0.04                      |
| 18.250       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.500       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.750       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.000       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.250       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.500       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.03                      |
| 19.750       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.000       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.250       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.500       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.750       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.000       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.250       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.500          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.750          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.000          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.250          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.500          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.750          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.000          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.250          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.500          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.750          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 24.000          | 0.03                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin3

Return Event: 25 years  
 Storm Event: 25-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 25-year      |
| Return Event                      | 25 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.7 in       |
| Time of Concentration (Composite) | 0.506 hours  |
| Area (User Defined)               | 0.720 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.067 hours             |
| Time to Peak (Computed)                 | 12.147 hours            |
| Flow (Peak, Computed)                   | 2.46 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 12.150 hours            |
| Flow (Peak Interpolated Output)         | 2.46 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 86.000      |
| Area (User Defined)                      | 0.720 acres |
| Maximum Retention (Pervious)             | 1.6 in      |
| Maximum Retention (Pervious, 20 percent) | 0.3 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 4.1 in      |
| Runoff Volume (Pervious)           | 0.248 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.246 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.506 hours             |
| Computational Time Increment          | 0.067 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 1.61 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin3

Return Event: 25 years

Storm Event: 25-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.337 hours |
| Unit receding limb, $T_r$      | 1.350 hours |
| Total unit time, $T_b$         | 1.687 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.506 hours  |
| Area (User Defined)                  | 0.720 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.350           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.600           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.850           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.850           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.350           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.600           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.850           | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.03                         |
| 8.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.350           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.600           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.850           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 9.100           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.350           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 9.600           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.850           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.100          | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 10.350          | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 10.600          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 10.850          | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 11.100          | 0.15                         | 0.15                         | 0.16                         | 0.17                         | 0.18                         |
| 11.350          | 0.19                         | 0.20                         | 0.21                         | 0.22                         | 0.24                         |
| 11.600          | 0.26                         | 0.31                         | 0.37                         | 0.46                         | 0.59                         |
| 11.850          | 0.79                         | 1.05                         | 1.36                         | 1.71                         | 2.04                         |
| 12.100          | 2.30                         | 2.46                         | 2.45                         | 2.33                         | 2.14                         |
| 12.350          | 1.90                         | 1.65                         | 1.42                         | 1.22                         | 1.05                         |
| 12.600          | 0.93                         | 0.81                         | 0.72                         | 0.64                         | 0.57                         |
| 12.850          | 0.51                         | 0.47                         | 0.43                         | 0.40                         | 0.37                         |
| 13.100          | 0.34                         | 0.32                         | 0.30                         | 0.29                         | 0.27                         |
| 13.350          | 0.26                         | 0.25                         | 0.24                         | 0.23                         | 0.22                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.600          | 0.22                         | 0.21                         | 0.20                         | 0.20                         | 0.19                         |
| 13.850          | 0.19                         | 0.18                         | 0.18                         | 0.17                         | 0.17                         |
| 14.100          | 0.17                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 14.350          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 14.600          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 14.850          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 15.100          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 15.350          | 0.12                         | 0.12                         | 0.11                         | 0.11                         | 0.11                         |
| 15.600          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 15.850          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 16.100          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 16.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.600          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.850          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.850          | 0.07                         | 0.07                         | 0.06                         | 0.06                         | 0.06                         |
| 19.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.600          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.850          | 0.06                         | 0.06                         | 0.06                         | 0.05                         | 0.05                         |
| 20.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 20.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 21.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 22.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 23.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 23.350          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin4

Return Event: 25 years  
 Storm Event: 25-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 25-year      |
| Return Event                      | 25 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.7 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 0.330 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.011 hours             |
| Time to Peak (Computed)                 | 11.922 hours            |
| Flow (Peak, Computed)                   | 2.34 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated Output)         | 2.30 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 93.000      |
| Area (User Defined)                      | 0.330 acres |
| Maximum Retention (Pervious)             | 0.8 in      |
| Maximum Retention (Pervious, 20 percent) | 0.2 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 4.9 in      |
| Runoff Volume (Pervious)           | 0.134 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.134 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.083 hours             |
| Computational Time Increment          | 0.011 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 4.49 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Basin4

Return Event: 25 years

Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 3.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.650           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 5.900           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.150           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.400           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.650           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.900           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.150           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.400           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.650           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.900           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.150           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.400           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 8.650           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.900           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.150           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 9.400           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.650           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.900           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 10.150          | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.400          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.650          | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 10.900          | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 25 years  
 Storm Event: 25-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 11.150       | 0.13                      | 0.14                      | 0.15                      | 0.16                      | 0.16                      |
| 11.400       | 0.17                      | 0.18                      | 0.19                      | 0.27                      | 0.37                      |
| 11.650       | 0.55                      | 0.75                      | 1.00                      | 1.26                      | 1.75                      |
| 11.900       | 2.30                      | 2.17                      | 1.85                      | 1.25                      | 0.57                      |
| 12.150       | 0.38                      | 0.32                      | 0.29                      | 0.27                      | 0.25                      |
| 12.400       | 0.23                      | 0.21                      | 0.19                      | 0.17                      | 0.16                      |
| 12.650       | 0.15                      | 0.15                      | 0.14                      | 0.14                      | 0.13                      |
| 12.900       | 0.13                      | 0.12                      | 0.12                      | 0.12                      | 0.11                      |
| 13.150       | 0.11                      | 0.11                      | 0.10                      | 0.10                      | 0.10                      |
| 13.400       | 0.10                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 13.650       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 13.900       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 14.150       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 14.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 14.650       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 14.900       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 15.150       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 15.400       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 15.650       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 15.900       | 0.05                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 16.150       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 16.400       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 16.650       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 16.900       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.150       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.400       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.650       | 0.04                      | 0.04                      | 0.04                      | 0.03                      | 0.03                      |
| 17.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.900       | 0.03                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.150       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.400       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.650       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.900       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.150       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.400       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.650       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.900          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.150          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.400          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.650          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.900          | 0.02                         | 0.02                         | 0.02                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin5

Return Event: 25 years  
 Storm Event: 25-year

|  |                          |
|--|--------------------------|
| Storm Event  | 25-year                  |
| Return Event   | 25 years                 |
| Duration   | 24.000 hours             |
| Depth  | 5.7 in                   |
| Time of Concentration<br>(Composite)                   | 0.083 hours              |
| Area (User Defined)                                    | 0.910 acres              |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.011 hours              |
| Time to Peak (Computed)                                | 11.922 hours             |
| Flow (Peak, Computed)                                  | 6.38 ft <sup>3</sup> /s  |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 11.900 hours             |
| Flow (Peak Interpolated<br>Output)                     | 6.25 ft <sup>3</sup> /s  |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 92.000                   |
| Area (User Defined)                                    | 0.910 acres              |
| Maximum Retention<br>(Pervious)                        | 0.9 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.2 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 4.8 in                   |
| Runoff Volume (Pervious)                               | 0.362 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 0.362 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.083 hours              |
| Computational Time<br>Increment                        | 0.011 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 12.37 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin5

Return Event: 25 years  
Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.910 acres  |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.050           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 3.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.050           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 4.300           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.550           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.800           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 5.050           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.550           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 5.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.050           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.300           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 6.550           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 6.800           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.050           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 7.300           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 7.550           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 7.800           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 8.050           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 8.300           | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 8.550           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 8.800           | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 9.050           | 0.11                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 9.300           | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 9.550           | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.13                         |
| 9.800           | 0.14                         | 0.14                         | 0.14                         | 0.15                         | 0.15                         |
| 10.050          | 0.16                         | 0.16                         | 0.17                         | 0.17                         | 0.18                         |
| 10.300          | 0.18                         | 0.19                         | 0.19                         | 0.20                         | 0.20                         |
| 10.550          | 0.21                         | 0.22                         | 0.23                         | 0.24                         | 0.25                         |
| 10.800          | 0.26                         | 0.27                         | 0.28                         | 0.29                         | 0.29                         |
| 11.050          | 0.31                         | 0.32                         | 0.35                         | 0.37                         | 0.39                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 11.300       | 0.41                      | 0.44                      | 0.46                      | 0.48                      | 0.51                      |
| 11.550       | 0.72                      | 0.99                      | 1.48                      | 2.03                      | 2.70                      |
| 11.800       | 3.42                      | 4.74                      | 6.25                      | 5.90                      | 5.04                      |
| 12.050       | 3.41                      | 1.55                      | 1.05                      | 0.89                      | 0.81                      |
| 12.300       | 0.75                      | 0.69                      | 0.63                      | 0.57                      | 0.52                      |
| 12.550       | 0.48                      | 0.44                      | 0.42                      | 0.41                      | 0.39                      |
| 12.800       | 0.38                      | 0.37                      | 0.35                      | 0.34                      | 0.33                      |
| 13.050       | 0.32                      | 0.31                      | 0.30                      | 0.29                      | 0.28                      |
| 13.300       | 0.28                      | 0.27                      | 0.26                      | 0.26                      | 0.25                      |
| 13.550       | 0.24                      | 0.24                      | 0.23                      | 0.23                      | 0.22                      |
| 13.800       | 0.22                      | 0.21                      | 0.21                      | 0.20                      | 0.20                      |
| 14.050       | 0.19                      | 0.19                      | 0.19                      | 0.18                      | 0.18                      |
| 14.300       | 0.18                      | 0.18                      | 0.18                      | 0.17                      | 0.17                      |
| 14.550       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.16                      |
| 14.800       | 0.16                      | 0.16                      | 0.16                      | 0.16                      | 0.16                      |
| 15.050       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 15.300       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 15.550       | 0.14                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 15.800       | 0.13                      | 0.13                      | 0.12                      | 0.12                      | 0.12                      |
| 16.050       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 16.300       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 16.550       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 16.800       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 17.050       | 0.11                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 17.300       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 17.550       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 17.800       | 0.10                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 18.050       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 18.300       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 18.550       | 0.09                      | 0.09                      | 0.08                      | 0.08                      | 0.08                      |
| 18.800       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.050       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.300       | 0.08                      | 0.08                      | 0.08                      | 0.07                      | 0.07                      |
| 19.550       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.800       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.050       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.300       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.550       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.06                      |
| 20.800       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.050       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.300       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.550       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.800       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
Label: Basin5

Return Event: 25 years  
Storm Event: 25-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 22.050       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.300       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.550       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.800       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.050       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.300       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.550       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.800       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin 7

Return Event: 25 years  
 Storm Event: 25-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 25-year      |
| Return Event                      | 25 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.7 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 2.490 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.011 hours              |
| Time to Peak (Computed)                 | 11.922 hours             |
| Flow (Peak, Computed)                   | 14.43 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 11.900 hours             |
| Flow (Peak Interpolated Output)         | 13.94 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 82.000      |
| Area (User Defined)                      | 2.490 acres |
| Maximum Retention (Pervious)             | 2.2 in      |
| Maximum Retention (Pervious, 20 percent) | 0.4 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.7 in      |
| Runoff Volume (Pervious)           | 0.770 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.769 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.083 hours              |
| Computational Time Increment          | 0.011 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 33.86 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin 7

Return Event: 25 years  
Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 2.490 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.400           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 6.650           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.900           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.150           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 7.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 7.650           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.900           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 8.150           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 8.400           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 8.650           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 8.900           | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 9.150           | 0.13                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 9.400           | 0.14                         | 0.15                         | 0.15                         | 0.15                         | 0.16                         |
| 9.650           | 0.16                         | 0.17                         | 0.17                         | 0.18                         | 0.19                         |
| 9.900           | 0.19                         | 0.20                         | 0.21                         | 0.22                         | 0.22                         |
| 10.150          | 0.23                         | 0.24                         | 0.25                         | 0.26                         | 0.27                         |
| 10.400          | 0.29                         | 0.30                         | 0.31                         | 0.32                         | 0.34                         |
| 10.650          | 0.35                         | 0.37                         | 0.39                         | 0.41                         | 0.43                         |
| 10.900          | 0.44                         | 0.46                         | 0.49                         | 0.51                         | 0.54                         |
| 11.150          | 0.58                         | 0.63                         | 0.67                         | 0.72                         | 0.77                         |
| 11.400          | 0.82                         | 0.87                         | 0.92                         | 1.33                         | 1.85                         |
| 11.650          | 2.81                         | 3.96                         | 5.43                         | 7.10                         | 10.21                        |
| 11.900          | 13.94                        | 13.52                        | 11.81                        | 8.08                         | 3.69                         |
| 12.150          | 2.51                         | 2.13                         | 1.95                         | 1.81                         | 1.67                         |
| 12.400          | 1.53                         | 1.40                         | 1.26                         | 1.16                         | 1.07                         |
| 12.650          | 1.03                         | 0.99                         | 0.96                         | 0.93                         | 0.90                         |
| 12.900          | 0.87                         | 0.84                         | 0.80                         | 0.78                         | 0.75                         |
| 13.150          | 0.73                         | 0.72                         | 0.70                         | 0.68                         | 0.67                         |
| 13.400          | 0.65                         | 0.63                         | 0.61                         | 0.60                         | 0.58                         |
| 13.650          | 0.57                         | 0.56                         | 0.55                         | 0.53                         | 0.52                         |
| 13.900          | 0.51                         | 0.50                         | 0.48                         | 0.48                         | 0.47                         |
| 14.150          | 0.46                         | 0.46                         | 0.45                         | 0.45                         | 0.44                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 14.400          | 0.44                         | 0.44                         | 0.43                         | 0.43                         | 0.42                         |
| 14.650          | 0.42                         | 0.41                         | 0.41                         | 0.40                         | 0.40                         |
| 14.900          | 0.40                         | 0.39                         | 0.39                         | 0.38                         | 0.38                         |
| 15.150          | 0.37                         | 0.37                         | 0.37                         | 0.36                         | 0.36                         |
| 15.400          | 0.35                         | 0.35                         | 0.34                         | 0.34                         | 0.34                         |
| 15.650          | 0.33                         | 0.33                         | 0.32                         | 0.32                         | 0.31                         |
| 15.900          | 0.31                         | 0.30                         | 0.30                         | 0.30                         | 0.29                         |
| 16.150          | 0.29                         | 0.29                         | 0.29                         | 0.29                         | 0.29                         |
| 16.400          | 0.28                         | 0.28                         | 0.28                         | 0.28                         | 0.28                         |
| 16.650          | 0.28                         | 0.28                         | 0.27                         | 0.27                         | 0.27                         |
| 16.900          | 0.27                         | 0.27                         | 0.27                         | 0.26                         | 0.26                         |
| 17.150          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.25                         |
| 17.400          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 17.650          | 0.25                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.900          | 0.24                         | 0.24                         | 0.23                         | 0.23                         | 0.23                         |
| 18.150          | 0.23                         | 0.23                         | 0.23                         | 0.23                         | 0.22                         |
| 18.400          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.22                         |
| 18.650          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.900          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 19.150          | 0.20                         | 0.20                         | 0.19                         | 0.19                         | 0.19                         |
| 19.400          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 19.650          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.900          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 20.150          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 20.400          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 20.650          | 0.17                         | 0.17                         | 0.16                         | 0.16                         | 0.16                         |
| 20.900          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 21.150          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 21.400          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 21.650          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 21.900          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 22.150          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.15                         |
| 22.400          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.650          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.900          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 23.150          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 23.400          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 23.650          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 23.900          | 0.15                         | 0.15                         | 0.15                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass1

Return Event: 25 years  
 Storm Event: 25-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 25-year      |
| Return Event                      | 25 years     |
| Duration                          | 24.000 hours |
| Depth                             | 5.7 in       |
| Time of Concentration (Composite) | 0.198 hours  |
| Area (User Defined)               | 5.280 acres  |

|   |                          |
|---|--------------------------|
| Computational Time Increment            | 0.026 hours              |
| Time to Peak (Computed)                 | 12.020 hours             |
| Flow (Peak, Computed)                   | 24.09 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours              |
| Time to Flow (Peak Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated Output)         | 24.03 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 80.000      |
| Area (User Defined)                      | 5.280 acres |
| Maximum Retention (Pervious)             | 2.5 in      |
| Maximum Retention (Pervious, 20 percent) | 0.5 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 3.5 in      |
| Runoff Volume (Pervious)           | 1.545 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 1.541 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.198 hours              |
| Computational Time Increment          | 0.026 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 30.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass1

Return Event: 25 years  
Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.132 hours |
| Unit receding limb, $T_r$      | 0.528 hours |
| Total unit time, $T_b$         | 0.660 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass1

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.198 hours  |
| Area (User Defined)                  | 5.280 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.550           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 6.800           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.050           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 7.300           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 7.550           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 7.800           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 8.050           | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 8.300           | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.13                         |
| 8.550           | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.16                         |
| 8.800           | 0.16                         | 0.17                         | 0.18                         | 0.19                         | 0.19                         |
| 9.050           | 0.20                         | 0.21                         | 0.21                         | 0.22                         | 0.23                         |
| 9.300           | 0.23                         | 0.24                         | 0.24                         | 0.24                         | 0.25                         |
| 9.550           | 0.25                         | 0.26                         | 0.27                         | 0.28                         | 0.29                         |
| 9.800           | 0.30                         | 0.31                         | 0.32                         | 0.33                         | 0.35                         |
| 10.050          | 0.36                         | 0.37                         | 0.39                         | 0.41                         | 0.42                         |
| 10.300          | 0.44                         | 0.46                         | 0.48                         | 0.50                         | 0.52                         |
| 10.550          | 0.55                         | 0.57                         | 0.60                         | 0.63                         | 0.66                         |
| 10.800          | 0.69                         | 0.72                         | 0.76                         | 0.80                         | 0.84                         |
| 11.050          | 0.88                         | 0.93                         | 0.98                         | 1.05                         | 1.12                         |
| 11.300          | 1.21                         | 1.29                         | 1.38                         | 1.48                         | 1.58                         |
| 11.550          | 1.79                         | 2.29                         | 3.14                         | 4.56                         | 6.44                         |
| 11.800          | 8.95                         | 12.30                        | 17.11                        | 21.80                        | 24.03                        |
| 12.050          | 23.00                        | 18.71                        | 13.39                        | 9.30                         | 6.93                         |
| 12.300          | 5.53                         | 4.64                         | 4.03                         | 3.57                         | 3.19                         |
| 12.550          | 2.87                         | 2.60                         | 2.40                         | 2.25                         | 2.14                         |
| 12.800          | 2.06                         | 1.98                         | 1.91                         | 1.84                         | 1.77                         |
| 13.050          | 1.71                         | 1.65                         | 1.60                         | 1.55                         | 1.51                         |
| 13.300          | 1.47                         | 1.44                         | 1.40                         | 1.37                         | 1.33                         |
| 13.550          | 1.30                         | 1.26                         | 1.23                         | 1.20                         | 1.17                         |
| 13.800          | 1.15                         | 1.12                         | 1.10                         | 1.07                         | 1.05                         |
| 14.050          | 1.02                         | 1.00                         | 0.98                         | 0.97                         | 0.95                         |
| 14.300          | 0.94                         | 0.93                         | 0.92                         | 0.91                         | 0.91                         |
| 14.550          | 0.90                         | 0.89                         | 0.88                         | 0.87                         | 0.86                         |
| 14.800          | 0.85                         | 0.84                         | 0.84                         | 0.83                         | 0.82                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass1

Return Event: 25 years

Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 15.050          | 0.81                         | 0.80                         | 0.79                         | 0.78                         | 0.77                         |
| 15.300          | 0.76                         | 0.76                         | 0.75                         | 0.74                         | 0.73                         |
| 15.550          | 0.72                         | 0.71                         | 0.70                         | 0.69                         | 0.68                         |
| 15.800          | 0.67                         | 0.67                         | 0.66                         | 0.65                         | 0.64                         |
| 16.050          | 0.63                         | 0.62                         | 0.61                         | 0.61                         | 0.60                         |
| 16.300          | 0.60                         | 0.60                         | 0.59                         | 0.59                         | 0.59                         |
| 16.550          | 0.58                         | 0.58                         | 0.58                         | 0.57                         | 0.57                         |
| 16.800          | 0.57                         | 0.57                         | 0.56                         | 0.56                         | 0.56                         |
| 17.050          | 0.55                         | 0.55                         | 0.55                         | 0.54                         | 0.54                         |
| 17.300          | 0.54                         | 0.53                         | 0.53                         | 0.53                         | 0.52                         |
| 17.550          | 0.52                         | 0.52                         | 0.51                         | 0.51                         | 0.51                         |
| 17.800          | 0.50                         | 0.50                         | 0.50                         | 0.49                         | 0.49                         |
| 18.050          | 0.49                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |
| 18.300          | 0.47                         | 0.47                         | 0.47                         | 0.46                         | 0.46                         |
| 18.550          | 0.46                         | 0.45                         | 0.45                         | 0.45                         | 0.44                         |
| 18.800          | 0.44                         | 0.44                         | 0.43                         | 0.43                         | 0.43                         |
| 19.050          | 0.42                         | 0.42                         | 0.42                         | 0.41                         | 0.41                         |
| 19.300          | 0.41                         | 0.40                         | 0.40                         | 0.40                         | 0.39                         |
| 19.550          | 0.39                         | 0.39                         | 0.38                         | 0.38                         | 0.38                         |
| 19.800          | 0.37                         | 0.37                         | 0.37                         | 0.36                         | 0.36                         |
| 20.050          | 0.36                         | 0.35                         | 0.35                         | 0.35                         | 0.35                         |
| 20.300          | 0.35                         | 0.35                         | 0.35                         | 0.35                         | 0.35                         |
| 20.550          | 0.34                         | 0.34                         | 0.34                         | 0.34                         | 0.34                         |
| 20.800          | 0.34                         | 0.34                         | 0.34                         | 0.34                         | 0.34                         |
| 21.050          | 0.34                         | 0.34                         | 0.34                         | 0.34                         | 0.34                         |
| 21.300          | 0.34                         | 0.33                         | 0.33                         | 0.33                         | 0.33                         |
| 21.550          | 0.33                         | 0.33                         | 0.33                         | 0.33                         | 0.33                         |
| 21.800          | 0.33                         | 0.33                         | 0.33                         | 0.33                         | 0.33                         |
| 22.050          | 0.33                         | 0.33                         | 0.32                         | 0.32                         | 0.32                         |
| 22.300          | 0.32                         | 0.32                         | 0.32                         | 0.32                         | 0.32                         |
| 22.550          | 0.32                         | 0.32                         | 0.32                         | 0.32                         | 0.32                         |
| 22.800          | 0.32                         | 0.32                         | 0.31                         | 0.31                         | 0.31                         |
| 23.050          | 0.31                         | 0.31                         | 0.31                         | 0.31                         | 0.31                         |
| 23.300          | 0.31                         | 0.31                         | 0.31                         | 0.31                         | 0.31                         |
| 23.550          | 0.31                         | 0.31                         | 0.31                         | 0.30                         | 0.30                         |
| 23.800          | 0.30                         | 0.30                         | 0.30                         | 0.30                         | 0.30                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass2

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.426 hours  |
| Area (User Defined)                  | 26.100 acres |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.057 hours              |
| Time to Peak (Computed)                    | 12.151 hours             |
| Flow (Peak, Computed)                      | 92.33 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.150 hours             |
| Flow (Peak Interpolated<br>Output)         | 92.29 ft <sup>3</sup> /s |

|   |              |
|---|--------------|
| <b>Drainage Area</b>                        |              |
| SCS CN (Composite)                          | 83.000       |
| Area (User Defined)                         | 26.100 acres |
| Maximum Retention<br>(Pervious)             | 2.0 in       |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in       |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 3.8 in      |
| Runoff Volume (Pervious)              | 8.295 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 8.255 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.426 hours              |
| Computational Time<br>Increment       | 0.057 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 69.44 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass2

Return Event: 25 years  
Storm Event: 25-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.284 hours |
| Unit receding limb, $T_r$      | 1.136 hours |
| Total unit time, $T_b$         | 1.420 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass2

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.426 hours  |
| Area (User Defined)                  | 26.100 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.650           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.900           | 0.02                         | 0.03                         | 0.04                         | 0.05                         | 0.06                         |
| 6.150           | 0.07                         | 0.09                         | 0.10                         | 0.11                         | 0.12                         |
| 6.400           | 0.14                         | 0.15                         | 0.16                         | 0.18                         | 0.19                         |
| 6.650           | 0.20                         | 0.22                         | 0.23                         | 0.25                         | 0.26                         |
| 6.900           | 0.28                         | 0.29                         | 0.31                         | 0.32                         | 0.33                         |
| 7.150           | 0.35                         | 0.36                         | 0.38                         | 0.40                         | 0.41                         |
| 7.400           | 0.43                         | 0.44                         | 0.46                         | 0.47                         | 0.49                         |
| 7.650           | 0.51                         | 0.52                         | 0.54                         | 0.55                         | 0.57                         |
| 7.900           | 0.59                         | 0.60                         | 0.62                         | 0.64                         | 0.65                         |
| 8.150           | 0.67                         | 0.69                         | 0.71                         | 0.74                         | 0.76                         |
| 8.400           | 0.79                         | 0.82                         | 0.85                         | 0.88                         | 0.91                         |
| 8.650           | 0.95                         | 0.99                         | 1.02                         | 1.06                         | 1.10                         |
| 8.900           | 1.14                         | 1.18                         | 1.22                         | 1.26                         | 1.30                         |
| 9.150           | 1.35                         | 1.39                         | 1.42                         | 1.46                         | 1.49                         |
| 9.400           | 1.52                         | 1.55                         | 1.58                         | 1.61                         | 1.63                         |
| 9.650           | 1.66                         | 1.70                         | 1.73                         | 1.78                         | 1.82                         |
| 9.900           | 1.88                         | 1.93                         | 2.00                         | 2.06                         | 2.13                         |
| 10.150          | 2.20                         | 2.28                         | 2.36                         | 2.45                         | 2.55                         |
| 10.400          | 2.64                         | 2.74                         | 2.85                         | 2.96                         | 3.08                         |
| 10.650          | 3.20                         | 3.33                         | 3.47                         | 3.62                         | 3.78                         |
| 10.900          | 3.95                         | 4.12                         | 4.31                         | 4.51                         | 4.72                         |
| 11.150          | 4.95                         | 5.20                         | 5.49                         | 5.80                         | 6.16                         |
| 11.400          | 6.55                         | 6.98                         | 7.47                         | 8.10                         | 9.07                         |
| 11.650          | 10.65                        | 13.16                        | 17.21                        | 23.17                        | 31.67                        |
| 11.900          | 42.85                        | 56.34                        | 70.59                        | 83.02                        | 90.93                        |
| 12.150          | 92.29                        | 87.02                        | 77.91                        | 67.27                        | 56.80                        |
| 12.400          | 47.62                        | 40.18                        | 34.32                        | 29.63                        | 25.83                        |
| 12.650          | 22.68                        | 20.07                        | 17.92                        | 16.16                        | 14.72                        |
| 12.900          | 13.54                        | 12.57                        | 11.77                        | 11.08                        | 10.48                        |
| 13.150          | 9.94                         | 9.45                         | 9.02                         | 8.66                         | 8.35                         |
| 13.400          | 8.08                         | 7.85                         | 7.62                         | 7.41                         | 7.21                         |
| 13.650          | 7.02                         | 6.83                         | 6.65                         | 6.49                         | 6.33                         |
| 13.900          | 6.18                         | 6.03                         | 5.89                         | 5.75                         | 5.62                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass2

Return Event: 25 years

Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.150       | 5.49                      | 5.37                      | 5.26                      | 5.16                      | 5.08                      |
| 14.400       | 5.00                      | 4.93                      | 4.87                      | 4.81                      | 4.76                      |
| 14.650       | 4.70                      | 4.65                      | 4.60                      | 4.56                      | 4.51                      |
| 14.900       | 4.46                      | 4.41                      | 4.37                      | 4.32                      | 4.27                      |
| 15.150       | 4.23                      | 4.18                      | 4.14                      | 4.09                      | 4.04                      |
| 15.400       | 4.00                      | 3.95                      | 3.90                      | 3.86                      | 3.81                      |
| 15.650       | 3.77                      | 3.72                      | 3.67                      | 3.63                      | 3.58                      |
| 15.900       | 3.53                      | 3.49                      | 3.44                      | 3.39                      | 3.35                      |
| 16.150       | 3.30                      | 3.26                      | 3.22                      | 3.19                      | 3.16                      |
| 16.400       | 3.13                      | 3.11                      | 3.09                      | 3.07                      | 3.05                      |
| 16.650       | 3.03                      | 3.01                      | 2.99                      | 2.97                      | 2.96                      |
| 16.900       | 2.94                      | 2.92                      | 2.91                      | 2.89                      | 2.87                      |
| 17.150       | 2.86                      | 2.84                      | 2.82                      | 2.81                      | 2.79                      |
| 17.400       | 2.77                      | 2.76                      | 2.74                      | 2.72                      | 2.71                      |
| 17.650       | 2.69                      | 2.67                      | 2.66                      | 2.64                      | 2.62                      |
| 17.900       | 2.61                      | 2.59                      | 2.57                      | 2.56                      | 2.54                      |
| 18.150       | 2.52                      | 2.51                      | 2.49                      | 2.47                      | 2.46                      |
| 18.400       | 2.44                      | 2.42                      | 2.41                      | 2.39                      | 2.37                      |
| 18.650       | 2.36                      | 2.34                      | 2.32                      | 2.31                      | 2.29                      |
| 18.900       | 2.27                      | 2.26                      | 2.24                      | 2.22                      | 2.21                      |
| 19.150       | 2.19                      | 2.17                      | 2.15                      | 2.14                      | 2.12                      |
| 19.400       | 2.10                      | 2.09                      | 2.07                      | 2.05                      | 2.04                      |
| 19.650       | 2.02                      | 2.00                      | 1.99                      | 1.97                      | 1.95                      |
| 19.900       | 1.93                      | 1.92                      | 1.90                      | 1.88                      | 1.87                      |
| 20.150       | 1.85                      | 1.84                      | 1.83                      | 1.81                      | 1.80                      |
| 20.400       | 1.80                      | 1.79                      | 1.78                      | 1.78                      | 1.77                      |
| 20.650       | 1.77                      | 1.76                      | 1.76                      | 1.76                      | 1.75                      |
| 20.900       | 1.75                      | 1.75                      | 1.74                      | 1.74                      | 1.74                      |
| 21.150       | 1.73                      | 1.73                      | 1.73                      | 1.72                      | 1.72                      |
| 21.400       | 1.72                      | 1.71                      | 1.71                      | 1.71                      | 1.70                      |
| 21.650       | 1.70                      | 1.70                      | 1.69                      | 1.69                      | 1.69                      |
| 21.900       | 1.68                      | 1.68                      | 1.68                      | 1.67                      | 1.67                      |
| 22.150       | 1.67                      | 1.66                      | 1.66                      | 1.66                      | 1.65                      |
| 22.400       | 1.65                      | 1.65                      | 1.64                      | 1.64                      | 1.64                      |
| 22.650       | 1.63                      | 1.63                      | 1.63                      | 1.62                      | 1.62                      |
| 22.900       | 1.62                      | 1.61                      | 1.61                      | 1.61                      | 1.60                      |
| 23.150       | 1.60                      | 1.60                      | 1.59                      | 1.59                      | 1.59                      |
| 23.400       | 1.58                      | 1.58                      | 1.58                      | 1.57                      | 1.57                      |
| 23.650       | 1.57                      | 1.56                      | 1.56                      | 1.56                      | 1.55                      |
| 23.900       | 1.55                      | 1.55                      | 1.54                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass3

Return Event: 25 years  
 Storm Event: 25-year

|  |                           |
|--|---------------------------|
| Storm Event  | 25-year                   |
| Return Event   | 25 years                  |
| Duration   | 24.000 hours              |
| Depth  | 5.7 in                    |
| Time of Concentration<br>(Composite)                   | 0.387 hours               |
| Area (User Defined)                                    | 37.710 acres              |
| <hr/>  |                           |
| Computational Time<br>Increment                        | 0.052 hours               |
| Time to Peak (Computed)                                | 12.089 hours              |
| Flow (Peak, Computed)                                  | 143.33 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours               |
| Time to Flow (Peak<br>Interpolated Output)             | 12.100 hours              |
| Flow (Peak Interpolated<br>Output)                     | 143.14 ft <sup>3</sup> /s |
| <hr/>  |                           |
| <b>Drainage Area</b>                                   |                           |
| SCS CN (Composite)                                     | 84.000                    |
| Area (User Defined)                                    | 37.710 acres              |
| Maximum Retention<br>(Pervious)                        | 1.9 in                    |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                    |
| <hr/>  |                           |
| <b>Cumulative Runoff</b>                               |                           |
| Cumulative Runoff Depth<br>(Pervious)                  | 3.9 in                    |
| Runoff Volume (Pervious)                               | 12.308 ac-ft              |
| <hr/>  |                           |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                           |
| Volume   | 12.251 ac-ft              |
| <hr/>  |                           |
| <b>SCS Unit Hydrograph Parameters</b>                  |                           |
| Time of Concentration<br>(Composite)                   | 0.387 hours               |
| Computational Time<br>Increment                        | 0.052 hours               |
| Unit Hydrograph Shape<br>Factor                        | 483.432                   |
| K Factor   | 0.749                     |
| Receding/Rising, Tr/Tp                                 | 1.670                     |
| Unit peak, qp  | 110.27 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass3

Return Event: 25 years  
Storm Event: 25-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, Tp             | 0.258 hours |
| Unit receding limb, Tr         | 1.033 hours |
| Total unit time, Tb            | 1.292 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass3

Return Event: 25 years  
 Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.387 hours  |
| Area (User Defined)                  | 37.710 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.300           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.02                         |
| 5.550           | 0.02                         | 0.04                         | 0.05                         | 0.07                         | 0.08                         |
| 5.800           | 0.10                         | 0.12                         | 0.13                         | 0.15                         | 0.17                         |
| 6.050           | 0.19                         | 0.21                         | 0.23                         | 0.25                         | 0.27                         |
| 6.300           | 0.29                         | 0.31                         | 0.33                         | 0.35                         | 0.37                         |
| 6.550           | 0.39                         | 0.41                         | 0.43                         | 0.46                         | 0.48                         |
| 6.800           | 0.50                         | 0.52                         | 0.54                         | 0.57                         | 0.59                         |
| 7.050           | 0.61                         | 0.63                         | 0.66                         | 0.68                         | 0.70                         |
| 7.300           | 0.73                         | 0.75                         | 0.77                         | 0.80                         | 0.82                         |
| 7.550           | 0.84                         | 0.87                         | 0.89                         | 0.92                         | 0.94                         |
| 7.800           | 0.96                         | 0.99                         | 1.01                         | 1.04                         | 1.06                         |
| 8.050           | 1.09                         | 1.12                         | 1.14                         | 1.17                         | 1.21                         |
| 8.300           | 1.25                         | 1.29                         | 1.33                         | 1.38                         | 1.43                         |
| 8.550           | 1.48                         | 1.53                         | 1.59                         | 1.64                         | 1.70                         |
| 8.800           | 1.76                         | 1.82                         | 1.88                         | 1.94                         | 2.01                         |
| 9.050           | 2.07                         | 2.14                         | 2.20                         | 2.26                         | 2.32                         |
| 9.300           | 2.37                         | 2.42                         | 2.46                         | 2.50                         | 2.54                         |
| 9.550           | 2.58                         | 2.62                         | 2.66                         | 2.71                         | 2.77                         |
| 9.800           | 2.84                         | 2.91                         | 3.00                         | 3.09                         | 3.19                         |
| 10.050          | 3.29                         | 3.40                         | 3.51                         | 3.64                         | 3.76                         |
| 10.300          | 3.90                         | 4.05                         | 4.20                         | 4.36                         | 4.52                         |
| 10.550          | 4.69                         | 4.87                         | 5.06                         | 5.26                         | 5.48                         |
| 10.800          | 5.71                         | 5.96                         | 6.22                         | 6.50                         | 6.79                         |
| 11.050          | 7.09                         | 7.41                         | 7.77                         | 8.17                         | 8.63                         |
| 11.300          | 9.14                         | 9.71                         | 10.33                        | 10.99                        | 11.74                        |
| 11.550          | 12.75                        | 14.40                        | 17.24                        | 21.92                        | 29.03                        |
| 11.800          | 39.26                        | 53.45                        | 72.08                        | 94.34                        | 117.03                       |
| 12.050          | 134.75                       | 143.14                       | 140.30                       | 127.83                       | 110.14                       |
| 12.300          | 91.81                        | 75.44                        | 62.49                        | 52.68                        | 45.09                        |
| 12.550          | 38.91                        | 33.88                        | 29.77                        | 26.42                        | 23.70                        |
| 12.800          | 21.52                        | 19.76                        | 18.34                        | 17.16                        | 16.15                        |
| 13.050          | 15.26                        | 14.48                        | 13.80                        | 13.21                        | 12.72                        |
| 13.300          | 12.30                        | 11.92                        | 11.57                        | 11.24                        | 10.93                        |
| 13.550          | 10.64                        | 10.35                        | 10.08                        | 9.82                         | 9.57                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass3

Return Event: 25 years

Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 13.800       | 9.34                      | 9.11                      | 8.90                      | 8.68                      | 8.48                      |
| 14.050       | 8.28                      | 8.09                      | 7.91                      | 7.74                      | 7.59                      |
| 14.300       | 7.46                      | 7.34                      | 7.24                      | 7.14                      | 7.06                      |
| 14.550       | 6.98                      | 6.90                      | 6.82                      | 6.75                      | 6.68                      |
| 14.800       | 6.61                      | 6.54                      | 6.47                      | 6.41                      | 6.34                      |
| 15.050       | 6.27                      | 6.20                      | 6.14                      | 6.07                      | 6.00                      |
| 15.300       | 5.93                      | 5.87                      | 5.80                      | 5.73                      | 5.66                      |
| 15.550       | 5.60                      | 5.53                      | 5.46                      | 5.39                      | 5.32                      |
| 15.800       | 5.26                      | 5.19                      | 5.12                      | 5.05                      | 4.98                      |
| 16.050       | 4.91                      | 4.85                      | 4.79                      | 4.73                      | 4.67                      |
| 16.300       | 4.63                      | 4.59                      | 4.55                      | 4.52                      | 4.49                      |
| 16.550       | 4.46                      | 4.43                      | 4.40                      | 4.38                      | 4.35                      |
| 16.800       | 4.33                      | 4.30                      | 4.28                      | 4.25                      | 4.23                      |
| 17.050       | 4.21                      | 4.18                      | 4.16                      | 4.13                      | 4.11                      |
| 17.300       | 4.08                      | 4.06                      | 4.04                      | 4.01                      | 3.99                      |
| 17.550       | 3.96                      | 3.94                      | 3.91                      | 3.89                      | 3.86                      |
| 17.800       | 3.84                      | 3.82                      | 3.79                      | 3.77                      | 3.74                      |
| 18.050       | 3.72                      | 3.69                      | 3.67                      | 3.65                      | 3.62                      |
| 18.300       | 3.60                      | 3.57                      | 3.55                      | 3.52                      | 3.50                      |
| 18.550       | 3.47                      | 3.45                      | 3.43                      | 3.40                      | 3.38                      |
| 18.800       | 3.35                      | 3.33                      | 3.30                      | 3.28                      | 3.25                      |
| 19.050       | 3.23                      | 3.20                      | 3.18                      | 3.15                      | 3.13                      |
| 19.300       | 3.10                      | 3.08                      | 3.06                      | 3.03                      | 3.01                      |
| 19.550       | 2.98                      | 2.96                      | 2.93                      | 2.91                      | 2.88                      |
| 19.800       | 2.86                      | 2.83                      | 2.81                      | 2.78                      | 2.76                      |
| 20.050       | 2.73                      | 2.71                      | 2.69                      | 2.67                      | 2.65                      |
| 20.300       | 2.63                      | 2.62                      | 2.61                      | 2.60                      | 2.60                      |
| 20.550       | 2.59                      | 2.58                      | 2.58                      | 2.57                      | 2.56                      |
| 20.800       | 2.56                      | 2.55                      | 2.55                      | 2.54                      | 2.54                      |
| 21.050       | 2.53                      | 2.53                      | 2.53                      | 2.52                      | 2.52                      |
| 21.300       | 2.51                      | 2.51                      | 2.50                      | 2.50                      | 2.49                      |
| 21.550       | 2.49                      | 2.48                      | 2.48                      | 2.47                      | 2.47                      |
| 21.800       | 2.46                      | 2.46                      | 2.45                      | 2.45                      | 2.44                      |
| 22.050       | 2.44                      | 2.43                      | 2.43                      | 2.42                      | 2.42                      |
| 22.300       | 2.41                      | 2.41                      | 2.40                      | 2.40                      | 2.39                      |
| 22.550       | 2.39                      | 2.38                      | 2.38                      | 2.38                      | 2.37                      |
| 22.800       | 2.37                      | 2.36                      | 2.36                      | 2.35                      | 2.35                      |
| 23.050       | 2.34                      | 2.34                      | 2.33                      | 2.33                      | 2.32                      |
| 23.300       | 2.32                      | 2.31                      | 2.31                      | 2.30                      | 2.30                      |
| 23.550       | 2.29                      | 2.29                      | 2.28                      | 2.28                      | 2.27                      |
| 23.800       | 2.27                      | 2.26                      | 2.26                      | 2.25                      | 2.24                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Label: Bypass 4

Return Event: 25 years

Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.049 hours              |
| Time to Peak (Computed)                    | 12.087 hours             |
| Flow (Peak, Computed)                      | 24.35 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)         | 24.21 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 84.000      |
| Area (User Defined)                         | 6.160 acres |
| Maximum Retention<br>(Pervious)             | 1.9 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 3.9 in      |
| Runoff Volume (Pervious)              | 2.011 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 2.001 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.366 hours              |
| Computational Time<br>Increment       | 0.049 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 19.09 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass 4

Return Event: 25 years  
Storm Event: 25-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.244 hours |
| Unit receding limb, $T_r$      | 0.975 hours |
| Total unit time, $T_b$         | 1.218 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass 4

Return Event: 25 years

Storm Event: 25-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 25-year      |
| Return Event                         | 25 years     |
| Duration                             | 24.000 hours |
| Depth                                | 5.7 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.400           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 5.650           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 5.900           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 6.150           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 6.400           | 0.05                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 6.650           | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 6.900           | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 7.150           | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.12                         |
| 7.400           | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.14                         |
| 7.650           | 0.15                         | 0.15                         | 0.15                         | 0.16                         | 0.16                         |
| 7.900           | 0.17                         | 0.17                         | 0.18                         | 0.18                         | 0.18                         |
| 8.150           | 0.19                         | 0.19                         | 0.20                         | 0.21                         | 0.21                         |
| 8.400           | 0.22                         | 0.23                         | 0.24                         | 0.24                         | 0.25                         |
| 8.650           | 0.26                         | 0.27                         | 0.28                         | 0.29                         | 0.30                         |
| 8.900           | 0.31                         | 0.32                         | 0.33                         | 0.34                         | 0.35                         |
| 9.150           | 0.36                         | 0.37                         | 0.38                         | 0.39                         | 0.40                         |
| 9.400           | 0.40                         | 0.41                         | 0.42                         | 0.42                         | 0.43                         |
| 9.650           | 0.44                         | 0.45                         | 0.45                         | 0.47                         | 0.48                         |
| 9.900           | 0.49                         | 0.51                         | 0.53                         | 0.54                         | 0.56                         |
| 10.150          | 0.58                         | 0.60                         | 0.62                         | 0.64                         | 0.67                         |
| 10.400          | 0.69                         | 0.72                         | 0.75                         | 0.78                         | 0.81                         |
| 10.650          | 0.84                         | 0.87                         | 0.91                         | 0.95                         | 0.99                         |
| 10.900          | 1.03                         | 1.08                         | 1.12                         | 1.18                         | 1.23                         |
| 11.150          | 1.29                         | 1.36                         | 1.43                         | 1.52                         | 1.61                         |
| 11.400          | 1.72                         | 1.83                         | 1.94                         | 2.11                         | 2.36                         |
| 11.650          | 2.86                         | 3.67                         | 4.95                         | 6.73                         | 9.24                         |
| 11.900          | 12.53                        | 16.48                        | 20.41                        | 23.22                        | 24.21                        |
| 12.150          | 23.18                        | 20.57                        | 17.33                        | 14.21                        | 11.58                        |
| 12.400          | 9.57                         | 8.06                         | 6.89                         | 5.94                         | 5.18                         |
| 12.650          | 4.56                         | 4.06                         | 3.66                         | 3.34                         | 3.08                         |
| 12.900          | 2.87                         | 2.70                         | 2.55                         | 2.41                         | 2.30                         |
| 13.150          | 2.20                         | 2.12                         | 2.05                         | 1.98                         | 1.92                         |
| 13.400          | 1.87                         | 1.82                         | 1.77                         | 1.72                         | 1.67                         |
| 13.650          | 1.63                         | 1.59                         | 1.55                         | 1.51                         | 1.47                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Label: Bypass 4

Return Event: 25 years

Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.900          | 1.44                         | 1.41                         | 1.37                         | 1.34                         | 1.31                         |
| 14.150          | 1.28                         | 1.25                         | 1.23                         | 1.21                         | 1.19                         |
| 14.400          | 1.18                         | 1.16                         | 1.15                         | 1.13                         | 1.12                         |
| 14.650          | 1.11                         | 1.10                         | 1.09                         | 1.08                         | 1.06                         |
| 14.900          | 1.05                         | 1.04                         | 1.03                         | 1.02                         | 1.01                         |
| 15.150          | 1.00                         | 0.99                         | 0.98                         | 0.97                         | 0.95                         |
| 15.400          | 0.94                         | 0.93                         | 0.92                         | 0.91                         | 0.90                         |
| 15.650          | 0.89                         | 0.88                         | 0.87                         | 0.85                         | 0.84                         |
| 15.900          | 0.83                         | 0.82                         | 0.81                         | 0.80                         | 0.79                         |
| 16.150          | 0.78                         | 0.77                         | 0.76                         | 0.75                         | 0.75                         |
| 16.400          | 0.74                         | 0.74                         | 0.73                         | 0.73                         | 0.72                         |
| 16.650          | 0.72                         | 0.71                         | 0.71                         | 0.71                         | 0.70                         |
| 16.900          | 0.70                         | 0.69                         | 0.69                         | 0.69                         | 0.68                         |
| 17.150          | 0.68                         | 0.67                         | 0.67                         | 0.67                         | 0.66                         |
| 17.400          | 0.66                         | 0.65                         | 0.65                         | 0.65                         | 0.64                         |
| 17.650          | 0.64                         | 0.63                         | 0.63                         | 0.63                         | 0.62                         |
| 17.900          | 0.62                         | 0.61                         | 0.61                         | 0.61                         | 0.60                         |
| 18.150          | 0.60                         | 0.59                         | 0.59                         | 0.59                         | 0.58                         |
| 18.400          | 0.58                         | 0.57                         | 0.57                         | 0.57                         | 0.56                         |
| 18.650          | 0.56                         | 0.55                         | 0.55                         | 0.55                         | 0.54                         |
| 18.900          | 0.54                         | 0.53                         | 0.53                         | 0.53                         | 0.52                         |
| 19.150          | 0.52                         | 0.51                         | 0.51                         | 0.51                         | 0.50                         |
| 19.400          | 0.50                         | 0.49                         | 0.49                         | 0.49                         | 0.48                         |
| 19.650          | 0.48                         | 0.47                         | 0.47                         | 0.47                         | 0.46                         |
| 19.900          | 0.46                         | 0.45                         | 0.45                         | 0.45                         | 0.44                         |
| 20.150          | 0.44                         | 0.43                         | 0.43                         | 0.43                         | 0.43                         |
| 20.400          | 0.43                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 20.650          | 0.42                         | 0.42                         | 0.42                         | 0.42                         | 0.42                         |
| 20.900          | 0.42                         | 0.42                         | 0.41                         | 0.41                         | 0.41                         |
| 21.150          | 0.41                         | 0.41                         | 0.41                         | 0.41                         | 0.41                         |
| 21.400          | 0.41                         | 0.41                         | 0.41                         | 0.41                         | 0.41                         |
| 21.650          | 0.40                         | 0.40                         | 0.40                         | 0.40                         | 0.40                         |
| 21.900          | 0.40                         | 0.40                         | 0.40                         | 0.40                         | 0.40                         |
| 22.150          | 0.40                         | 0.40                         | 0.39                         | 0.39                         | 0.39                         |
| 22.400          | 0.39                         | 0.39                         | 0.39                         | 0.39                         | 0.39                         |
| 22.650          | 0.39                         | 0.39                         | 0.39                         | 0.39                         | 0.39                         |
| 22.900          | 0.38                         | 0.38                         | 0.38                         | 0.38                         | 0.38                         |
| 23.150          | 0.38                         | 0.38                         | 0.38                         | 0.38                         | 0.38                         |
| 23.400          | 0.38                         | 0.38                         | 0.37                         | 0.37                         | 0.37                         |
| 23.650          | 0.37                         | 0.37                         | 0.37                         | 0.37                         | 0.37                         |
| 23.900          | 0.37                         | 0.37                         | 0.37                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 25 years  
 Storm Event: 25-year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link                       | Upstream Node  |
|-------------------------------------|----------------|
| <Catchment to Outflow Node><br>CO-4 | Bypass2<br>J-4 |
| <Catchment to Outflow Node>         | Bypass 4       |
| <Catchment to Outflow Node>         | Bypass1        |
| <Catchment to Outflow Node>         | Bypass3        |

### Node Inflows

| Inflow Type | Element  | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Bypass2  | 8.255             | 12.150                  | 92.29                               |
| Flow (From) | CO-4     | 1.515             | 12.400                  | 6.23                                |
| Flow (From) | Bypass 4 | 2.001             | 12.100                  | 24.21                               |
| Flow (From) | Bypass1  | 1.541             | 12.000                  | 24.03                               |
| Flow (From) | Bypass3  | 12.251            | 12.100                  | 143.14                              |
| Flow (In)   | O-1      | 25.564            | 12.100                  | 281.12                              |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 4.500           | 533.00            | 533.00            | 533.01            | 533.01            | 533.01            |
| 4.750           | 533.01            | 533.01            | 533.01            | 533.01            | 533.01            |
| 5.000           | 533.01            | 533.02            | 533.02            | 533.02            | 533.02            |
| 5.250           | 533.02            | 533.02            | 533.03            | 533.03            | 533.03            |
| 5.500           | 533.03            | 533.04            | 533.04            | 533.04            | 533.04            |
| 5.750           | 533.05            | 533.05            | 533.05            | 533.05            | 533.06            |
| 6.000           | 533.06            | 533.06            | 533.07            | 533.07            | 533.07            |
| 6.250           | 533.08            | 533.08            | 533.08            | 533.09            | 533.09            |
| 6.500           | 533.10            | 533.10            | 533.11            | 533.11            | 533.11            |
| 6.750           | 533.12            | 533.12            | 533.13            | 533.13            | 533.14            |
| 7.000           | 533.14            | 533.15            | 533.15            | 533.16            | 533.16            |
| 7.250           | 533.17            | 533.17            | 533.18            | 533.19            | 533.19            |
| 7.500           | 533.20            | 533.20            | 533.21            | 533.22            | 533.22            |
| 7.750           | 533.23            | 533.24            | 533.24            | 533.25            | 533.26            |
| 8.000           | 533.26            | 533.27            | 533.28            | 533.28            | 533.29            |
| 8.250           | 533.30            | 533.31            | 533.31            | 533.32            | 533.33            |
| 8.500           | 533.34            | 533.35            | 533.35            | 533.36            | 533.37            |
| 8.750           | 533.38            | 533.39            | 533.40            | 533.41            | 533.42            |
| 9.000           | 533.43            | 533.44            | 533.45            | 533.47            | 533.48            |
| 9.250           | 533.49            | 533.50            | 533.51            | 533.52            | 533.54            |
| 9.500           | 533.55            | 533.56            | 533.58            | 533.59            | 533.60            |
| 9.750           | 533.61            | 533.63            | 533.64            | 533.65            | 533.67            |
| 10.000          | 533.68            | 533.70            | 533.71            | 533.73            | 533.74            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 533.76            | 533.78            | 533.79            | 533.81            | 533.83            |
| 10.500          | 533.85            | 533.87            | 533.89            | 533.91            | 533.93            |
| 10.750          | 533.95            | 533.97            | 533.99            | 534.02            | 534.04            |
| 11.000          | 534.07            | 534.09            | 534.12            | 534.15            | 534.18            |
| 11.250          | 534.21            | 534.24            | 534.27            | 534.30            | 534.34            |
| 11.500          | 534.38            | 534.42            | 534.46            | 534.51            | 534.57            |
| 11.750          | 534.64            | 534.72            | 534.84            | 534.99            | 535.17            |
| 12.000          | 535.40            | 535.66            | 535.95            | 536.15            | 536.20            |
| 12.250          | 536.20            | 536.18            | 536.17            | 536.15            | 536.13            |
| 12.500          | 536.12            | 536.11            | 536.10            | 536.09            | 536.08            |
| 12.750          | 536.07            | 536.06            | 536.06            | 536.05            | 536.05            |
| 13.000          | 536.04            | 536.04            | 536.04            | 536.04            | 536.03            |
| 13.250          | 536.03            | 536.03            | 536.03            | 536.03            | 536.03            |
| 13.500          | 536.03            | 536.02            | 536.02            | 536.02            | 536.02            |
| 13.750          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.000          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.250          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.500          | 536.02            | 536.02            | 536.02            | 536.02            | 536.01            |
| 14.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 15.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 23.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 23.250          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.500          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 23.750          | 536.00            | 536.00            | 536.00            | 536.00            | 536.00            |
| 24.000          | 536.00            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 6.750           | 530.01            | 530.01            | 530.01            | 530.01            | 530.01            |
| 7.000           | 530.01            | 530.01            | 530.01            | 530.02            | 530.02            |
| 7.250           | 530.02            | 530.02            | 530.02            | 530.02            | 530.02            |
| 7.500           | 530.03            | 530.03            | 530.03            | 530.03            | 530.03            |
| 7.750           | 530.03            | 530.03            | 530.03            | 530.04            | 530.04            |
| 8.000           | 530.04            | 530.04            | 530.04            | 530.04            | 530.05            |
| 8.250           | 530.05            | 530.05            | 530.05            | 530.06            | 530.06            |
| 8.500           | 530.06            | 530.07            | 530.07            | 530.07            | 530.08            |
| 8.750           | 530.08            | 530.08            | 530.09            | 530.09            | 530.09            |
| 9.000           | 530.10            | 530.10            | 530.10            | 530.10            | 530.10            |
| 9.250           | 530.10            | 530.10            | 530.11            | 530.11            | 530.11            |
| 9.500           | 530.11            | 530.11            | 530.11            | 530.11            | 530.11            |
| 9.750           | 530.12            | 530.12            | 530.12            | 530.12            | 530.13            |
| 10.000          | 530.13            | 530.13            | 530.13            | 530.14            | 530.14            |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Elevation (ft) | Elevation (ft) | Elevation (ft) | Elevation (ft) | Elevation (ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 530.14         | 530.15         | 530.15         | 530.15         | 530.16         |
| 10.500       | 530.16         | 530.17         | 530.17         | 530.18         | 530.18         |
| 10.750       | 530.19         | 530.19         | 530.20         | 530.21         | 530.21         |
| 11.000       | 530.21         | 530.22         | 530.23         | 530.24         | 530.25         |
| 11.250       | 530.26         | 530.27         | 530.28         | 530.29         | 530.30         |
| 11.500       | 530.31         | 530.35         | 530.42         | 530.52         | 530.64         |
| 11.750       | 530.78         | 530.92         | 531.07         | 531.24         | 531.39         |
| 12.000       | 531.51         | 531.58         | 531.61         | 531.74         | 531.99         |
| 12.250       | 532.24         | 532.45         | 532.62         | 532.77         | 532.88         |
| 12.500       | 532.97         | 533.05         | 533.11         | 533.16         | 533.20         |
| 12.750       | 533.24         | 533.27         | 533.30         | 533.32         | 533.34         |
| 13.000       | 533.36         | 533.37         | 533.38         | 533.39         | 533.40         |
| 13.250       | 533.41         | 533.41         | 533.42         | 533.42         | 533.42         |
| 13.500       | 533.43         | 533.43         | 533.43         | 533.43         | 533.43         |
| 13.750       | 533.43         | 533.43         | 533.43         | 533.42         | 533.42         |
| 14.000       | 533.42         | 533.42         | 533.41         | 533.41         | 533.41         |
| 14.250       | 533.40         | 533.40         | 533.39         | 533.39         | 533.38         |
| 14.500       | 533.38         | 533.37         | 533.37         | 533.36         | 533.36         |
| 14.750       | 533.35         | 533.35         | 533.34         | 533.33         | 533.33         |
| 15.000       | 533.32         | 533.32         | 533.31         | 533.30         | 533.30         |
| 15.250       | 533.29         | 533.28         | 533.28         | 533.27         | 533.26         |
| 15.500       | 533.25         | 533.25         | 533.24         | 533.23         | 533.22         |
| 15.750       | 533.22         | 533.21         | 533.20         | 533.19         | 533.18         |
| 16.000       | 533.18         | 533.17         | 533.16         | 533.15         | 533.14         |
| 16.250       | 533.13         | 533.12         | 533.12         | 533.11         | 533.10         |
| 16.500       | 533.09         | 533.08         | 533.07         | 533.06         | 533.05         |
| 16.750       | 533.04         | 533.03         | 533.02         | 533.01         | 533.01         |
| 17.000       | 533.00         | 532.99         | 532.98         | 532.97         | 532.96         |
| 17.250       | 532.95         | 532.94         | 532.93         | 532.92         | 532.91         |
| 17.500       | 532.90         | 532.89         | 532.88         | 532.87         | 532.86         |
| 17.750       | 532.85         | 532.84         | 532.83         | 532.82         | 532.81         |
| 18.000       | 532.80         | 532.79         | 532.78         | 532.77         | 532.76         |
| 18.250       | 532.75         | 532.74         | 532.73         | 532.72         | 532.70         |
| 18.500       | 532.69         | 532.68         | 532.67         | 532.66         | 532.65         |
| 18.750       | 532.64         | 532.63         | 532.62         | 532.61         | 532.60         |
| 19.000       | 532.58         | 532.57         | 532.56         | 532.55         | 532.54         |
| 19.250       | 532.53         | 532.52         | 532.50         | 532.49         | 532.48         |
| 19.500       | 532.47         | 532.46         | 532.45         | 532.43         | 532.42         |
| 19.750       | 532.41         | 532.40         | 532.39         | 532.37         | 532.36         |
| 20.000       | 532.35         | 532.34         | 532.33         | 532.31         | 532.30         |
| 20.250       | 532.29         | 532.28         | 532.26         | 532.25         | 532.24         |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 532.23            | 532.21            | 532.20            | 532.19            | 532.17            |
| 20.750          | 532.16            | 532.15            | 532.14            | 532.12            | 532.11            |
| 21.000          | 532.10            | 532.09            | 532.07            | 532.06            | 532.05            |
| 21.250          | 532.03            | 532.02            | 532.01            | 532.00            | 531.98            |
| 21.500          | 531.97            | 531.96            | 531.94            | 531.93            | 531.92            |
| 21.750          | 531.90            | 531.89            | 531.88            | 531.86            | 531.85            |
| 22.000          | 531.83            | 531.82            | 531.81            | 531.79            | 531.77            |
| 22.250          | 531.76            | 531.74            | 531.73            | 531.71            | 531.70            |
| 22.500          | 531.68            | 531.67            | 531.65            | 531.63            | 531.62            |
| 22.750          | 531.60            | 531.58            | 531.56            | 531.55            | 531.53            |
| 23.000          | 531.51            | 531.49            | 531.47            | 531.45            | 531.44            |
| 23.250          | 531.42            | 531.40            | 531.38            | 531.35            | 531.33            |
| 23.500          | 531.31            | 531.29            | 531.27            | 531.25            | 531.22            |
| 23.750          | 531.20            | 531.17            | 531.15            | 531.12            | 531.10            |
| 24.000          | 531.07            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.500           | 553.00            | 553.00            | 553.00            | 553.01            | 553.01            |
| 2.750           | 553.01            | 553.01            | 553.01            | 553.01            | 553.01            |
| 3.000           | 553.01            | 553.02            | 553.02            | 553.02            | 553.02            |
| 3.250           | 553.02            | 553.02            | 553.03            | 553.03            | 553.03            |
| 3.500           | 553.03            | 553.04            | 553.04            | 553.04            | 553.04            |
| 3.750           | 553.05            | 553.05            | 553.05            | 553.05            | 553.06            |
| 4.000           | 553.06            | 553.06            | 553.07            | 553.07            | 553.07            |
| 4.250           | 553.08            | 553.08            | 553.08            | 553.09            | 553.09            |
| 4.500           | 553.10            | 553.10            | 553.10            | 553.11            | 553.11            |
| 4.750           | 553.11            | 553.12            | 553.12            | 553.13            | 553.13            |
| 5.000           | 553.14            | 553.14            | 553.15            | 553.15            | 553.16            |
| 5.250           | 553.16            | 553.17            | 553.17            | 553.18            | 553.18            |
| 5.500           | 553.19            | 553.19            | 553.20            | 553.20            | 553.21            |
| 5.750           | 553.21            | 553.22            | 553.22            | 553.23            | 553.24            |
| 6.000           | 553.24            | 553.25            | 553.25            | 553.26            | 553.27            |
| 6.250           | 553.27            | 553.28            | 553.29            | 553.29            | 553.30            |
| 6.500           | 553.31            | 553.31            | 553.32            | 553.32            | 553.33            |
| 6.750           | 553.34            | 553.34            | 553.35            | 553.36            | 553.37            |
| 7.000           | 553.37            | 553.38            | 553.39            | 553.39            | 553.40            |
| 7.250           | 553.41            | 553.42            | 553.42            | 553.43            | 553.44            |
| 7.500           | 553.44            | 553.45            | 553.46            | 553.47            | 553.48            |
| 7.750           | 553.48            | 553.49            | 553.50            | 553.51            | 553.51            |
| 8.000           | 553.51            | 553.52            | 553.52            | 553.52            | 553.52            |
| 8.250           | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 8.500           | 553.52            | 553.52            | 553.52            | 553.53            | 553.53            |
| 8.750           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.000           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.250           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.500           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 9.750           | 553.53            | 553.54            | 553.54            | 553.54            | 553.54            |
| 10.000          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 553.54            | 553.55            | 553.55            | 553.55            | 553.55            |
| 10.500          | 553.55            | 553.55            | 553.55            | 553.56            | 553.56            |
| 10.750          | 553.56            | 553.56            | 553.56            | 553.57            | 553.57            |
| 11.000          | 553.57            | 553.57            | 553.58            | 553.58            | 553.58            |
| 11.250          | 553.59            | 553.59            | 553.60            | 553.60            | 553.61            |
| 11.500          | 553.61            | 553.62            | 553.64            | 553.68            | 553.74            |
| 11.750          | 553.80            | 553.89            | 554.04            | 554.24            | 554.43            |
| 12.000          | 554.56            | 554.60            | 554.54            | 554.41            | 554.27            |
| 12.250          | 554.13            | 554.00            | 553.88            | 553.78            | 553.70            |
| 12.500          | 553.66            | 553.64            | 553.62            | 553.61            | 553.61            |
| 12.750          | 553.60            | 553.60            | 553.60            | 553.59            | 553.59            |
| 13.000          | 553.59            | 553.59            | 553.58            | 553.58            | 553.58            |
| 13.250          | 553.58            | 553.57            | 553.57            | 553.57            | 553.57            |
| 13.500          | 553.57            | 553.56            | 553.56            | 553.56            | 553.56            |
| 13.750          | 553.56            | 553.56            | 553.56            | 553.55            | 553.55            |
| 14.000          | 553.55            | 553.55            | 553.55            | 553.55            | 553.55            |
| 14.250          | 553.55            | 553.55            | 553.55            | 553.54            | 553.54            |
| 14.500          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 14.750          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 15.000          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 15.250          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 15.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 15.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.000          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.250          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 16.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.000          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.250          | 553.53            | 553.53            | 553.53            | 553.53            | 553.52            |
| 17.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 17.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 18.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 22.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 22.250          | 553.52            | 553.52            | 553.52            | 553.51            | 553.51            |
| 22.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 22.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.000          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.250          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.500          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 23.750          | 553.51            | 553.51            | 553.51            | 553.51            | 553.51            |
| 24.000          | 553.51            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 5.500           | 554.00            | 554.01            | 554.01            | 554.01            | 554.01            |
| 5.750           | 554.01            | 554.01            | 554.01            | 554.01            | 554.02            |
| 6.000           | 554.02            | 554.02            | 554.02            | 554.02            | 554.03            |
| 6.250           | 554.03            | 554.03            | 554.03            | 554.04            | 554.04            |
| 6.500           | 554.04            | 554.04            | 554.05            | 554.05            | 554.05            |
| 6.750           | 554.06            | 554.06            | 554.06            | 554.07            | 554.07            |
| 7.000           | 554.07            | 554.08            | 554.08            | 554.09            | 554.09            |
| 7.250           | 554.10            | 554.10            | 554.10            | 554.11            | 554.11            |
| 7.500           | 554.12            | 554.12            | 554.13            | 554.13            | 554.14            |
| 7.750           | 554.14            | 554.15            | 554.15            | 554.16            | 554.16            |
| 8.000           | 554.17            | 554.18            | 554.18            | 554.19            | 554.19            |
| 8.250           | 554.20            | 554.21            | 554.21            | 554.22            | 554.22            |
| 8.500           | 554.23            | 554.24            | 554.25            | 554.25            | 554.26            |
| 8.750           | 554.27            | 554.28            | 554.28            | 554.29            | 554.30            |
| 9.000           | 554.31            | 554.32            | 554.33            | 554.34            | 554.34            |
| 9.250           | 554.35            | 554.36            | 554.37            | 554.38            | 554.39            |
| 9.500           | 554.40            | 554.41            | 554.42            | 554.43            | 554.44            |
| 9.750           | 554.45            | 554.46            | 554.48            | 554.49            | 554.50            |
| 10.000          | 554.51            | 554.51            | 554.52            | 554.52            | 554.52            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 10.500          | 554.52            | 554.52            | 554.53            | 554.53            | 554.53            |
| 10.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 11.000          | 554.53            | 554.54            | 554.54            | 554.54            | 554.54            |
| 11.250          | 554.54            | 554.54            | 554.55            | 554.55            | 554.55            |
| 11.500          | 554.55            | 554.56            | 554.56            | 554.57            | 554.58            |
| 11.750          | 554.59            | 554.61            | 554.64            | 554.67            | 554.70            |
| 12.000          | 554.74            | 554.78            | 554.81            | 554.84            | 554.85            |
| 12.250          | 554.84            | 554.83            | 554.81            | 554.79            | 554.76            |
| 12.500          | 554.74            | 554.72            | 554.70            | 554.68            | 554.67            |
| 12.750          | 554.65            | 554.64            | 554.63            | 554.62            | 554.61            |
| 13.000          | 554.61            | 554.60            | 554.60            | 554.59            | 554.59            |
| 13.250          | 554.59            | 554.58            | 554.58            | 554.57            | 554.57            |
| 13.500          | 554.57            | 554.56            | 554.56            | 554.56            | 554.56            |
| 13.750          | 554.56            | 554.55            | 554.55            | 554.55            | 554.55            |
| 14.000          | 554.55            | 554.55            | 554.55            | 554.55            | 554.54            |
| 14.250          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 14.500          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 14.750          | 554.54            | 554.54            | 554.54            | 554.54            | 554.53            |
| 15.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.250          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.500          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 15.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 16.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 16.250          | 554.53            | 554.53            | 554.52            | 554.52            | 554.52            |
| 16.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 16.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 17.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 20.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 20.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 21.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 22.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.000          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.250          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.500          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 23.750          | 554.51            | 554.51            | 554.51            | 554.51            | 554.51            |
| 24.000          | 554.51            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 3.000           | 545.01            | 545.01            | 545.01            | 545.01            | 545.01            |
| 3.250           | 545.01            | 545.01            | 545.01            | 545.02            | 545.02            |
| 3.500           | 545.02            | 545.02            | 545.02            | 545.03            | 545.03            |
| 3.750           | 545.03            | 545.03            | 545.03            | 545.04            | 545.04            |
| 4.000           | 545.04            | 545.04            | 545.05            | 545.05            | 545.05            |
| 4.250           | 545.06            | 545.06            | 545.06            | 545.06            | 545.07            |
| 4.500           | 545.07            | 545.08            | 545.08            | 545.08            | 545.09            |
| 4.750           | 545.09            | 545.09            | 545.10            | 545.10            | 545.11            |
| 5.000           | 545.11            | 545.11            | 545.12            | 545.12            | 545.13            |
| 5.250           | 545.13            | 545.14            | 545.14            | 545.15            | 545.15            |
| 5.500           | 545.16            | 545.16            | 545.17            | 545.17            | 545.18            |
| 5.750           | 545.18            | 545.19            | 545.19            | 545.20            | 545.20            |
| 6.000           | 545.21            | 545.22            | 545.22            | 545.23            | 545.23            |
| 6.250           | 545.24            | 545.24            | 545.25            | 545.26            | 545.26            |
| 6.500           | 545.27            | 545.28            | 545.28            | 545.29            | 545.30            |
| 6.750           | 545.30            | 545.31            | 545.32            | 545.32            | 545.33            |
| 7.000           | 545.34            | 545.34            | 545.35            | 545.36            | 545.36            |
| 7.250           | 545.37            | 545.38            | 545.39            | 545.39            | 545.40            |
| 7.500           | 545.41            | 545.41            | 545.42            | 545.43            | 545.44            |
| 7.750           | 545.44            | 545.45            | 545.46            | 545.47            | 545.47            |
| 8.000           | 545.48            | 545.49            | 545.50            | 545.51            | 545.51            |
| 8.250           | 545.52            | 545.53            | 545.53            | 545.54            | 545.55            |
| 8.500           | 545.55            | 545.56            | 545.57            | 545.57            | 545.58            |
| 8.750           | 545.59            | 545.59            | 545.60            | 545.60            | 545.61            |
| 9.000           | 545.61            | 545.62            | 545.62            | 545.63            | 545.63            |
| 9.250           | 545.63            | 545.63            | 545.64            | 545.64            | 545.64            |
| 9.500           | 545.64            | 545.64            | 545.64            | 545.65            | 545.65            |
| 9.750           | 545.65            | 545.65            | 545.65            | 545.66            | 545.66            |
| 10.000          | 545.66            | 545.66            | 545.67            | 545.67            | 545.67            |

# O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

## Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 545.67            | 545.68            | 545.68            | 545.68            | 545.69            |
| 10.500          | 545.69            | 545.69            | 545.70            | 545.70            | 545.71            |
| 10.750          | 545.71            | 545.71            | 545.72            | 545.72            | 545.73            |
| 11.000          | 545.73            | 545.74            | 545.74            | 545.75            | 545.76            |
| 11.250          | 545.76            | 545.77            | 545.78            | 545.79            | 545.80            |
| 11.500          | 545.81            | 545.83            | 545.86            | 545.92            | 546.01            |
| 11.750          | 546.13            | 546.28            | 546.48            | 546.73            | 546.97            |
| 12.000          | 547.16            | 547.28            | 547.33            | 547.32            | 547.30            |
| 12.250          | 547.27            | 547.24            | 547.21            | 547.18            | 547.14            |
| 12.500          | 547.11            | 547.07            | 547.02            | 546.98            | 546.94            |
| 12.750          | 546.90            | 546.85            | 546.81            | 546.76            | 546.72            |
| 13.000          | 546.67            | 546.63            | 546.58            | 546.54            | 546.49            |
| 13.250          | 546.45            | 546.41            | 546.36            | 546.32            | 546.28            |
| 13.500          | 546.24            | 546.19            | 546.15            | 546.12            | 546.08            |
| 13.750          | 546.04            | 546.01            | 545.97            | 545.94            | 545.91            |
| 14.000          | 545.88            | 545.86            | 545.84            | 545.82            | 545.80            |
| 14.250          | 545.78            | 545.77            | 545.76            | 545.75            | 545.74            |
| 14.500          | 545.73            | 545.73            | 545.72            | 545.72            | 545.71            |
| 14.750          | 545.71            | 545.70            | 545.70            | 545.70            | 545.70            |
| 15.000          | 545.69            | 545.69            | 545.69            | 545.69            | 545.69            |
| 15.250          | 545.68            | 545.68            | 545.68            | 545.68            | 545.68            |
| 15.500          | 545.68            | 545.67            | 545.67            | 545.67            | 545.67            |
| 15.750          | 545.67            | 545.67            | 545.67            | 545.66            | 545.66            |
| 16.000          | 545.66            | 545.66            | 545.66            | 545.66            | 545.66            |
| 16.250          | 545.66            | 545.65            | 545.65            | 545.65            | 545.65            |
| 16.500          | 545.65            | 545.65            | 545.65            | 545.65            | 545.65            |
| 16.750          | 545.65            | 545.65            | 545.65            | 545.65            | 545.64            |
| 17.000          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 17.250          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 17.500          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 17.750          | 545.64            | 545.64            | 545.64            | 545.64            | 545.63            |
| 18.000          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.250          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.500          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 18.750          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 19.000          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.250          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.500          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 19.750          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 20.000          | 545.62            | 545.61            | 545.61            | 545.61            | 545.61            |
| 20.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 20.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 21.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 22.750          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 23.000          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 23.250          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 23.500          | 545.61            | 545.61            | 545.61            | 545.61            | 545.61            |
| 23.750          | 545.60            | 545.60            | 545.60            | 545.60            | 545.60            |
| 24.000          | 545.60            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 3.250           | 563.00            | 563.01            | 563.01            | 563.01            | 563.01            |
| 3.500           | 563.01            | 563.01            | 563.01            | 563.01            | 563.02            |
| 3.750           | 563.02            | 563.02            | 563.02            | 563.02            | 563.03            |
| 4.000           | 563.03            | 563.03            | 563.03            | 563.04            | 563.04            |
| 4.250           | 563.04            | 563.04            | 563.05            | 563.05            | 563.05            |
| 4.500           | 563.06            | 563.06            | 563.06            | 563.07            | 563.07            |
| 4.750           | 563.07            | 563.08            | 563.08            | 563.09            | 563.09            |
| 5.000           | 563.09            | 563.10            | 563.10            | 563.11            | 563.11            |
| 5.250           | 563.12            | 563.12            | 563.12            | 563.13            | 563.13            |
| 5.500           | 563.14            | 563.14            | 563.15            | 563.15            | 563.16            |
| 5.750           | 563.17            | 563.17            | 563.18            | 563.18            | 563.19            |
| 6.000           | 563.19            | 563.20            | 563.21            | 563.21            | 563.22            |
| 6.250           | 563.22            | 563.23            | 563.23            | 563.24            | 563.25            |
| 6.500           | 563.25            | 563.26            | 563.27            | 563.27            | 563.28            |
| 6.750           | 563.29            | 563.29            | 563.30            | 563.31            | 563.31            |
| 7.000           | 563.32            | 563.33            | 563.33            | 563.34            | 563.35            |
| 7.250           | 563.35            | 563.36            | 563.37            | 563.38            | 563.38            |
| 7.500           | 563.39            | 563.40            | 563.41            | 563.41            | 563.42            |
| 7.750           | 563.43            | 563.44            | 563.44            | 563.45            | 563.46            |
| 8.000           | 563.47            | 563.47            | 563.48            | 563.49            | 563.50            |
| 8.250           | 563.51            | 563.51            | 563.52            | 563.53            | 563.54            |
| 8.500           | 563.55            | 563.56            | 563.57            | 563.58            | 563.59            |
| 8.750           | 563.60            | 563.61            | 563.62            | 563.63            | 563.64            |
| 9.000           | 563.65            | 563.66            | 563.67            | 563.68            | 563.69            |
| 9.250           | 563.70            | 563.71            | 563.72            | 563.73            | 563.74            |
| 9.500           | 563.75            | 563.76            | 563.76            | 563.77            | 563.77            |
| 9.750           | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 10.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 563.77            | 563.77            | 563.78            | 563.78            | 563.78            |
| 10.500          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 10.750          | 563.78            | 563.78            | 563.79            | 563.79            | 563.79            |
| 11.000          | 563.79            | 563.79            | 563.79            | 563.80            | 563.80            |
| 11.250          | 563.80            | 563.80            | 563.80            | 563.81            | 563.81            |
| 11.500          | 563.81            | 563.82            | 563.83            | 563.85            | 563.88            |
| 11.750          | 563.92            | 563.95            | 564.00            | 564.06            | 564.08            |
| 12.000          | 564.06            | 564.01            | 563.94            | 563.88            | 563.85            |
| 12.250          | 563.84            | 563.83            | 563.83            | 563.82            | 563.82            |
| 12.500          | 563.81            | 563.81            | 563.81            | 563.81            | 563.80            |
| 12.750          | 563.80            | 563.80            | 563.80            | 563.80            | 563.80            |
| 13.000          | 563.80            | 563.80            | 563.80            | 563.79            | 563.79            |
| 13.250          | 563.79            | 563.79            | 563.79            | 563.79            | 563.79            |
| 13.500          | 563.79            | 563.79            | 563.78            | 563.78            | 563.78            |
| 13.750          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.000          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.250          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 14.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 15.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 17.000          | 563.77            | 563.77            | 563.76            | 563.76            | 563.76            |
| 17.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 17.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 18.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 24.000          | 563.76            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 6.250           | 529.01            | 529.01            | 529.01            | 529.01            | 529.01            |
| 6.500           | 529.01            | 529.02            | 529.02            | 529.02            | 529.02            |
| 6.750           | 529.03            | 529.03            | 529.03            | 529.03            | 529.03            |
| 7.000           | 529.04            | 529.04            | 529.04            | 529.05            | 529.05            |
| 7.250           | 529.05            | 529.05            | 529.06            | 529.06            | 529.06            |
| 7.500           | 529.06            | 529.07            | 529.07            | 529.07            | 529.08            |
| 7.750           | 529.08            | 529.08            | 529.09            | 529.09            | 529.09            |
| 8.000           | 529.09            | 529.10            | 529.10            | 529.10            | 529.11            |
| 8.250           | 529.11            | 529.12            | 529.12            | 529.13            | 529.13            |
| 8.500           | 529.14            | 529.14            | 529.15            | 529.15            | 529.16            |
| 8.750           | 529.16            | 529.17            | 529.18            | 529.18            | 529.19            |
| 9.000           | 529.20            | 529.21            | 529.21            | 529.22            | 529.23            |
| 9.250           | 529.23            | 529.24            | 529.25            | 529.25            | 529.26            |
| 9.500           | 529.26            | 529.27            | 529.27            | 529.28            | 529.29            |
| 9.750           | 529.30            | 529.30            | 529.31            | 529.32            | 529.33            |
| 10.000          | 529.34            | 529.35            | 529.37            | 529.38            | 529.39            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 529.41            | 529.42            | 529.44            | 529.45            | 529.47            |
| 10.500          | 529.49            | 529.50            | 529.50            | 529.51            | 529.51            |
| 10.750          | 529.52            | 529.52            | 529.53            | 529.54            | 529.54            |
| 11.000          | 529.55            | 529.56            | 529.57            | 529.58            | 529.59            |
| 11.250          | 529.61            | 529.62            | 529.64            | 529.66            | 529.68            |
| 11.500          | 529.70            | 529.73            | 529.78            | 529.85            | 529.96            |
| 11.750          | 530.07            | 530.19            | 530.35            | 530.58            | 530.83            |
| 12.000          | 531.05            | 531.16            | 531.17            | 531.13            | 531.10            |
| 12.250          | 531.08            | 531.06            | 531.05            | 531.05            | 531.04            |
| 12.500          | 531.03            | 531.03            | 531.02            | 531.02            | 531.02            |
| 12.750          | 531.02            | 531.01            | 531.01            | 531.01            | 531.01            |
| 13.000          | 531.01            | 531.01            | 531.01            | 531.01            | 531.01            |
| 13.250          | 531.01            | 531.01            | 531.00            | 531.00            | 531.00            |
| 13.500          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 13.750          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 14.000          | 531.00            | 530.99            | 530.99            | 530.99            | 530.99            |
| 14.250          | 530.99            | 530.98            | 530.98            | 530.98            | 530.98            |
| 14.500          | 530.97            | 530.97            | 530.97            | 530.97            | 530.96            |
| 14.750          | 530.96            | 530.96            | 530.95            | 530.95            | 530.95            |
| 15.000          | 530.94            | 530.94            | 530.94            | 530.93            | 530.93            |
| 15.250          | 530.93            | 530.92            | 530.92            | 530.92            | 530.91            |
| 15.500          | 530.91            | 530.90            | 530.90            | 530.90            | 530.89            |
| 15.750          | 530.89            | 530.88            | 530.88            | 530.88            | 530.87            |
| 16.000          | 530.87            | 530.86            | 530.86            | 530.85            | 530.85            |
| 16.250          | 530.84            | 530.84            | 530.83            | 530.83            | 530.82            |
| 16.500          | 530.82            | 530.81            | 530.81            | 530.80            | 530.80            |
| 16.750          | 530.79            | 530.79            | 530.78            | 530.78            | 530.77            |
| 17.000          | 530.77            | 530.76            | 530.76            | 530.75            | 530.75            |
| 17.250          | 530.74            | 530.74            | 530.73            | 530.73            | 530.72            |
| 17.500          | 530.72            | 530.71            | 530.71            | 530.70            | 530.70            |
| 17.750          | 530.69            | 530.69            | 530.68            | 530.68            | 530.67            |
| 18.000          | 530.67            | 530.66            | 530.66            | 530.65            | 530.64            |
| 18.250          | 530.64            | 530.63            | 530.63            | 530.62            | 530.62            |
| 18.500          | 530.61            | 530.61            | 530.60            | 530.60            | 530.59            |
| 18.750          | 530.59            | 530.58            | 530.57            | 530.57            | 530.56            |
| 19.000          | 530.56            | 530.55            | 530.55            | 530.54            | 530.54            |
| 19.250          | 530.53            | 530.52            | 530.52            | 530.51            | 530.51            |
| 19.500          | 530.50            | 530.50            | 530.49            | 530.48            | 530.48            |
| 19.750          | 530.47            | 530.47            | 530.46            | 530.45            | 530.45            |
| 20.000          | 530.44            | 530.43            | 530.43            | 530.42            | 530.42            |
| 20.250          | 530.41            | 530.40            | 530.40            | 530.39            | 530.39            |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 530.38            | 530.37            | 530.37            | 530.36            | 530.36            |
| 20.750          | 530.35            | 530.34            | 530.34            | 530.33            | 530.33            |
| 21.000          | 530.32            | 530.31            | 530.31            | 530.30            | 530.30            |
| 21.250          | 530.29            | 530.29            | 530.28            | 530.27            | 530.27            |
| 21.500          | 530.26            | 530.26            | 530.25            | 530.25            | 530.24            |
| 21.750          | 530.23            | 530.23            | 530.22            | 530.22            | 530.21            |
| 22.000          | 530.21            | 530.20            | 530.20            | 530.19            | 530.19            |
| 22.250          | 530.18            | 530.17            | 530.17            | 530.16            | 530.16            |
| 22.500          | 530.15            | 530.15            | 530.14            | 530.14            | 530.13            |
| 22.750          | 530.13            | 530.12            | 530.12            | 530.11            | 530.11            |
| 23.000          | 530.10            | 530.10            | 530.09            | 530.09            | 530.08            |
| 23.250          | 530.07            | 530.07            | 530.06            | 530.06            | 530.05            |
| 23.500          | 530.05            | 530.04            | 530.04            | 530.03            | 530.03            |
| 23.750          | 530.02            | 530.02            | 530.01            | 530.01            | 530.00            |
| 24.000          | 530.00            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.250           | 0.001             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.500           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 5.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |
| 6.000           | 0.004             | 0.004             | 0.004             | 0.005             | 0.005             |
| 6.250           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 6.500           | 0.006             | 0.007             | 0.007             | 0.007             | 0.007             |
| 6.750           | 0.008             | 0.008             | 0.008             | 0.009             | 0.009             |
| 7.000           | 0.009             | 0.010             | 0.010             | 0.010             | 0.011             |
| 7.250           | 0.011             | 0.011             | 0.012             | 0.012             | 0.013             |
| 7.500           | 0.013             | 0.013             | 0.014             | 0.014             | 0.015             |
| 7.750           | 0.015             | 0.015             | 0.016             | 0.016             | 0.017             |
| 8.000           | 0.017             | 0.018             | 0.018             | 0.019             | 0.019             |
| 8.250           | 0.020             | 0.020             | 0.021             | 0.021             | 0.022             |
| 8.500           | 0.022             | 0.023             | 0.024             | 0.024             | 0.025             |
| 8.750           | 0.026             | 0.026             | 0.027             | 0.028             | 0.028             |
| 9.000           | 0.029             | 0.030             | 0.031             | 0.031             | 0.032             |
| 9.250           | 0.033             | 0.034             | 0.035             | 0.036             | 0.037             |
| 9.500           | 0.038             | 0.038             | 0.039             | 0.040             | 0.041             |
| 9.750           | 0.042             | 0.043             | 0.044             | 0.045             | 0.046             |
| 10.000          | 0.047             | 0.048             | 0.050             | 0.051             | 0.052             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.053             | 0.054             | 0.056             | 0.057             | 0.058             |
| 10.500          | 0.060             | 0.061             | 0.063             | 0.064             | 0.066             |
| 10.750          | 0.068             | 0.069             | 0.071             | 0.073             | 0.075             |
| 11.000          | 0.077             | 0.079             | 0.082             | 0.084             | 0.086             |
| 11.250          | 0.089             | 0.091             | 0.094             | 0.097             | 0.100             |
| 11.500          | 0.103             | 0.107             | 0.111             | 0.115             | 0.120             |
| 11.750          | 0.126             | 0.134             | 0.145             | 0.159             | 0.178             |
| 12.000          | 0.201             | 0.230             | 0.262             | 0.285             | 0.292             |
| 12.250          | 0.291             | 0.290             | 0.288             | 0.286             | 0.284             |
| 12.500          | 0.282             | 0.281             | 0.280             | 0.279             | 0.278             |
| 12.750          | 0.277             | 0.276             | 0.275             | 0.274             | 0.274             |
| 13.000          | 0.273             | 0.273             | 0.273             | 0.272             | 0.272             |
| 13.250          | 0.272             | 0.272             | 0.271             | 0.271             | 0.271             |
| 13.500          | 0.271             | 0.271             | 0.271             | 0.271             | 0.271             |
| 13.750          | 0.271             | 0.271             | 0.271             | 0.270             | 0.270             |
| 14.000          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.250          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.500          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.750          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.000          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.250          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.500          | 0.270             | 0.270             | 0.269             | 0.269             | 0.269             |
| 15.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 16.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 24.000          | 0.269             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 25 years  
 Storm Event: 25-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.500          | 0.000             | 0.000             | 0.001             | 0.001             | 0.003             |
| 11.750          | 0.005             | 0.008             | 0.013             | 0.020             | 0.028             |
| 12.000          | 0.036             | 0.041             | 0.043             | 0.055             | 0.082             |
| 12.250          | 0.114             | 0.144             | 0.170             | 0.193             | 0.212             |
| 12.500          | 0.227             | 0.240             | 0.251             | 0.260             | 0.268             |
| 12.750          | 0.275             | 0.281             | 0.286             | 0.290             | 0.293             |
| 13.000          | 0.296             | 0.298             | 0.300             | 0.302             | 0.304             |
| 13.250          | 0.305             | 0.306             | 0.307             | 0.308             | 0.308             |
| 13.500          | 0.309             | 0.309             | 0.309             | 0.309             | 0.309             |
| 13.750          | 0.309             | 0.309             | 0.309             | 0.308             | 0.308             |
| 14.000          | 0.307             | 0.307             | 0.306             | 0.306             | 0.305             |
| 14.250          | 0.304             | 0.304             | 0.303             | 0.302             | 0.301             |
| 14.500          | 0.300             | 0.299             | 0.298             | 0.297             | 0.296             |
| 14.750          | 0.295             | 0.294             | 0.293             | 0.292             | 0.291             |
| 15.000          | 0.290             | 0.288             | 0.287             | 0.286             | 0.285             |
| 15.250          | 0.284             | 0.282             | 0.281             | 0.280             | 0.279             |
| 15.500          | 0.277             | 0.276             | 0.275             | 0.273             | 0.272             |
| 15.750          | 0.270             | 0.269             | 0.268             | 0.266             | 0.265             |
| 16.000          | 0.263             | 0.262             | 0.260             | 0.259             | 0.257             |
| 16.250          | 0.256             | 0.254             | 0.252             | 0.251             | 0.249             |
| 16.500          | 0.248             | 0.246             | 0.244             | 0.243             | 0.241             |
| 16.750          | 0.240             | 0.238             | 0.236             | 0.235             | 0.233             |
| 17.000          | 0.231             | 0.230             | 0.228             | 0.227             | 0.225             |
| 17.250          | 0.223             | 0.222             | 0.220             | 0.218             | 0.217             |
| 17.500          | 0.215             | 0.213             | 0.212             | 0.210             | 0.208             |
| 17.750          | 0.207             | 0.205             | 0.203             | 0.202             | 0.200             |
| 18.000          | 0.198             | 0.197             | 0.195             | 0.193             | 0.192             |
| 18.250          | 0.190             | 0.188             | 0.186             | 0.185             | 0.183             |
| 18.500          | 0.181             | 0.180             | 0.178             | 0.176             | 0.175             |
| 18.750          | 0.173             | 0.171             | 0.169             | 0.168             | 0.166             |
| 19.000          | 0.164             | 0.163             | 0.161             | 0.159             | 0.157             |
| 19.250          | 0.156             | 0.154             | 0.152             | 0.151             | 0.149             |
| 19.500          | 0.147             | 0.145             | 0.144             | 0.142             | 0.140             |
| 19.750          | 0.138             | 0.137             | 0.135             | 0.133             | 0.132             |
| 20.000          | 0.130             | 0.128             | 0.126             | 0.125             | 0.123             |
| 20.250          | 0.121             | 0.119             | 0.118             | 0.116             | 0.114             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 20.500       | 0.113          | 0.111          | 0.109          | 0.108          | 0.106          |
| 20.750       | 0.104          | 0.102          | 0.101          | 0.099          | 0.098          |
| 21.000       | 0.096          | 0.094          | 0.093          | 0.091          | 0.089          |
| 21.250       | 0.088          | 0.086          | 0.085          | 0.083          | 0.081          |
| 21.500       | 0.080          | 0.078          | 0.076          | 0.075          | 0.073          |
| 21.750       | 0.072          | 0.070          | 0.069          | 0.067          | 0.066          |
| 22.000       | 0.064          | 0.063          | 0.061          | 0.060          | 0.058          |
| 22.250       | 0.057          | 0.055          | 0.054          | 0.052          | 0.051          |
| 22.500       | 0.050          | 0.048          | 0.047          | 0.045          | 0.044          |
| 22.750       | 0.043          | 0.041          | 0.040          | 0.039          | 0.037          |
| 23.000       | 0.036          | 0.035          | 0.033          | 0.032          | 0.031          |
| 23.250       | 0.030          | 0.028          | 0.027          | 0.026          | 0.025          |
| 23.500       | 0.024          | 0.022          | 0.021          | 0.020          | 0.019          |
| 23.750       | 0.018          | 0.017          | 0.016          | 0.015          | 0.014          |
| 24.000       | 0.013          | (N/A)          | (N/A)          | (N/A)          | (N/A)          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.500           | 0.001             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.750           | 0.003             | 0.004             | 0.004             | 0.004             | 0.004             |
| 6.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 6.250           | 0.004             | 0.005             | 0.005             | 0.005             | 0.005             |
| 6.500           | 0.005             | 0.005             | 0.005             | 0.005             | 0.006             |
| 6.750           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 7.000           | 0.006             | 0.006             | 0.007             | 0.007             | 0.007             |
| 7.250           | 0.007             | 0.007             | 0.007             | 0.007             | 0.008             |
| 7.500           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 7.750           | 0.008             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.250           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.500           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.250           | 0.009             | 0.009             | 0.009             | 0.010             | 0.010             |
| 9.500           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 9.750           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.000          | 0.010             | 0.010             | 0.010             | 0.011             | 0.011             |
| 11.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.500          | 0.011             | 0.011             | 0.012             | 0.013             | 0.014             |
| 11.750          | 0.016             | 0.018             | 0.022             | 0.027             | 0.033             |
| 12.000          | 0.038             | 0.039             | 0.037             | 0.033             | 0.028             |
| 12.250          | 0.024             | 0.021             | 0.017             | 0.015             | 0.013             |
| 12.500          | 0.012             | 0.012             | 0.011             | 0.011             | 0.011             |
| 12.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.010             |
| 13.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 13.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.750          | 0.010             | 0.010             | 0.009             | 0.009             | 0.009             |
| 16.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 24.000          | 0.009             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 7.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 7.250           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 7.750           | 0.002             | 0.003             | 0.003             | 0.003             | 0.003             |
| 8.000           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 8.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 8.500           | 0.004             | 0.004             | 0.004             | 0.005             | 0.005             |
| 8.750           | 0.005             | 0.005             | 0.005             | 0.005             | 0.006             |
| 9.000           | 0.006             | 0.006             | 0.006             | 0.006             | 0.007             |
| 9.250           | 0.007             | 0.007             | 0.007             | 0.007             | 0.008             |
| 9.500           | 0.008             | 0.008             | 0.008             | 0.009             | 0.009             |
| 9.750           | 0.009             | 0.009             | 0.010             | 0.010             | 0.010             |
| 10.000          | 0.010             | 0.010             | 0.011             | 0.011             | 0.011             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 25 years  
 Storm Event: 25-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 10.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 10.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 11.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 11.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 11.500       | 0.012          | 0.012          | 0.012          | 0.012          | 0.012          |
| 11.750       | 0.013          | 0.013          | 0.014          | 0.015          | 0.016          |
| 12.000       | 0.017          | 0.018          | 0.019          | 0.020          | 0.020          |
| 12.250       | 0.020          | 0.020          | 0.019          | 0.018          | 0.017          |
| 12.500       | 0.017          | 0.016          | 0.016          | 0.015          | 0.015          |
| 12.750       | 0.014          | 0.014          | 0.014          | 0.013          | 0.013          |
| 13.000       | 0.013          | 0.013          | 0.013          | 0.013          | 0.012          |
| 13.250       | 0.012          | 0.012          | 0.012          | 0.012          | 0.012          |
| 13.500       | 0.012          | 0.012          | 0.012          | 0.012          | 0.012          |
| 13.750       | 0.012          | 0.012          | 0.012          | 0.011          | 0.011          |
| 14.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 14.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 14.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 14.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 15.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 15.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 15.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 15.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 16.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 16.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 16.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 16.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 17.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 17.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 17.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 17.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 18.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 18.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 18.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 18.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 19.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 19.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 19.500       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 19.750       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 20.000       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |
| 20.250       | 0.011          | 0.011          | 0.011          | 0.011          | 0.011          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 20.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 21.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 21.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 22.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 23.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 24.000          | 0.010             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.250           | 0.001             | 0.001             | 0.002             | 0.002             | 0.002             |
| 5.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 6.000           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 6.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 6.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 6.750           | 0.003             | 0.004             | 0.004             | 0.004             | 0.004             |
| 7.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 7.250           | 0.004             | 0.004             | 0.005             | 0.005             | 0.005             |
| 7.500           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 7.750           | 0.005             | 0.005             | 0.006             | 0.006             | 0.006             |
| 8.000           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 8.250           | 0.006             | 0.007             | 0.007             | 0.007             | 0.007             |
| 8.500           | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 8.750           | 0.007             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.000           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.250           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.500           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 9.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 11.250          | 0.010             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.500          | 0.011             | 0.012             | 0.012             | 0.013             | 0.015             |
| 11.750          | 0.018             | 0.021             | 0.026             | 0.032             | 0.040             |
| 12.000          | 0.046             | 0.050             | 0.052             | 0.051             | 0.051             |
| 12.250          | 0.050             | 0.049             | 0.048             | 0.047             | 0.045             |
| 12.500          | 0.044             | 0.043             | 0.041             | 0.040             | 0.039             |
| 12.750          | 0.037             | 0.036             | 0.035             | 0.033             | 0.032             |
| 13.000          | 0.031             | 0.030             | 0.028             | 0.027             | 0.026             |
| 13.250          | 0.025             | 0.024             | 0.023             | 0.022             | 0.021             |
| 13.500          | 0.020             | 0.019             | 0.018             | 0.017             | 0.016             |
| 13.750          | 0.016             | 0.015             | 0.014             | 0.014             | 0.013             |
| 14.000          | 0.013             | 0.012             | 0.012             | 0.011             | 0.011             |
| 14.250          | 0.011             | 0.011             | 0.010             | 0.010             | 0.010             |
| 14.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.500          | 0.009             | 0.008             | 0.008             | 0.008             | 0.008             |
| 16.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 17.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 24.000          | 0.008             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.001             | 0.001             | 0.001             |
| 4.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.500           | 0.001             | 0.001             | 0.002             | 0.002             | 0.002             |
| 4.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.000           | 0.002             | 0.002             | 0.003             | 0.003             | 0.003             |
| 5.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.500           | 0.003             | 0.004             | 0.004             | 0.004             | 0.004             |
| 5.750           | 0.004             | 0.004             | 0.005             | 0.005             | 0.005             |
| 6.000           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 6.250           | 0.006             | 0.006             | 0.006             | 0.006             | 0.007             |
| 6.500           | 0.007             | 0.007             | 0.007             | 0.007             | 0.008             |
| 6.750           | 0.008             | 0.008             | 0.008             | 0.008             | 0.009             |
| 7.000           | 0.009             | 0.009             | 0.009             | 0.010             | 0.010             |
| 7.250           | 0.010             | 0.010             | 0.010             | 0.011             | 0.011             |
| 7.500           | 0.011             | 0.012             | 0.012             | 0.012             | 0.012             |
| 7.750           | 0.013             | 0.013             | 0.013             | 0.013             | 0.014             |
| 8.000           | 0.014             | 0.014             | 0.014             | 0.015             | 0.015             |
| 8.250           | 0.015             | 0.016             | 0.016             | 0.016             | 0.017             |
| 8.500           | 0.017             | 0.017             | 0.018             | 0.018             | 0.019             |
| 8.750           | 0.019             | 0.019             | 0.020             | 0.020             | 0.021             |
| 9.000           | 0.021             | 0.022             | 0.022             | 0.023             | 0.023             |
| 9.250           | 0.024             | 0.024             | 0.024             | 0.025             | 0.025             |
| 9.500           | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 9.750           | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.028             |
| 11.000          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 11.250          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 11.500          | 0.029             | 0.029             | 0.030             | 0.031             | 0.032             |
| 11.750          | 0.034             | 0.036             | 0.039             | 0.042             | 0.043             |
| 12.000          | 0.042             | 0.039             | 0.035             | 0.032             | 0.031             |
| 12.250          | 0.030             | 0.030             | 0.029             | 0.029             | 0.029             |
| 12.500          | 0.029             | 0.029             | 0.028             | 0.028             | 0.028             |
| 12.750          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.000          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.250          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 13.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 16.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.026             |
| 16.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 16.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 17.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 20.500       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 20.750       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 21.000       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 21.250       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 21.500       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 21.750       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 22.000       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 22.250       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 22.500       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 22.750       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 23.000       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 23.250       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 23.500       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 23.750       | 0.026          | 0.026          | 0.026          | 0.026          | 0.026          |
| 24.000       | 0.026          | (N/A)          | (N/A)          | (N/A)          | (N/A)          |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 25 years  
 Storm Event: 25-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 9.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 9.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 10.000          | 0.003             | 0.003             | 0.003             | 0.003             | 0.004             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 0.004          | 0.005          | 0.005          | 0.006          | 0.007          |
| 10.500       | 0.008          | 0.008          | 0.008          | 0.008          | 0.009          |
| 10.750       | 0.009          | 0.009          | 0.010          | 0.010          | 0.010          |
| 11.000       | 0.011          | 0.011          | 0.012          | 0.013          | 0.013          |
| 11.250       | 0.014          | 0.016          | 0.017          | 0.018          | 0.020          |
| 11.500       | 0.022          | 0.025          | 0.030          | 0.040          | 0.057          |
| 11.750       | 0.077          | 0.101          | 0.135          | 0.183          | 0.238          |
| 12.000       | 0.285          | 0.311          | 0.313          | 0.305          | 0.298          |
| 12.250       | 0.293          | 0.290          | 0.287          | 0.285          | 0.284          |
| 12.500       | 0.283          | 0.281          | 0.280          | 0.280          | 0.279          |
| 12.750       | 0.279          | 0.278          | 0.278          | 0.278          | 0.277          |
| 13.000       | 0.277          | 0.277          | 0.277          | 0.277          | 0.276          |
| 13.250       | 0.276          | 0.276          | 0.276          | 0.276          | 0.276          |
| 13.500       | 0.276          | 0.275          | 0.275          | 0.275          | 0.275          |
| 13.750       | 0.275          | 0.275          | 0.275          | 0.274          | 0.274          |
| 14.000       | 0.274          | 0.273          | 0.273          | 0.273          | 0.272          |
| 14.250       | 0.272          | 0.271          | 0.271          | 0.270          | 0.270          |
| 14.500       | 0.269          | 0.268          | 0.268          | 0.267          | 0.267          |
| 14.750       | 0.266          | 0.265          | 0.265          | 0.264          | 0.263          |
| 15.000       | 0.262          | 0.262          | 0.261          | 0.260          | 0.259          |
| 15.250       | 0.259          | 0.258          | 0.257          | 0.256          | 0.255          |
| 15.500       | 0.254          | 0.254          | 0.253          | 0.252          | 0.251          |
| 15.750       | 0.250          | 0.249          | 0.248          | 0.247          | 0.246          |
| 16.000       | 0.245          | 0.244          | 0.243          | 0.242          | 0.241          |
| 16.250       | 0.240          | 0.238          | 0.237          | 0.236          | 0.235          |
| 16.500       | 0.234          | 0.233          | 0.232          | 0.231          | 0.230          |
| 16.750       | 0.229          | 0.228          | 0.227          | 0.226          | 0.224          |
| 17.000       | 0.223          | 0.222          | 0.221          | 0.220          | 0.219          |
| 17.250       | 0.218          | 0.217          | 0.216          | 0.215          | 0.213          |
| 17.500       | 0.212          | 0.211          | 0.210          | 0.209          | 0.208          |
| 17.750       | 0.207          | 0.206          | 0.204          | 0.203          | 0.202          |
| 18.000       | 0.201          | 0.200          | 0.199          | 0.198          | 0.196          |
| 18.250       | 0.195          | 0.194          | 0.193          | 0.192          | 0.191          |
| 18.500       | 0.190          | 0.188          | 0.187          | 0.186          | 0.185          |
| 18.750       | 0.184          | 0.183          | 0.181          | 0.180          | 0.179          |
| 19.000       | 0.178          | 0.177          | 0.176          | 0.174          | 0.173          |
| 19.250       | 0.172          | 0.171          | 0.170          | 0.169          | 0.167          |
| 19.500       | 0.166          | 0.165          | 0.164          | 0.162          | 0.161          |
| 19.750       | 0.160          | 0.159          | 0.157          | 0.156          | 0.155          |
| 20.000       | 0.153          | 0.152          | 0.151          | 0.150          | 0.148          |
| 20.250       | 0.147          | 0.146          | 0.144          | 0.143          | 0.142          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 25 years  
 Storm Event: 25-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 20.500       | 0.141          | 0.139          | 0.138          | 0.137          | 0.136          |
| 20.750       | 0.135          | 0.133          | 0.132          | 0.131          | 0.130          |
| 21.000       | 0.129          | 0.127          | 0.126          | 0.125          | 0.124          |
| 21.250       | 0.123          | 0.121          | 0.120          | 0.119          | 0.118          |
| 21.500       | 0.117          | 0.116          | 0.115          | 0.113          | 0.112          |
| 21.750       | 0.111          | 0.110          | 0.109          | 0.108          | 0.107          |
| 22.000       | 0.106          | 0.104          | 0.103          | 0.102          | 0.101          |
| 22.250       | 0.100          | 0.099          | 0.098          | 0.097          | 0.096          |
| 22.500       | 0.095          | 0.094          | 0.093          | 0.092          | 0.091          |
| 22.750       | 0.089          | 0.088          | 0.087          | 0.086          | 0.085          |
| 23.000       | 0.084          | 0.083          | 0.082          | 0.081          | 0.080          |
| 23.250       | 0.079          | 0.078          | 0.077          | 0.076          | 0.075          |
| 23.500       | 0.074          | 0.073          | 0.072          | 0.071          | 0.070          |
| 23.750       | 0.069          | 0.068          | 0.067          | 0.067          | 0.066          |
| 24.000       | 0.065          | (N/A)          | (N/A)          | (N/A)          | (N/A)          |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond1A

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 533.00            | 0.0                              | 0.064           | 0.000                          | 0.000             | 0.000                     |
| 534.00            | 0.0                              | 0.080           | 0.216                          | 0.072             | 0.072                     |
| 535.00            | 0.0                              | 0.098           | 0.267                          | 0.089             | 0.161                     |
| 536.00            | 0.0                              | 0.117           | 0.322                          | 0.107             | 0.268                     |
| 537.00            | 0.0                              | 0.138           | 0.382                          | 0.127             | 0.395                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond1B

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sqr<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|---------------------------------|-------------------|---------------------------|
| 530.00            | 0.0                              | 0.000           | 0.000                           | 0.000             | 0.000                     |
| 531.00            | 0.0                              | 0.031           | 0.031                           | 0.010             | 0.010                     |
| 532.00            | 0.0                              | 0.125           | 0.125                           | 0.083             | 0.083                     |
| 533.00            | 0.0                              | 0.174           | 0.446                           | 0.149             | 0.232                     |
| 534.00            | 0.0                              | 0.200           | 0.561                           | 0.187             | 0.419                     |
| 535.00            | 0.0                              | 0.228           | 0.642                           | 0.214             | 0.633                     |
| 536.00            | 0.0                              | 0.257           | 0.727                           | 0.242             | 0.875                     |



## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond2

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 553.00            | 0.0                              | 0.015           | 0.000                          | 0.000             | 0.000                     |
| 554.00            | 0.0                              | 0.027           | 0.062                          | 0.021             | 0.021                     |
| 555.00            | 0.0                              | 0.041           | 0.101                          | 0.034             | 0.054                     |
| 556.00            | 0.0                              | 0.056           | 0.145                          | 0.048             | 0.102                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond3

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 554.00            | 0.0                              | 0.016           | 0.000                          | 0.000             | 0.000                     |
| 555.00            | 0.0                              | 0.036           | 0.076                          | 0.025             | 0.025                     |
| 556.00            | 0.0                              | 0.058           | 0.140                          | 0.047             | 0.072                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond4

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 545.00            | 0.0                              | 0.010           | 0.000                          | 0.000             | 0.000                     |
| 546.00            | 0.0                              | 0.020           | 0.044                          | 0.015             | 0.015                     |
| 547.00            | 0.0                              | 0.032           | 0.077                          | 0.026             | 0.041                     |
| 548.00            | 0.0                              | 0.046           | 0.116                          | 0.039             | 0.079                     |
| 549.00            | 0.0                              | 0.057           | 0.154                          | 0.051             | 0.131                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond5

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 563.00            | 0.0                              | 0.023           | 0.000                          | 0.000             | 0.000                     |
| 564.00            | 0.0                              | 0.056           | 0.116                          | 0.039             | 0.039                     |
| 565.00            | 0.0                              | 0.096           | 0.226                          | 0.075             | 0.114                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 25 years

Label: Pond7

Storm Event: 25-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 529.00            | 0.0                              | 0.000           | 0.000                          | 0.000             | 0.000                     |
| 530.00            | 0.0                              | 0.194           | 0.194                          | 0.065             | 0.065                     |
| 531.00            | 0.0                              | 0.227           | 0.631                          | 0.210             | 0.275                     |
| 532.00            | 0.0                              | 0.261           | 0.731                          | 0.244             | 0.519                     |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 533.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 537.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 536.00     | 537.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 536.00 ft                   |
| Weir Length                                 | 30.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.10                             | 2.85                         | (N/A)                       | 0.00                      |
| 536.20                             | 8.05                         | (N/A)                       | 0.00                      |
| 536.30                             | 14.79                        | (N/A)                       | 0.00                      |
| 536.40                             | 22.77                        | (N/A)                       | 0.00                      |
| 536.50                             | 31.82                        | (N/A)                       | 0.00                      |
| 536.60                             | 41.83                        | (N/A)                       | 0.00                      |
| 536.70                             | 52.71                        | (N/A)                       | 0.00                      |



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 536.80                       | 64.40                     | (N/A)                    | 0.00                   |
| 536.90                       | 76.84                     | (N/A)                    | 0.00                   |
| 537.00                       | 90.00                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=2.85;
H=.20; Htw=.00; Qfree=8.05;
H=.30; Htw=.00; Qfree=14.79;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1A

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.40; Htw=.00; Qfree=22.77;  |
| H=.50; Htw=.00; Qfree=31.82;  |
| H=.60; Htw=.00; Qfree=41.83;  |
| H=.70; Htw=.00; Qfree=52.71;  |
| H=.80; Htw=.00; Qfree=64.40;  |
| H=.90; Htw=.00; Qfree=76.84;  |
| H=1.00; Htw=.00; Qfree=90.00; |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1A

Return Event: 25 years  
 Storm Event: 25-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 535.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 536.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 536.10                       | 2.85                      | (N/A)                    | 0.00                   |
| 536.20                       | 8.05                      | (N/A)                    | 0.00                   |
| 536.30                       | 14.79                     | (N/A)                    | 0.00                   |
| 536.40                       | 22.77                     | (N/A)                    | 0.00                   |
| 536.50                       | 31.82                     | (N/A)                    | 0.00                   |
| 536.60                       | 41.83                     | (N/A)                    | 0.00                   |
| 536.70                       | 52.71                     | (N/A)                    | 0.00                   |
| 536.80                       | 64.40                     | (N/A)                    | 0.00                   |
| 536.90                       | 76.84                     | (N/A)                    | 0.00                   |
| 537.00                       | 90.00                     | (N/A)                    | 0.00                   |

### Contributing Structures

None Contributing



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 530.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 536.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 530.00     | 536.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 534.00     | 536.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 534.00 ft                   |
| Weir Length                                 | 9.00 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 530.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.85                      | (N/A)                    | 0.00                   |
| 534.20                       | 2.41                      | (N/A)                    | 0.00                   |
| 534.30                       | 4.44                      | (N/A)                    | 0.00                   |
| 534.40                       | 6.83                      | (N/A)                    | 0.00                   |
| 534.50                       | 9.55                      | (N/A)                    | 0.00                   |
| 534.60                       | 12.55                     | (N/A)                    | 0.00                   |
| 534.70                       | 15.81                     | (N/A)                    | 0.00                   |
| 534.80                       | 19.32                     | (N/A)                    | 0.00                   |
| 534.90                       | 23.05                     | (N/A)                    | 0.00                   |
| 535.00                       | 27.00                     | (N/A)                    | 0.00                   |
| 535.10                       | 31.15                     | (N/A)                    | 0.00                   |
| 535.20                       | 35.49                     | (N/A)                    | 0.00                   |
| 535.30                       | 40.02                     | (N/A)                    | 0.00                   |
| 535.40                       | 44.73                     | (N/A)                    | 0.00                   |
| 535.50                       | 49.60                     | (N/A)                    | 0.00                   |
| 535.60                       | 54.64                     | (N/A)                    | 0.00                   |
| 535.70                       | 59.85                     | (N/A)                    | 0.00                   |
| 535.80                       | 65.20                     | (N/A)                    | 0.00                   |
| 535.90                       | 70.71                     | (N/A)                    | 0.00                   |
| 536.00                       | 76.37                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
HW & TW below Inv.El.=534.000
    
```



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| HW & TW below Inv.El.=534.000 |
| H=.00; Htw=.00; Qfree=.00;    |
| H=.10; Htw=.00; Qfree=.85;    |
| H=.20; Htw=.00; Qfree=2.41;   |
| H=.30; Htw=.00; Qfree=4.44;   |
| H=.40; Htw=.00; Qfree=6.83;   |
| H=.50; Htw=.00; Qfree=9.55;   |
| H=.60; Htw=.00; Qfree=12.55;  |
| H=.70; Htw=.00; Qfree=15.81;  |
| H=.80; Htw=.00; Qfree=19.32;  |
| H=.90; Htw=.00; Qfree=23.05;  |
| H=1.00; Htw=.00; Qfree=27.00; |
| H=1.10; Htw=.00; Qfree=31.15; |
| H=1.20; Htw=.00; Qfree=35.49; |
| H=1.30; Htw=.00; Qfree=40.02; |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=1.40; Htw=.00; Qfree=44.73; |
| H=1.50; Htw=.00; Qfree=49.60; |
| H=1.60; Htw=.00; Qfree=54.64; |
| H=1.70; Htw=.00; Qfree=59.85; |
| H=1.80; Htw=.00; Qfree=65.20; |
| H=1.90; Htw=.00; Qfree=70.71; |
| H=2.00; Htw=.00; Qfree=76.37; |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.02                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.07                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.14                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.20                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.24                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.28                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.31                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.33                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.36                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.38                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.41                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.43                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.45                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.47                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.48                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.50                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.52                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.54                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.55                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.57                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.58                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.60                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.61                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.63                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.64                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.66                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.67                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.68                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.69                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.71                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.72                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.73                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.74                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.76                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.77                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.78                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.79                         | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.80                       | 0.80                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.81                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.82                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.83                      | (N/A)                    | 0.00                   |
| 534.20                       | 0.84                      | (N/A)                    | 0.00                   |
| 534.30                       | 0.85                      | (N/A)                    | 0.00                   |
| 534.40                       | 0.86                      | (N/A)                    | 0.00                   |
| 534.50                       | 0.87                      | (N/A)                    | 0.00                   |
| 534.60                       | 0.88                      | (N/A)                    | 0.00                   |
| 534.70                       | 0.89                      | (N/A)                    | 0.00                   |
| 534.80                       | 0.90                      | (N/A)                    | 0.00                   |
| 534.90                       | 0.91                      | (N/A)                    | 0.00                   |
| 535.00                       | 0.92                      | (N/A)                    | 0.00                   |
| 535.10                       | 0.93                      | (N/A)                    | 0.00                   |
| 535.20                       | 0.94                      | (N/A)                    | 0.00                   |
| 535.30                       | 0.95                      | (N/A)                    | 0.00                   |
| 535.40                       | 0.96                      | (N/A)                    | 0.00                   |
| 535.50                       | 0.97                      | (N/A)                    | 0.00                   |
| 535.60                       | 0.98                      | (N/A)                    | 0.00                   |
| 535.70                       | 0.99                      | (N/A)                    | 0.00                   |
| 535.80                       | 1.00                      | (N/A)                    | 0.00                   |
| 535.90                       | 1.01                      | (N/A)                    | 0.00                   |
| 536.00                       | 1.01                      | (N/A)                    | 0.00                   |

Computation Messages

```

Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H = .93              |
| H = 1.03             |
| H = 1.13             |
| H = 1.23             |
| H = 1.33             |
| H = 1.43             |
| H = 1.53             |
| H = 1.63             |
| H = 1.73             |
| H = 1.83             |
| H = 1.93             |
| H = 2.03             |
| H = 2.13             |
| H = 2.23             |
| H = 2.33             |
| H = 2.43             |
| H = 2.53             |
| H = 2.63             |
| H = 2.73             |
| H = 2.83             |
| H = 2.93             |
| H = 3.03             |
| H = 3.13             |
| H = 3.23             |
| H = 3.33             |
| H = 3.43             |
| H = 3.53             |
| H = 3.63             |
| H = 3.73             |
| H = 3.83             |
| H = 3.93             |
| H = 4.03             |
| H = 4.13             |
| H = 4.23             |
| H = 4.33             |
| H = 4.43             |
| H = 4.53             |
| H = 4.63             |
| H = 4.73             |
| H = 4.83             |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =4.93              |
| H =5.03              |
| H =5.13              |
| H =5.23              |
| H =5.33              |
| H =5.43              |
| H =5.53              |
| H =5.63              |
| H =5.73              |
| H =5.83              |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.10                       | 0.02                      | (N/A)                    | 0.00                   |
| 530.20                       | 0.07                      | (N/A)                    | 0.00                   |
| 530.30                       | 0.14                      | (N/A)                    | 0.00                   |
| 530.40                       | 0.20                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.60                       | 0.28                      | (N/A)                    | 0.00                   |
| 530.70                       | 0.31                      | (N/A)                    | 0.00                   |
| 530.80                       | 0.33                      | (N/A)                    | 0.00                   |
| 530.90                       | 0.36                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 531.10                       | 0.41                      | (N/A)                    | 0.00                   |
| 531.20                       | 0.43                      | (N/A)                    | 0.00                   |
| 531.30                       | 0.45                      | (N/A)                    | 0.00                   |
| 531.40                       | 0.47                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.60                       | 0.50                      | (N/A)                    | 0.00                   |
| 531.70                       | 0.52                      | (N/A)                    | 0.00                   |
| 531.80                       | 0.54                      | (N/A)                    | 0.00                   |
| 531.90                       | 0.55                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 532.10                       | 0.58                      | (N/A)                    | 0.00                   |
| 532.20                       | 0.60                      | (N/A)                    | 0.00                   |
| 532.30                       | 0.61                      | (N/A)                    | 0.00                   |
| 532.40                       | 0.63                      | (N/A)                    | 0.00                   |
| 532.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.60                       | 0.66                      | (N/A)                    | 0.00                   |
| 532.70                       | 0.67                      | (N/A)                    | 0.00                   |
| 532.80                       | 0.68                      | (N/A)                    | 0.00                   |
| 532.90                       | 0.69                      | (N/A)                    | 0.00                   |
| 533.00                       | 0.71                      | (N/A)                    | 0.00                   |
| 533.10                       | 0.72                      | (N/A)                    | 0.00                   |
| 533.20                       | 0.73                      | (N/A)                    | 0.00                   |
| 533.30                       | 0.74                      | (N/A)                    | 0.00                   |
| 533.40                       | 0.76                      | (N/A)                    | 0.00                   |
| 533.50                       | 0.77                      | (N/A)                    | 0.00                   |
| 533.60                       | 0.78                      | (N/A)                    | 0.00                   |
| 533.70                       | 0.79                      | (N/A)                    | 0.00                   |
| 533.80                       | 0.80                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.81                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.82                      | (N/A)                    | 0.00                   |
| 534.10                       | 1.69                      | (N/A)                    | 0.00                   |
| 534.20                       | 3.26                      | (N/A)                    | 0.00                   |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1B

Return Event: 25 years  
 Storm Event: 25-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 534.30                       | 5.29                      | (N/A)                    | 0.00                   |
| 534.40                       | 7.69                      | (N/A)                    | 0.00                   |
| 534.50                       | 10.42                     | (N/A)                    | 0.00                   |
| 534.60                       | 13.43                     | (N/A)                    | 0.00                   |
| 534.70                       | 16.71                     | (N/A)                    | 0.00                   |
| 534.80                       | 20.22                     | (N/A)                    | 0.00                   |
| 534.90                       | 23.97                     | (N/A)                    | 0.00                   |
| 535.00                       | 27.92                     | (N/A)                    | 0.00                   |
| 535.10                       | 32.08                     | (N/A)                    | 0.00                   |
| 535.20                       | 36.43                     | (N/A)                    | 0.00                   |
| 535.30                       | 40.97                     | (N/A)                    | 0.00                   |
| 535.40                       | 45.69                     | (N/A)                    | 0.00                   |
| 535.50                       | 50.57                     | (N/A)                    | 0.00                   |
| 535.60                       | 55.62                     | (N/A)                    | 0.00                   |
| 535.70                       | 60.83                     | (N/A)                    | 0.00                   |
| 535.80                       | 66.20                     | (N/A)                    | 0.00                   |
| 535.90                       | 71.72                     | (N/A)                    | 0.00                   |
| 536.00                       | 77.38                     | (N/A)                    | 0.00                   |

| Contributing Structures |
|-------------------------|
| None Contributing       |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |





## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 553.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 553.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 553.50 ft                   |
| Diameter                                    | 8.0 in                      |
| Orifice Area                                | 0.3 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 2.09 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 2

Return Event: 25 years  
 Storm Event: 25-year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 553.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.60                             | 0.20                         | (N/A)                       | 0.00                      |
| 553.70                             | 0.56                         | (N/A)                       | 0.00                      |
| 553.80                             | 0.92                         | (N/A)                       | 0.00                      |
| 553.90                             | 1.06                         | (N/A)                       | 0.00                      |
| 554.00                             | 1.19                         | (N/A)                       | 0.00                      |
| 554.10                             | 1.30                         | (N/A)                       | 0.00                      |
| 554.20                             | 1.41                         | (N/A)                       | 0.00                      |
| 554.30                             | 1.50                         | (N/A)                       | 0.00                      |
| 554.40                             | 1.59                         | (N/A)                       | 0.00                      |
| 554.50                             | 1.68                         | (N/A)                       | 0.00                      |
| 554.60                             | 1.76                         | (N/A)                       | 0.00                      |
| 554.70                             | 1.84                         | (N/A)                       | 0.00                      |
| 554.80                             | 1.92                         | (N/A)                       | 0.00                      |
| 554.90                             | 1.99                         | (N/A)                       | 0.00                      |
| 555.00                             | 2.06                         | (N/A)                       | 0.00                      |
| 555.10                             | 2.13                         | (N/A)                       | 0.00                      |
| 555.20                             | 2.19                         | (N/A)                       | 0.00                      |
| 555.30                             | 2.25                         | (N/A)                       | 0.00                      |
| 555.40                             | 2.32                         | (N/A)                       | 0.00                      |
| 555.50                             | 2.38                         | (N/A)                       | 0.00                      |
| 555.60                             | 2.43                         | (N/A)                       | 0.00                      |
| 555.70                             | 2.49                         | (N/A)                       | 0.00                      |
| 555.80                             | 2.55                         | (N/A)                       | 0.00                      |
| 555.90                             | 2.60                         | (N/A)                       | 0.00                      |
| 556.00                             | 2.66                         | (N/A)                       | 0.00                      |

Computation Messages

HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 Weir: H =0ft

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                  |
|---|
| Weir: H =0.1ft  |
| Weir: H =0.2ft  |
| Orifice: H =.30; Riser orifice equation controlling.  |
| Orifice: H =.40; Riser orifice equation controlling.  |
| Orifice: H =.50; Riser orifice equation controlling.  |
| Orifice: H =.60; Riser orifice equation controlling.  |
| Orifice: H =.70; Riser orifice equation controlling.  |
| Orifice: H =.80; Riser orifice equation controlling.  |
| Orifice: H =.90; Riser orifice equation controlling.  |
| Orifice: H =1.00; Riser orifice equation controlling. |
| Orifice: H =1.10; Riser orifice equation controlling. |
| Orifice: H =1.20; Riser orifice equation controlling. |
| Orifice: H =1.30; Riser orifice equation controlling. |
| Orifice: H =1.40; Riser orifice equation controlling. |
| Orifice: H =1.50; Riser orifice equation controlling. |
| Orifice: H =1.60; Riser orifice equation controlling. |
| Orifice: H =1.70; Riser orifice equation controlling. |
| Orifice: H =1.80; Riser orifice equation controlling. |
| Orifice: H =1.90; Riser orifice equation controlling. |
| Orifice: H =2.00; Riser orifice equation controlling. |
| Orifice: H =2.10; Riser orifice equation controlling. |
| Orifice: H =2.20; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 25 years  
Storm Event: 25-year

## RATING TABLE FOR ONE OUTLET TYPE

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

### Computation Messages

Orifice: H =2.30; Riser orifice equation controlling.

Orifice: H =2.40; Riser orifice equation controlling.

Orifice: H =2.50; Riser orifice equation controlling.

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 2

Return Event: 25 years  
 Storm Event: 25-year

## Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 553.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.60                             | 0.20                         | (N/A)                       | 0.00                      |
| 553.70                             | 0.56                         | (N/A)                       | 0.00                      |
| 553.80                             | 0.92                         | (N/A)                       | 0.00                      |
| 553.90                             | 1.06                         | (N/A)                       | 0.00                      |
| 554.00                             | 1.19                         | (N/A)                       | 0.00                      |
| 554.10                             | 1.30                         | (N/A)                       | 0.00                      |
| 554.20                             | 1.41                         | (N/A)                       | 0.00                      |
| 554.30                             | 1.50                         | (N/A)                       | 0.00                      |
| 554.40                             | 1.59                         | (N/A)                       | 0.00                      |
| 554.50                             | 1.68                         | (N/A)                       | 0.00                      |
| 554.60                             | 1.76                         | (N/A)                       | 0.00                      |
| 554.70                             | 1.84                         | (N/A)                       | 0.00                      |
| 554.80                             | 1.92                         | (N/A)                       | 0.00                      |
| 554.90                             | 1.99                         | (N/A)                       | 0.00                      |
| 555.00                             | 2.06                         | (N/A)                       | 0.00                      |
| 555.10                             | 2.13                         | (N/A)                       | 0.00                      |
| 555.20                             | 2.19                         | (N/A)                       | 0.00                      |
| 555.30                             | 2.25                         | (N/A)                       | 0.00                      |
| 555.40                             | 2.32                         | (N/A)                       | 0.00                      |
| 555.50                             | 2.38                         | (N/A)                       | 0.00                      |
| 555.60                             | 2.43                         | (N/A)                       | 0.00                      |
| 555.70                             | 2.49                         | (N/A)                       | 0.00                      |
| 555.80                             | 2.55                         | (N/A)                       | 0.00                      |
| 555.90                             | 2.60                         | (N/A)                       | 0.00                      |
| 556.00                             | 2.66                         | (N/A)                       | 0.00                      |

### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 2

Return Event: 25 years  
Storm Event: 25-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 554.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 554.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 554.50 ft                   |
| Diameter                                    | 15.0 in                     |
| Orifice Area                                | 1.2 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 3.93 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 3

Return Event: 25 years  
 Storm Event: 25-year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 554.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.60                       | 0.37                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.05                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.94                      | (N/A)                    | 0.00                   |
| 554.90                       | 2.98                      | (N/A)                    | 0.00                   |
| 555.00                       | 4.17                      | (N/A)                    | 0.00                   |
| 555.10                       | 4.58                      | (N/A)                    | 0.00                   |
| 555.20                       | 4.94                      | (N/A)                    | 0.00                   |
| 555.30                       | 5.28                      | (N/A)                    | 0.00                   |
| 555.40                       | 5.60                      | (N/A)                    | 0.00                   |
| 555.50                       | 5.91                      | (N/A)                    | 0.00                   |
| 555.60                       | 6.19                      | (N/A)                    | 0.00                   |
| 555.70                       | 6.47                      | (N/A)                    | 0.00                   |
| 555.80                       | 6.73                      | (N/A)                    | 0.00                   |
| 555.90                       | 6.99                      | (N/A)                    | 0.00                   |
| 556.00                       | 7.23                      | (N/A)                    | 0.00                   |

**Computation Messages**

HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 Weir: H =0ft  
 Weir: H =0.1ft  
 Weir: H =0.2ft  
 Weir: H =0.3ft  
 Weir: H =0.4ft  
 Weir: H =0.5ft  
 Orifice: H =.60; Riser orifice equation controlling.  
 Orifice: H =.70; Riser orifice equation controlling.

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 3

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                   |
|--|
| Orifice: H = .80; Riser orifice equation controlling.  |
| Orifice: H = .90; Riser orifice equation controlling.  |
| Orifice: H = 1.00; Riser orifice equation controlling. |
| Orifice: H = 1.10; Riser orifice equation controlling. |
| Orifice: H = 1.20; Riser orifice equation controlling. |
| Orifice: H = 1.30; Riser orifice equation controlling. |
| Orifice: H = 1.40; Riser orifice equation controlling. |
| Orifice: H = 1.50; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 3

Return Event: 25 years  
 Storm Event: 25-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 554.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.60                       | 0.37                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.05                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.94                      | (N/A)                    | 0.00                   |
| 554.90                       | 2.98                      | (N/A)                    | 0.00                   |
| 555.00                       | 4.17                      | (N/A)                    | 0.00                   |
| 555.10                       | 4.58                      | (N/A)                    | 0.00                   |
| 555.20                       | 4.94                      | (N/A)                    | 0.00                   |
| 555.30                       | 5.28                      | (N/A)                    | 0.00                   |
| 555.40                       | 5.60                      | (N/A)                    | 0.00                   |
| 555.50                       | 5.91                      | (N/A)                    | 0.00                   |
| 555.60                       | 6.19                      | (N/A)                    | 0.00                   |
| 555.70                       | 6.47                      | (N/A)                    | 0.00                   |
| 555.80                       | 6.73                      | (N/A)                    | 0.00                   |
| 555.90                       | 6.99                      | (N/A)                    | 0.00                   |
| 556.00                       | 7.23                      | (N/A)                    | 0.00                   |

#### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 545.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 549.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 545.50     | 549.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 547.50     | 549.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 545.50 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 547.50 ft                   |
| Weir Length                                 | 3.50 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.02                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.07                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.14                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.20                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.24                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.28                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.31                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.33                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.36                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.38                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.41                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.43                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.45                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.47                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.48                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.50                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.52                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.54                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.55                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.57                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.58                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.60                         | (N/A)                       | 0.00                      |
| 547.80                             | 0.61                         | (N/A)                       | 0.00                      |
| 547.90                             | 0.63                         | (N/A)                       | 0.00                      |
| 548.00                             | 0.64                         | (N/A)                       | 0.00                      |
| 548.10                             | 0.66                         | (N/A)                       | 0.00                      |
| 548.20                             | 0.67                         | (N/A)                       | 0.00                      |
| 548.30                             | 0.68                         | (N/A)                       | 0.00                      |
| 548.40                             | 0.69                         | (N/A)                       | 0.00                      |
| 548.50                             | 0.71                         | (N/A)                       | 0.00                      |
| 548.60                             | 0.72                         | (N/A)                       | 0.00                      |
| 548.70                             | 0.73                         | (N/A)                       | 0.00                      |



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 0.74                      | (N/A)                    | 0.00                   |
| 548.90                       | 0.76                      | (N/A)                    | 0.00                   |
| 549.00                       | 0.77                      | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
H =.93
H =1.03
H =1.13
H =1.23
H =1.33
H =1.43
H =1.53
H =1.63
H =1.73
H =1.83
H =1.93
H =2.03
H =2.13
H =2.23
H =2.33
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =2.43              |
| H =2.53              |
| H =2.63              |
| H =2.73              |
| H =2.83              |
| H =2.93              |
| H =3.03              |
| H =3.13              |
| H =3.23              |
| H =3.33              |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.33                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.94                         | (N/A)                       | 0.00                      |
| 547.80                             | 1.73                         | (N/A)                       | 0.00                      |
| 547.90                             | 2.66                         | (N/A)                       | 0.00                      |
| 548.00                             | 3.71                         | (N/A)                       | 0.00                      |
| 548.10                             | 4.88                         | (N/A)                       | 0.00                      |
| 548.20                             | 6.15                         | (N/A)                       | 0.00                      |
| 548.30                             | 7.51                         | (N/A)                       | 0.00                      |
| 548.40                             | 8.97                         | (N/A)                       | 0.00                      |
| 548.50                             | 10.50                        | (N/A)                       | 0.00                      |
| 548.60                             | 12.11                        | (N/A)                       | 0.00                      |
| 548.70                             | 13.80                        | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 15.56                     | (N/A)                    | 0.00                   |
| 548.90                       | 17.39                     | (N/A)                    | 0.00                   |
| 549.00                       | 19.29                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=.33;
H=.20; Htw=.00; Qfree=.94;
H=.30; Htw=.00; Qfree=1.73;
H=.40; Htw=.00; Qfree=2.66;
H=.50; Htw=.00; Qfree=3.71;
H=.60; Htw=.00; Qfree=4.88;
H=.70; Htw=.00; Qfree=6.15;
H=.80; Htw=.00; Qfree=7.51;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.90; Htw=.00; Qfree=8.97;   |
| H=1.00; Htw=.00; Qfree=10.50; |
| H=1.10; Htw=.00; Qfree=12.11; |
| H=1.20; Htw=.00; Qfree=13.80; |
| H=1.30; Htw=.00; Qfree=15.56; |
| H=1.40; Htw=.00; Qfree=17.39; |
| H=1.50; Htw=.00; Qfree=19.29; |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 4

Return Event: 25 years  
 Storm Event: 25-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 545.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.60                       | 0.02                      | (N/A)                    | 0.00                   |
| 545.70                       | 0.07                      | (N/A)                    | 0.00                   |
| 545.80                       | 0.14                      | (N/A)                    | 0.00                   |
| 545.90                       | 0.20                      | (N/A)                    | 0.00                   |
| 546.00                       | 0.24                      | (N/A)                    | 0.00                   |
| 546.10                       | 0.28                      | (N/A)                    | 0.00                   |
| 546.20                       | 0.31                      | (N/A)                    | 0.00                   |
| 546.30                       | 0.33                      | (N/A)                    | 0.00                   |
| 546.40                       | 0.36                      | (N/A)                    | 0.00                   |
| 546.50                       | 0.38                      | (N/A)                    | 0.00                   |
| 546.60                       | 0.41                      | (N/A)                    | 0.00                   |
| 546.70                       | 0.43                      | (N/A)                    | 0.00                   |
| 546.80                       | 0.45                      | (N/A)                    | 0.00                   |
| 546.90                       | 0.47                      | (N/A)                    | 0.00                   |
| 547.00                       | 0.48                      | (N/A)                    | 0.00                   |
| 547.10                       | 0.50                      | (N/A)                    | 0.00                   |
| 547.20                       | 0.52                      | (N/A)                    | 0.00                   |
| 547.30                       | 0.54                      | (N/A)                    | 0.00                   |
| 547.40                       | 0.55                      | (N/A)                    | 0.00                   |
| 547.50                       | 0.57                      | (N/A)                    | 0.00                   |
| 547.60                       | 0.92                      | (N/A)                    | 0.00                   |
| 547.70                       | 1.54                      | (N/A)                    | 0.00                   |
| 547.80                       | 2.34                      | (N/A)                    | 0.00                   |
| 547.90                       | 3.28                      | (N/A)                    | 0.00                   |
| 548.00                       | 4.35                      | (N/A)                    | 0.00                   |
| 548.10                       | 5.54                      | (N/A)                    | 0.00                   |
| 548.20                       | 6.82                      | (N/A)                    | 0.00                   |
| 548.30                       | 8.19                      | (N/A)                    | 0.00                   |
| 548.40                       | 9.66                      | (N/A)                    | 0.00                   |
| 548.50                       | 11.21                     | (N/A)                    | 0.00                   |
| 548.60                       | 12.83                     | (N/A)                    | 0.00                   |
| 548.70                       | 14.53                     | (N/A)                    | 0.00                   |
| 548.80                       | 16.31                     | (N/A)                    | 0.00                   |
| 548.90                       | 18.15                     | (N/A)                    | 0.00                   |
| 549.00                       | 20.06                     | (N/A)                    | 0.00                   |

#### Contributing Structures

None Contributing

O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 4

Return Event: 25 years  
Storm Event: 25-year

Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
| None Contributing       |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
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| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1             |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |
| Orifice - 1 + Weir - 1  |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 563.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 565.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 563.75     | 565.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 563.75 ft                   |
| Weir Length                                 | 10.50 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 5

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 563.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.75                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.80                             | 0.35                         | (N/A)                       | 0.00                      |
| 563.90                             | 1.83                         | (N/A)                       | 0.00                      |
| 564.00                             | 3.94                         | (N/A)                       | 0.00                      |
| 564.10                             | 6.52                         | (N/A)                       | 0.00                      |
| 564.20                             | 9.51                         | (N/A)                       | 0.00                      |
| 564.30                             | 12.85                        | (N/A)                       | 0.00                      |
| 564.40                             | 16.51                        | (N/A)                       | 0.00                      |
| 564.50                             | 20.46                        | (N/A)                       | 0.00                      |
| 564.60                             | 24.69                        | (N/A)                       | 0.00                      |
| 564.70                             | 29.17                        | (N/A)                       | 0.00                      |
| 564.80                             | 33.89                        | (N/A)                       | 0.00                      |
| 564.90                             | 38.85                        | (N/A)                       | 0.00                      |
| 565.00                             | 44.02                        | (N/A)                       | 0.00                      |

Computation Messages

```

HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
H=.00; Htw=.00; Qfree=.00;
H=.05; Htw=.00; Qfree=.35;
H=.15; Htw=.00; Qfree=1.83;
H=.25; Htw=.00; Qfree=3.94;
H=.35; Htw=.00; Qfree=6.52;
H=.45; Htw=.00; Qfree=9.51;
H=.55; Htw=.00; Qfree=12.85;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 5

Return Event: 25 years  
Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.65; Htw=.00; Qfree=16.51;  |
| H=.75; Htw=.00; Qfree=20.46;  |
| H=.85; Htw=.00; Qfree=24.69;  |
| H=.95; Htw=.00; Qfree=29.17;  |
| H=1.05; Htw=.00; Qfree=33.89; |
| H=1.15; Htw=.00; Qfree=38.85; |
| H=1.25; Htw=.00; Qfree=44.02; |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 5

Return Event: 25 years  
 Storm Event: 25-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 563.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.75                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.80                       | 0.35                      | (N/A)                    | 0.00                   |
| 563.90                       | 1.83                      | (N/A)                    | 0.00                   |
| 564.00                       | 3.94                      | (N/A)                    | 0.00                   |
| 564.10                       | 6.52                      | (N/A)                    | 0.00                   |
| 564.20                       | 9.51                      | (N/A)                    | 0.00                   |
| 564.30                       | 12.85                     | (N/A)                    | 0.00                   |
| 564.40                       | 16.51                     | (N/A)                    | 0.00                   |
| 564.50                       | 20.46                     | (N/A)                    | 0.00                   |
| 564.60                       | 24.69                     | (N/A)                    | 0.00                   |
| 564.70                       | 29.17                     | (N/A)                    | 0.00                   |
| 564.80                       | 33.89                     | (N/A)                    | 0.00                   |
| 564.90                       | 38.85                     | (N/A)                    | 0.00                   |
| 565.00                       | 44.02                     | (N/A)                    | 0.00                   |

### Contributing Structures

- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 5

Return Event: 25 years  
Storm Event: 25-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Weir - 1                |
| Weir - 1                |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 25 years  
 Storm Event: 25-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 529.00 ft |
| Increment (Headwater)                   | 0.50 ft   |
| Maximum (Headwater)                     | 532.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 529.00     | 532.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 531.00     | 532.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 25 years  
 Storm Event: 25-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 529.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 531.00 ft                   |
| Weir Length                                 | 14.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.71                      | (N/A)                    | 0.00                   |

### Computation Messages

Upstream HW & DNstream TW < Inv.El  
 H = .33  
 H = .83  
 H = 1.33  
 H = 1.83  
 H = 2.33  
 H = 2.83



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 25 years  
 Storm Event: 25-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.50                       | 14.85                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.00                     | (N/A)                    | 0.00                   |

Computation Messages

HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 H=.00; Htw=.00; Qfree=.00;  
 H=.50; Htw=.00; Qfree=14.85;  
 H=1.00; Htw=.00; Qfree=42.00;

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 7

Return Event: 25 years  
 Storm Event: 25-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 15.49                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.71                     | (N/A)                    | 0.00                   |

#### Contributing Structures

|                        |
|------------------------|
| None Contributing      |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 8.14 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.542 ac-ft             |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.100          | 0.00                         | 5.28                         | 8.14                         | 7.87                         | 7.17                         |
| 12.350          | 6.28                         | 5.37                         | 4.57                         | 3.89                         | 3.33                         |
| 12.600          | 2.88                         | 2.61                         | 2.33                         | 2.07                         | 1.84                         |
| 12.850          | 1.65                         | 1.49                         | 1.36                         | 1.25                         | 1.16                         |
| 13.100          | 1.08                         | 1.01                         | 0.96                         | 0.91                         | 0.86                         |
| 13.350          | 0.82                         | 0.79                         | 0.75                         | 0.73                         | 0.70                         |
| 13.600          | 0.68                         | 0.66                         | 0.64                         | 0.63                         | 0.61                         |
| 13.850          | 0.59                         | 0.58                         | 0.57                         | 0.55                         | 0.54                         |
| 14.100          | 0.53                         | 0.51                         | 0.50                         | 0.49                         | 0.48                         |
| 14.350          | 0.47                         | 0.46                         | 0.45                         | 0.45                         | 0.44                         |
| 14.600          | 0.44                         | 0.43                         | 0.43                         | 0.42                         | 0.42                         |
| 14.850          | 0.41                         | 0.41                         | 0.40                         | 0.40                         | 0.39                         |
| 15.100          | 0.39                         | 0.38                         | 0.38                         | 0.38                         | 0.37                         |
| 15.350          | 0.37                         | 0.36                         | 0.36                         | 0.36                         | 0.35                         |
| 15.600          | 0.35                         | 0.34                         | 0.34                         | 0.33                         | 0.33                         |
| 15.850          | 0.33                         | 0.32                         | 0.32                         | 0.31                         | 0.31                         |
| 16.100          | 0.31                         | 0.30                         | 0.30                         | 0.29                         | 0.29                         |
| 16.350          | 0.29                         | 0.28                         | 0.28                         | 0.28                         | 0.28                         |
| 16.600          | 0.27                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 16.850          | 0.27                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 17.100          | 0.26                         | 0.26                         | 0.26                         | 0.25                         | 0.25                         |
| 17.350          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.24                         |
| 17.600          | 0.24                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.850          | 0.24                         | 0.23                         | 0.23                         | 0.23                         | 0.23                         |
| 18.100          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 18.350          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.21                         |
| 18.600          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.850          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 19.100          | 0.20                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 19.350          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 19.600          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.850          | 0.18                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 20.100          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 20.350          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.600          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.850          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 21.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.350          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 21.600       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 21.850       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 22.100       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 22.350       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 22.600       | 0.15                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 22.850       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 23.100       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 23.350       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 23.600       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 23.850       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.76 ft <sup>3</sup> /s |
| Time to Peak      | 13.650 hours            |
| Hydrograph Volume | 0.667 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.700           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.950           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.200           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.450           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 7.700           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.450           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.700           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 8.950           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.200           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.450           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.700           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.950           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 10.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 10.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 10.700          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.950          | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 11.200          | 0.10                         | 0.11                         | 0.12                         | 0.13                         | 0.13                         |
| 11.450          | 0.14                         | 0.15                         | 0.17                         | 0.21                         | 0.25                         |
| 11.700          | 0.29                         | 0.33                         | 0.36                         | 0.40                         | 0.44                         |
| 11.950          | 0.47                         | 0.49                         | 0.50                         | 0.50                         | 0.53                         |
| 12.200          | 0.57                         | 0.60                         | 0.63                         | 0.66                         | 0.68                         |
| 12.450          | 0.69                         | 0.70                         | 0.71                         | 0.72                         | 0.73                         |
| 12.700          | 0.73                         | 0.74                         | 0.74                         | 0.74                         | 0.75                         |
| 12.950          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 13.200          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 13.450          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 13.700          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 13.950          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 14.200          | 0.76                         | 0.76                         | 0.76                         | 0.75                         | 0.75                         |
| 14.450          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 14.700          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 14.950          | 0.75                         | 0.75                         | 0.75                         | 0.74                         | 0.74                         |
| 15.200          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 15.450          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 15.700          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 15.950          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.200       | 0.72                      | 0.72                      | 0.72                      | 0.72                      | 0.72                      |
| 16.450       | 0.72                      | 0.72                      | 0.72                      | 0.72                      | 0.71                      |
| 16.700       | 0.71                      | 0.71                      | 0.71                      | 0.71                      | 0.71                      |
| 16.950       | 0.71                      | 0.71                      | 0.71                      | 0.70                      | 0.70                      |
| 17.200       | 0.70                      | 0.70                      | 0.70                      | 0.70                      | 0.70                      |
| 17.450       | 0.70                      | 0.69                      | 0.69                      | 0.69                      | 0.69                      |
| 17.700       | 0.69                      | 0.69                      | 0.69                      | 0.69                      | 0.68                      |
| 17.950       | 0.68                      | 0.68                      | 0.68                      | 0.68                      | 0.68                      |
| 18.200       | 0.68                      | 0.67                      | 0.67                      | 0.67                      | 0.67                      |
| 18.450       | 0.67                      | 0.67                      | 0.67                      | 0.66                      | 0.66                      |
| 18.700       | 0.66                      | 0.66                      | 0.66                      | 0.66                      | 0.66                      |
| 18.950       | 0.65                      | 0.65                      | 0.65                      | 0.65                      | 0.65                      |
| 19.200       | 0.65                      | 0.65                      | 0.64                      | 0.64                      | 0.64                      |
| 19.450       | 0.64                      | 0.64                      | 0.64                      | 0.63                      | 0.63                      |
| 19.700       | 0.63                      | 0.63                      | 0.63                      | 0.63                      | 0.62                      |
| 19.950       | 0.62                      | 0.62                      | 0.62                      | 0.62                      | 0.62                      |
| 20.200       | 0.61                      | 0.61                      | 0.61                      | 0.61                      | 0.61                      |
| 20.450       | 0.60                      | 0.60                      | 0.60                      | 0.60                      | 0.60                      |
| 20.700       | 0.60                      | 0.59                      | 0.59                      | 0.59                      | 0.59                      |
| 20.950       | 0.59                      | 0.58                      | 0.58                      | 0.58                      | 0.58                      |
| 21.200       | 0.58                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 21.450       | 0.57                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 21.700       | 0.56                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 21.950       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 22.200       | 0.53                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 22.450       | 0.52                      | 0.52                      | 0.51                      | 0.51                      | 0.51                      |
| 22.700       | 0.51                      | 0.50                      | 0.50                      | 0.50                      | 0.49                      |
| 22.950       | 0.49                      | 0.49                      | 0.48                      | 0.48                      | 0.48                      |
| 23.200       | 0.47                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 23.450       | 0.45                      | 0.45                      | 0.45                      | 0.44                      | 0.44                      |
| 23.700       | 0.43                      | 0.43                      | 0.42                      | 0.42                      | 0.41                      |
| 23.950       | 0.41                      | 0.40                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
Label: Outlet2

Return Event: 25 years  
Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.76 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours            |
| Hydrograph Volume | 0.174 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 7.850           | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.03                         |
| 8.100           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.350           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 8.600           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.850           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.100           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.350           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.600           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 9.850           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 10.100          | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 10.350          | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 10.600          | 0.11                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 10.850          | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 11.100          | 0.15                         | 0.16                         | 0.17                         | 0.18                         | 0.19                         |
| 11.350          | 0.20                         | 0.21                         | 0.23                         | 0.24                         | 0.28                         |
| 11.600          | 0.36                         | 0.50                         | 0.69                         | 0.92                         | 1.05                         |
| 11.850          | 1.23                         | 1.44                         | 1.62                         | 1.73                         | 1.76                         |
| 12.100          | 1.71                         | 1.60                         | 1.47                         | 1.33                         | 1.19                         |
| 12.350          | 1.03                         | 0.84                         | 0.58                         | 0.42                         | 0.33                         |
| 12.600          | 0.28                         | 0.24                         | 0.22                         | 0.21                         | 0.20                         |
| 12.850          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 13.100          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 13.350          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 13.600          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 13.850          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.100          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 14.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 14.600          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.100          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 15.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 15.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.600       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 18.100       | 0.05                      | 0.05                      | 0.04                      | 0.04                      | 0.04                      |
| 18.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.03                      |
| 19.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | (N/A)                     |



## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.43 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.236 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.950           | 0.00                         | 0.02                         | 0.04                         | 0.06                         | 0.06                         |
| 10.200          | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 10.450          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 10.700          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 10.950          | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 11.200          | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.18                         |
| 11.450          | 0.19                         | 0.20                         | 0.22                         | 0.23                         | 0.26                         |
| 11.700          | 0.29                         | 0.35                         | 0.45                         | 0.61                         | 0.82                         |
| 11.950          | 1.08                         | 1.42                         | 1.76                         | 2.08                         | 2.32                         |
| 12.200          | 2.43                         | 2.40                         | 2.27                         | 2.07                         | 1.84                         |
| 12.450          | 1.61                         | 1.39                         | 1.20                         | 1.04                         | 0.93                         |
| 12.700          | 0.82                         | 0.72                         | 0.64                         | 0.58                         | 0.52                         |
| 12.950          | 0.47                         | 0.43                         | 0.40                         | 0.37                         | 0.35                         |
| 13.200          | 0.34                         | 0.32                         | 0.30                         | 0.29                         | 0.27                         |
| 13.450          | 0.26                         | 0.25                         | 0.24                         | 0.23                         | 0.22                         |
| 13.700          | 0.21                         | 0.21                         | 0.20                         | 0.20                         | 0.19                         |
| 13.950          | 0.19                         | 0.18                         | 0.18                         | 0.17                         | 0.17                         |
| 14.200          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 14.450          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 14.700          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 14.950          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 15.200          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 15.450          | 0.12                         | 0.12                         | 0.11                         | 0.11                         | 0.11                         |
| 15.700          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 15.950          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 16.200          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 16.450          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.700          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.950          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.200          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.450          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.700          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.950          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.200          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.450          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.700          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.950          | 0.07                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.200          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 19.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 19.950       | 0.06                      | 0.06                      | 0.05                      | 0.05                      | 0.05                      |
| 20.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 23.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 23.450       | 0.05                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.700       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.950       | 0.04                      | 0.04                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.54 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.126 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 8.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.600           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 8.850           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 9.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 9.350           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.600           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.850           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.100          | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 10.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 10.600          | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 10.850          | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 11.100          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 11.350          | 0.13                         | 0.13                         | 0.14                         | 0.15                         | 0.16                         |
| 11.600          | 0.18                         | 0.21                         | 0.25                         | 0.29                         | 0.33                         |
| 11.850          | 0.38                         | 0.43                         | 0.48                         | 0.51                         | 0.53                         |
| 12.100          | 0.54                         | 0.54                         | 0.54                         | 0.53                         | 0.53                         |
| 12.350          | 0.52                         | 0.52                         | 0.51                         | 0.50                         | 0.50                         |
| 12.600          | 0.49                         | 0.48                         | 0.47                         | 0.47                         | 0.46                         |
| 12.850          | 0.45                         | 0.44                         | 0.43                         | 0.42                         | 0.41                         |
| 13.100          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.350          | 0.35                         | 0.34                         | 0.33                         | 0.32                         | 0.31                         |
| 13.600          | 0.29                         | 0.28                         | 0.27                         | 0.26                         | 0.24                         |
| 13.850          | 0.23                         | 0.22                         | 0.21                         | 0.19                         | 0.18                         |
| 14.100          | 0.16                         | 0.15                         | 0.14                         | 0.13                         | 0.12                         |
| 14.350          | 0.11                         | 0.10                         | 0.10                         | 0.09                         | 0.09                         |
| 14.600          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 14.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 15.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.350          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 17.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.100          | 0.04                         | 0.04                         | 0.03                         | 0.03                         | 0.03                         |
| 18.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 18.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.100          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.100          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.350          | 0.03                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.600          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 20.850          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.100          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.350          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.600          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 21.850          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.100          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.350          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.600          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 22.850          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.100          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.350          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.600          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 23.850          | 0.02                         | 0.02                         | 0.02                         | 0.02                         | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
Label: Outlet5

Return Event: 25 years  
Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 6.05 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.336 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.450           | 0.00                         | 0.03                         | 0.07                         | 0.09                         | 0.11                         |
| 9.700           | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 9.950           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 10.200          | 0.16                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 10.450          | 0.19                         | 0.20                         | 0.20                         | 0.21                         | 0.22                         |
| 10.700          | 0.22                         | 0.23                         | 0.24                         | 0.25                         | 0.26                         |
| 10.950          | 0.27                         | 0.28                         | 0.29                         | 0.30                         | 0.32                         |
| 11.200          | 0.34                         | 0.36                         | 0.39                         | 0.42                         | 0.44                         |
| 11.450          | 0.46                         | 0.49                         | 0.58                         | 0.79                         | 1.13                         |
| 11.700          | 1.60                         | 2.24                         | 2.97                         | 3.96                         | 5.43                         |
| 11.950          | 6.05                         | 5.50                         | 4.28                         | 2.65                         | 1.50                         |
| 12.200          | 1.10                         | 0.91                         | 0.81                         | 0.74                         | 0.68                         |
| 12.450          | 0.62                         | 0.56                         | 0.51                         | 0.47                         | 0.44                         |
| 12.700          | 0.42                         | 0.40                         | 0.39                         | 0.38                         | 0.36                         |
| 12.950          | 0.35                         | 0.34                         | 0.33                         | 0.32                         | 0.31                         |
| 13.200          | 0.30                         | 0.30                         | 0.29                         | 0.28                         | 0.27                         |
| 13.450          | 0.27                         | 0.26                         | 0.25                         | 0.25                         | 0.24                         |
| 13.700          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.21                         |
| 13.950          | 0.21                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 14.200          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.18                         |
| 14.450          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.17                         |
| 14.700          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 14.950          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 15.200          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.14                         |
| 15.450          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 15.700          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 15.950          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.200          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 16.450          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.700          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.950          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 17.200          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.450          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.700          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.950          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.200          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.450          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.700          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 18.950       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.200       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.450       | 0.08                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.700       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.950       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.200       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.450       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.700       | 0.07                      | 0.07                      | 0.06                      | 0.06                      | 0.06                      |
| 20.950       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.200       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.950       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.200       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.950       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.200       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.950       | 0.06                      | 0.06                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 5.52 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.705 ac-ft             |

**HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)**  
**Output Time Increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.350           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.850           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 7.350           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.600           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.850           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 8.100           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 8.350           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.600           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 8.850           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 9.100           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.12                         |
| 9.350           | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 9.600           | 0.13                         | 0.14                         | 0.14                         | 0.14                         | 0.15                         |
| 9.850           | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.17                         |
| 10.100          | 0.18                         | 0.18                         | 0.19                         | 0.20                         | 0.20                         |
| 10.350          | 0.21                         | 0.22                         | 0.23                         | 0.24                         | 0.24                         |
| 10.600          | 0.24                         | 0.24                         | 0.25                         | 0.25                         | 0.25                         |
| 10.850          | 0.25                         | 0.25                         | 0.25                         | 0.26                         | 0.26                         |
| 11.100          | 0.26                         | 0.27                         | 0.27                         | 0.27                         | 0.28                         |
| 11.350          | 0.28                         | 0.29                         | 0.29                         | 0.30                         | 0.31                         |
| 11.600          | 0.32                         | 0.34                         | 0.37                         | 0.40                         | 0.42                         |
| 11.850          | 0.46                         | 0.50                         | 0.54                         | 1.94                         | 5.26                         |
| 12.100          | 5.52                         | 4.52                         | 3.61                         | 2.96                         | 2.51                         |
| 12.350          | 2.19                         | 1.94                         | 1.75                         | 1.57                         | 1.42                         |
| 12.600          | 1.29                         | 1.19                         | 1.12                         | 1.06                         | 1.01                         |
| 12.850          | 0.97                         | 0.93                         | 0.90                         | 0.87                         | 0.84                         |
| 13.100          | 0.81                         | 0.78                         | 0.76                         | 0.74                         | 0.72                         |
| 13.350          | 0.70                         | 0.68                         | 0.66                         | 0.65                         | 0.63                         |
| 13.600          | 0.61                         | 0.60                         | 0.58                         | 0.57                         | 0.57                         |
| 13.850          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.100          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.350          | 0.57                         | 0.57                         | 0.56                         | 0.56                         | 0.56                         |
| 14.600          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 14.850          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.100          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.350          | 0.56                         | 0.55                         | 0.55                         | 0.55                         | 0.55                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.600       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 15.850       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 16.100       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.350       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.600       | 0.54                      | 0.54                      | 0.53                      | 0.53                      | 0.53                      |
| 16.850       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 17.100       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.52                      |
| 17.350       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 17.600       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 17.850       | 0.52                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.100       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.350       | 0.51                      | 0.51                      | 0.50                      | 0.50                      | 0.50                      |
| 18.600       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 18.850       | 0.50                      | 0.50                      | 0.50                      | 0.49                      | 0.49                      |
| 19.100       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 19.350       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.48                      |
| 19.600       | 0.48                      | 0.48                      | 0.48                      | 0.48                      | 0.48                      |
| 19.850       | 0.48                      | 0.48                      | 0.47                      | 0.47                      | 0.47                      |
| 20.100       | 0.47                      | 0.47                      | 0.47                      | 0.47                      | 0.47                      |
| 20.350       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 20.600       | 0.46                      | 0.46                      | 0.46                      | 0.45                      | 0.45                      |
| 20.850       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 21.100       | 0.45                      | 0.45                      | 0.44                      | 0.44                      | 0.44                      |
| 21.350       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.600       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 21.850       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.42                      |
| 22.100       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.350       | 0.42                      | 0.42                      | 0.42                      | 0.41                      | 0.41                      |
| 22.600       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 22.850       | 0.41                      | 0.41                      | 0.40                      | 0.40                      | 0.40                      |
| 23.100       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 23.350       | 0.40                      | 0.40                      | 0.39                      | 0.39                      | 0.39                      |
| 23.600       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 23.850       | 0.39                      | 0.39                      | 0.38                      | 0.38                      | (N/A)                     |



## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond1A

Return Event: 25 years

Storm Event: 25-year

| Infiltration                       |                         |
|------------------------------------|-------------------------|
| Infiltration Method (Computed)     | No Infiltration         |
| Initial Conditions                 |                         |
| Elevation (Water Surface, Initial) | 533.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.00                         | 0.000           | 0.064        | 0.00                              | 0.00                              | 0.00                          |
| 533.10         | 0.00                         | 0.006           | 0.066        | 0.00                              | 0.00                              | 3.13                          |
| 533.20         | 0.00                         | 0.013           | 0.067        | 0.00                              | 0.00                              | 6.34                          |
| 533.30         | 0.00                         | 0.020           | 0.069        | 0.00                              | 0.00                              | 9.63                          |
| 533.40         | 0.00                         | 0.027           | 0.070        | 0.00                              | 0.00                              | 12.98                         |
| 533.50         | 0.00                         | 0.034           | 0.072        | 0.00                              | 0.00                              | 16.42                         |
| 533.60         | 0.00                         | 0.041           | 0.073        | 0.00                              | 0.00                              | 19.93                         |
| 533.70         | 0.00                         | 0.049           | 0.075        | 0.00                              | 0.00                              | 23.52                         |
| 533.80         | 0.00                         | 0.056           | 0.077        | 0.00                              | 0.00                              | 27.19                         |
| 533.90         | 0.00                         | 0.064           | 0.078        | 0.00                              | 0.00                              | 30.94                         |
| 534.00         | 0.00                         | 0.072           | 0.080        | 0.00                              | 0.00                              | 34.78                         |
| 534.10         | 0.00                         | 0.080           | 0.082        | 0.00                              | 0.00                              | 38.69                         |
| 534.20         | 0.00                         | 0.088           | 0.083        | 0.00                              | 0.00                              | 42.69                         |
| 534.30         | 0.00                         | 0.097           | 0.085        | 0.00                              | 0.00                              | 46.77                         |
| 534.40         | 0.00                         | 0.105           | 0.087        | 0.00                              | 0.00                              | 50.94                         |
| 534.50         | 0.00                         | 0.114           | 0.089        | 0.00                              | 0.00                              | 55.19                         |
| 534.60         | 0.00                         | 0.123           | 0.091        | 0.00                              | 0.00                              | 59.53                         |
| 534.70         | 0.00                         | 0.132           | 0.092        | 0.00                              | 0.00                              | 63.96                         |
| 534.80         | 0.00                         | 0.141           | 0.094        | 0.00                              | 0.00                              | 68.47                         |
| 534.90         | 0.00                         | 0.151           | 0.096        | 0.00                              | 0.00                              | 73.08                         |
| 535.00         | 0.00                         | 0.161           | 0.098        | 0.00                              | 0.00                              | 77.78                         |
| 535.10         | 0.00                         | 0.171           | 0.100        | 0.00                              | 0.00                              | 82.57                         |
| 535.20         | 0.00                         | 0.181           | 0.102        | 0.00                              | 0.00                              | 87.44                         |
| 535.30         | 0.00                         | 0.191           | 0.104        | 0.00                              | 0.00                              | 92.41                         |
| 535.40         | 0.00                         | 0.201           | 0.105        | 0.00                              | 0.00                              | 97.46                         |
| 535.50         | 0.00                         | 0.212           | 0.107        | 0.00                              | 0.00                              | 102.61                        |
| 535.60         | 0.00                         | 0.223           | 0.109        | 0.00                              | 0.00                              | 107.85                        |
| 535.70         | 0.00                         | 0.234           | 0.111        | 0.00                              | 0.00                              | 113.18                        |
| 535.80         | 0.00                         | 0.245           | 0.113        | 0.00                              | 0.00                              | 118.61                        |
| 535.90         | 0.00                         | 0.256           | 0.115        | 0.00                              | 0.00                              | 124.13                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 25 years

Label: Pond1A

Storm Event: 25-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 536.00            | 0.00                            | 0.268              | 0.117           | 0.00                                 | 0.00                                 | 129.74                           |
| 536.10            | 2.85                            | 0.280              | 0.119           | 0.00                                 | 2.85                                 | 138.30                           |
| 536.20            | 8.05                            | 0.292              | 0.121           | 0.00                                 | 8.05                                 | 149.31                           |
| 536.30            | 14.79                           | 0.304              | 0.123           | 0.00                                 | 14.79                                | 161.96                           |
| 536.40            | 22.77                           | 0.316              | 0.125           | 0.00                                 | 22.77                                | 175.95                           |
| 536.50            | 31.82                           | 0.329              | 0.127           | 0.00                                 | 31.82                                | 191.11                           |
| 536.60            | 41.83                           | 0.342              | 0.129           | 0.00                                 | 41.83                                | 207.33                           |
| 536.70            | 52.71                           | 0.355              | 0.132           | 0.00                                 | 52.71                                | 224.53                           |
| 536.80            | 64.40                           | 0.368              | 0.134           | 0.00                                 | 64.40                                | 242.63                           |
| 536.90            | 76.84                           | 0.382              | 0.136           | 0.00                                 | 76.84                                | 261.60                           |
| 537.00            | 90.00                           | 0.395              | 0.138           | 0.00                                 | 90.00                                | 281.38                           |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1A (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 533.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 8.41 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 8.14 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.200 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 536.20 ft               |                             |              |
| Volume (Peak)                      | 0.292 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.811 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.542 ac-ft             |                             |              |
| Volume (Retained)                  | 0.268 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.0 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 8.14 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.542 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.100          | 0.00                         | 5.28                         | 8.14                         | 7.87                         | 7.17                         |
| 12.350          | 6.28                         | 5.37                         | 4.57                         | 3.89                         | 3.33                         |
| 12.600          | 2.88                         | 2.61                         | 2.33                         | 2.07                         | 1.84                         |
| 12.850          | 1.65                         | 1.49                         | 1.36                         | 1.25                         | 1.16                         |
| 13.100          | 1.08                         | 1.01                         | 0.96                         | 0.91                         | 0.86                         |
| 13.350          | 0.82                         | 0.79                         | 0.75                         | 0.73                         | 0.70                         |
| 13.600          | 0.68                         | 0.66                         | 0.64                         | 0.63                         | 0.61                         |
| 13.850          | 0.59                         | 0.58                         | 0.57                         | 0.55                         | 0.54                         |
| 14.100          | 0.53                         | 0.51                         | 0.50                         | 0.49                         | 0.48                         |
| 14.350          | 0.47                         | 0.46                         | 0.45                         | 0.45                         | 0.44                         |
| 14.600          | 0.44                         | 0.43                         | 0.43                         | 0.42                         | 0.42                         |
| 14.850          | 0.41                         | 0.41                         | 0.40                         | 0.40                         | 0.39                         |
| 15.100          | 0.39                         | 0.38                         | 0.38                         | 0.38                         | 0.37                         |
| 15.350          | 0.37                         | 0.36                         | 0.36                         | 0.36                         | 0.35                         |
| 15.600          | 0.35                         | 0.34                         | 0.34                         | 0.33                         | 0.33                         |
| 15.850          | 0.33                         | 0.32                         | 0.32                         | 0.31                         | 0.31                         |
| 16.100          | 0.31                         | 0.30                         | 0.30                         | 0.29                         | 0.29                         |
| 16.350          | 0.29                         | 0.28                         | 0.28                         | 0.28                         | 0.28                         |
| 16.600          | 0.27                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 16.850          | 0.27                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 17.100          | 0.26                         | 0.26                         | 0.26                         | 0.25                         | 0.25                         |
| 17.350          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.24                         |
| 17.600          | 0.24                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 17.850          | 0.24                         | 0.23                         | 0.23                         | 0.23                         | 0.23                         |
| 18.100          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 18.350          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.21                         |
| 18.600          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 18.850          | 0.21                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 19.100          | 0.20                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 19.350          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.18                         |
| 19.600          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 19.850          | 0.18                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 20.100          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 20.350          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.600          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 20.850          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 21.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.350          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.600          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 21.850          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.350          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 22.600          | 0.15                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 22.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.100          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.350          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.600          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 23.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1A (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond1A'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin1A       |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin1A | 0.811          | 12.150               | 8.41                             |
| Flow (In)   | Pond1A  | 0.811          | 12.150               | 8.41                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)  
 Label: Pond1B

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 530.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 530.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 530.10         | 0.02                         | 0.000           | 0.000        | 0.00                              | 0.02                              | 0.02                          |
| 530.20         | 0.07                         | 0.000           | 0.001        | 0.00                              | 0.07                              | 0.11                          |
| 530.30         | 0.14                         | 0.000           | 0.003        | 0.00                              | 0.14                              | 0.28                          |
| 530.40         | 0.20                         | 0.001           | 0.005        | 0.00                              | 0.20                              | 0.53                          |
| 530.50         | 0.24                         | 0.001           | 0.008        | 0.00                              | 0.24                              | 0.87                          |
| 530.60         | 0.28                         | 0.002           | 0.011        | 0.00                              | 0.28                              | 1.37                          |
| 530.70         | 0.31                         | 0.004           | 0.015        | 0.00                              | 0.31                              | 2.04                          |
| 530.80         | 0.33                         | 0.005           | 0.020        | 0.00                              | 0.33                              | 2.92                          |
| 530.90         | 0.36                         | 0.008           | 0.025        | 0.00                              | 0.36                              | 4.04                          |
| 531.00         | 0.38                         | 0.010           | 0.031        | 0.00                              | 0.38                              | 5.43                          |
| 531.10         | 0.41                         | 0.014           | 0.038        | 0.00                              | 0.41                              | 7.12                          |
| 531.20         | 0.43                         | 0.018           | 0.045        | 0.00                              | 0.43                              | 9.14                          |
| 531.30         | 0.45                         | 0.023           | 0.053        | 0.00                              | 0.45                              | 11.52                         |
| 531.40         | 0.47                         | 0.029           | 0.061        | 0.00                              | 0.47                              | 14.30                         |
| 531.50         | 0.48                         | 0.035           | 0.070        | 0.00                              | 0.48                              | 17.50                         |
| 531.60         | 0.50                         | 0.043           | 0.080        | 0.00                              | 0.50                              | 21.15                         |
| 531.70         | 0.52                         | 0.051           | 0.090        | 0.00                              | 0.52                              | 25.29                         |
| 531.80         | 0.54                         | 0.061           | 0.101        | 0.00                              | 0.54                              | 29.94                         |
| 531.90         | 0.55                         | 0.071           | 0.113        | 0.00                              | 0.55                              | 35.13                         |
| 532.00         | 0.57                         | 0.083           | 0.125        | 0.00                              | 0.57                              | 40.90                         |
| 532.10         | 0.58                         | 0.096           | 0.130        | 0.00                              | 0.58                              | 47.08                         |
| 532.20         | 0.60                         | 0.109           | 0.134        | 0.00                              | 0.60                              | 53.47                         |
| 532.30         | 0.61                         | 0.123           | 0.139        | 0.00                              | 0.61                              | 60.09                         |
| 532.40         | 0.63                         | 0.137           | 0.144        | 0.00                              | 0.63                              | 66.94                         |
| 532.50         | 0.64                         | 0.152           | 0.148        | 0.00                              | 0.64                              | 74.03                         |
| 532.60         | 0.66                         | 0.167           | 0.153        | 0.00                              | 0.66                              | 81.35                         |
| 532.70         | 0.67                         | 0.182           | 0.158        | 0.00                              | 0.67                              | 88.91                         |
| 532.80         | 0.68                         | 0.198           | 0.164        | 0.00                              | 0.68                              | 96.71                         |
| 532.90         | 0.69                         | 0.215           | 0.169        | 0.00                              | 0.69                              | 104.77                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 25 years

Label: Pond1B

Storm Event: 25-year

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.71                         | 0.232           | 0.174        | 0.00                              | 0.71                              | 113.07                        |
| 533.10         | 0.72                         | 0.250           | 0.177        | 0.00                              | 0.72                              | 121.57                        |
| 533.20         | 0.73                         | 0.267           | 0.179        | 0.00                              | 0.73                              | 130.18                        |
| 533.30         | 0.74                         | 0.285           | 0.182        | 0.00                              | 0.74                              | 138.92                        |
| 533.40         | 0.76                         | 0.304           | 0.184        | 0.00                              | 0.76                              | 147.79                        |
| 533.50         | 0.77                         | 0.322           | 0.187        | 0.00                              | 0.77                              | 156.78                        |
| 533.60         | 0.78                         | 0.341           | 0.189        | 0.00                              | 0.78                              | 165.89                        |
| 533.70         | 0.79                         | 0.360           | 0.192        | 0.00                              | 0.79                              | 175.13                        |
| 533.80         | 0.80                         | 0.380           | 0.195        | 0.00                              | 0.80                              | 184.50                        |
| 533.90         | 0.81                         | 0.399           | 0.197        | 0.00                              | 0.81                              | 194.00                        |
| 534.00         | 0.82                         | 0.419           | 0.200        | 0.00                              | 0.82                              | 203.62                        |
| 534.10         | 1.69                         | 0.439           | 0.203        | 0.00                              | 1.69                              | 214.23                        |
| 534.20         | 3.26                         | 0.460           | 0.205        | 0.00                              | 3.26                              | 225.68                        |
| 534.30         | 5.29                         | 0.480           | 0.208        | 0.00                              | 5.29                              | 237.72                        |
| 534.40         | 7.69                         | 0.501           | 0.211        | 0.00                              | 7.69                              | 250.27                        |
| 534.50         | 10.42                        | 0.522           | 0.214        | 0.00                              | 10.42                             | 263.28                        |
| 534.60         | 13.43                        | 0.544           | 0.217        | 0.00                              | 13.43                             | 276.70                        |
| 534.70         | 16.71                        | 0.566           | 0.219        | 0.00                              | 16.71                             | 290.53                        |
| 534.80         | 20.22                        | 0.588           | 0.222        | 0.00                              | 20.22                             | 304.73                        |
| 534.90         | 23.97                        | 0.610           | 0.225        | 0.00                              | 23.97                             | 319.30                        |
| 535.00         | 27.92                        | 0.633           | 0.228        | 0.00                              | 27.92                             | 334.23                        |
| 535.10         | 32.08                        | 0.656           | 0.231        | 0.00                              | 32.08                             | 349.49                        |
| 535.20         | 36.43                        | 0.679           | 0.234        | 0.00                              | 36.43                             | 365.08                        |
| 535.30         | 40.97                        | 0.703           | 0.237        | 0.00                              | 40.97                             | 381.00                        |
| 535.40         | 45.69                        | 0.726           | 0.239        | 0.00                              | 45.69                             | 397.23                        |
| 535.50         | 50.57                        | 0.750           | 0.242        | 0.00                              | 50.57                             | 413.77                        |
| 535.60         | 55.62                        | 0.775           | 0.245        | 0.00                              | 55.62                             | 430.62                        |
| 535.70         | 60.83                        | 0.799           | 0.248        | 0.00                              | 60.83                             | 447.77                        |
| 535.80         | 66.20                        | 0.824           | 0.251        | 0.00                              | 66.20                             | 465.21                        |
| 535.90         | 71.72                        | 0.850           | 0.254        | 0.00                              | 71.72                             | 482.95                        |
| 536.00         | 77.38                        | 0.875           | 0.257        | 0.00                              | 77.38                             | 500.98                        |



## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1B (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                 |                    |  |
|------------------------------------|-----------------|--------------------|--|
| Infiltration Method (Computed)     | No Infiltration |                    |  |
| Initial Conditions                 |                 |                    |  |
| Elevation (Water Surface, Initial) | 530.00          | ft                 |  |
| Volume (Initial)                   | 0.000           | ac-ft              |  |
| Flow (Initial Outlet)              | 0.00            | ft <sup>3</sup> /s |  |
| Flow (Initial Infiltration)        | 0.00            | ft <sup>3</sup> /s |  |
| Flow (Initial, Total)              | 0.00            | ft <sup>3</sup> /s |  |
| Time Increment                     | 0.050           | hours              |  |
| Inflow/Outflow Hydrograph Summary  |                 |                    |  |
| Flow (Peak In)                     | 8.53            | ft <sup>3</sup> /s | Time to Peak (Flow, In) 12.200 hours     |
| Flow (Peak Outlet)                 | 0.76            | ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) 13.650 hours |
| Peak Conditions                    |                 |                    |  |
| Elevation (Water Surface, Peak)    | 533.43          | ft                 |  |
| Volume (Peak)                      | 0.309           | ac-ft              |  |
| Mass Balance (ac-ft)               |                 |                    |  |
| Volume (Initial)                   | 0.000           | ac-ft              |  |
| Volume (Total Inflow)              | 0.680           | ac-ft              |  |
| Volume (Total Infiltration)        | 0.000           | ac-ft              |  |
| Volume (Total Outlet Outflow)      | 0.667           | ac-ft              |  |
| Volume (Retained)                  | 0.011           | ac-ft              |  |
| Volume (Unrouted)                  | -0.002          | ac-ft              |  |
| Error (Mass Balance)               | 0.2             | %                  |  |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.76 ft <sup>3</sup> /s |
| Time to Peak      | 13.650 hours            |
| Hydrograph Volume | 0.667 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.700           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.950           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.200           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 7.450           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 7.700           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.950           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.450           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.700           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 8.950           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.200           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.450           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 9.700           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 9.950           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 10.200          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.05                         |
| 10.450          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 10.700          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.950          | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 11.200          | 0.10                         | 0.11                         | 0.12                         | 0.13                         | 0.13                         |
| 11.450          | 0.14                         | 0.15                         | 0.17                         | 0.21                         | 0.25                         |
| 11.700          | 0.29                         | 0.33                         | 0.36                         | 0.40                         | 0.44                         |
| 11.950          | 0.47                         | 0.49                         | 0.50                         | 0.50                         | 0.53                         |
| 12.200          | 0.57                         | 0.60                         | 0.63                         | 0.66                         | 0.68                         |
| 12.450          | 0.69                         | 0.70                         | 0.71                         | 0.72                         | 0.73                         |
| 12.700          | 0.73                         | 0.74                         | 0.74                         | 0.74                         | 0.75                         |
| 12.950          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 13.200          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 13.450          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 13.700          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 13.950          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 14.200          | 0.76                         | 0.76                         | 0.76                         | 0.75                         | 0.75                         |
| 14.450          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 14.700          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 14.950          | 0.75                         | 0.75                         | 0.75                         | 0.74                         | 0.74                         |
| 15.200          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 15.450          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 15.700          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 15.950          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.200       | 0.72                      | 0.72                      | 0.72                      | 0.72                      | 0.72                      |
| 16.450       | 0.72                      | 0.72                      | 0.72                      | 0.72                      | 0.71                      |
| 16.700       | 0.71                      | 0.71                      | 0.71                      | 0.71                      | 0.71                      |
| 16.950       | 0.71                      | 0.71                      | 0.71                      | 0.70                      | 0.70                      |
| 17.200       | 0.70                      | 0.70                      | 0.70                      | 0.70                      | 0.70                      |
| 17.450       | 0.70                      | 0.69                      | 0.69                      | 0.69                      | 0.69                      |
| 17.700       | 0.69                      | 0.69                      | 0.69                      | 0.69                      | 0.68                      |
| 17.950       | 0.68                      | 0.68                      | 0.68                      | 0.68                      | 0.68                      |
| 18.200       | 0.68                      | 0.67                      | 0.67                      | 0.67                      | 0.67                      |
| 18.450       | 0.67                      | 0.67                      | 0.67                      | 0.66                      | 0.66                      |
| 18.700       | 0.66                      | 0.66                      | 0.66                      | 0.66                      | 0.66                      |
| 18.950       | 0.65                      | 0.65                      | 0.65                      | 0.65                      | 0.65                      |
| 19.200       | 0.65                      | 0.65                      | 0.64                      | 0.64                      | 0.64                      |
| 19.450       | 0.64                      | 0.64                      | 0.64                      | 0.63                      | 0.63                      |
| 19.700       | 0.63                      | 0.63                      | 0.63                      | 0.63                      | 0.62                      |
| 19.950       | 0.62                      | 0.62                      | 0.62                      | 0.62                      | 0.62                      |
| 20.200       | 0.61                      | 0.61                      | 0.61                      | 0.61                      | 0.61                      |
| 20.450       | 0.60                      | 0.60                      | 0.60                      | 0.60                      | 0.60                      |
| 20.700       | 0.60                      | 0.59                      | 0.59                      | 0.59                      | 0.59                      |
| 20.950       | 0.59                      | 0.58                      | 0.58                      | 0.58                      | 0.58                      |
| 21.200       | 0.58                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 21.450       | 0.57                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 21.700       | 0.56                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 21.950       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 22.200       | 0.53                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 22.450       | 0.52                      | 0.52                      | 0.51                      | 0.51                      | 0.51                      |
| 22.700       | 0.51                      | 0.50                      | 0.50                      | 0.50                      | 0.49                      |
| 22.950       | 0.49                      | 0.49                      | 0.48                      | 0.48                      | 0.48                      |
| 23.200       | 0.47                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 23.450       | 0.45                      | 0.45                      | 0.45                      | 0.44                      | 0.44                      |
| 23.700       | 0.43                      | 0.43                      | 0.42                      | 0.42                      | 0.41                      |
| 23.950       | 0.41                      | 0.40                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1B (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond1B'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| Outlet1A                    | Pond1A        |
| <Catchment to Outflow Node> | Basin1B       |

## Node Inflows

| Inflow Type | Element  | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|----------|----------------|----------------------|----------------------------------|
| Flow (From) | Outlet1A | 0.542          | 12.200               | 8.14                             |
| Flow (From) | Basin1B  | 0.137          | 11.900               | 2.50                             |
| Flow (In)   | Pond1B   | 0.680          | 12.200               | 8.53                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond2

Return Event: 25 years

Storm Event: 25-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

---

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 553.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 553.00         | 0.00                         | 0.000           | 0.015        | 0.00                              | 0.00                              | 0.00                          |
| 553.10         | 0.00                         | 0.002           | 0.016        | 0.00                              | 0.00                              | 0.75                          |
| 553.20         | 0.00                         | 0.003           | 0.017        | 0.00                              | 0.00                              | 1.55                          |
| 553.30         | 0.00                         | 0.005           | 0.018        | 0.00                              | 0.00                              | 2.41                          |
| 553.40         | 0.00                         | 0.007           | 0.019        | 0.00                              | 0.00                              | 3.31                          |
| 553.50         | 0.00                         | 0.009           | 0.020        | 0.00                              | 0.00                              | 4.28                          |
| 553.60         | 0.20                         | 0.011           | 0.022        | 0.00                              | 0.20                              | 5.49                          |
| 553.70         | 0.56                         | 0.013           | 0.023        | 0.00                              | 0.56                              | 6.94                          |
| 553.80         | 0.92                         | 0.016           | 0.024        | 0.00                              | 0.92                              | 8.43                          |
| 553.90         | 1.06                         | 0.018           | 0.025        | 0.00                              | 1.06                              | 9.78                          |
| 554.00         | 1.19                         | 0.021           | 0.027        | 0.00                              | 1.19                              | 11.17                         |
| 554.10         | 1.30                         | 0.023           | 0.028        | 0.00                              | 1.30                              | 12.61                         |
| 554.20         | 1.41                         | 0.026           | 0.029        | 0.00                              | 1.41                              | 14.10                         |
| 554.30         | 1.50                         | 0.029           | 0.031        | 0.00                              | 1.50                              | 15.65                         |
| 554.40         | 1.59                         | 0.032           | 0.032        | 0.00                              | 1.59                              | 17.26                         |
| 554.50         | 1.68                         | 0.036           | 0.033        | 0.00                              | 1.68                              | 18.94                         |
| 554.60         | 1.76                         | 0.039           | 0.035        | 0.00                              | 1.76                              | 20.67                         |
| 554.70         | 1.84                         | 0.043           | 0.036        | 0.00                              | 1.84                              | 22.48                         |
| 554.80         | 1.92                         | 0.046           | 0.038        | 0.00                              | 1.92                              | 24.35                         |
| 554.90         | 1.99                         | 0.050           | 0.039        | 0.00                              | 1.99                              | 26.29                         |
| 555.00         | 2.06                         | 0.054           | 0.041        | 0.00                              | 2.06                              | 28.30                         |
| 555.10         | 2.13                         | 0.058           | 0.042        | 0.00                              | 2.13                              | 30.38                         |
| 555.20         | 2.19                         | 0.063           | 0.044        | 0.00                              | 2.19                              | 32.53                         |
| 555.30         | 2.25                         | 0.067           | 0.045        | 0.00                              | 2.25                              | 34.74                         |
| 555.40         | 2.32                         | 0.072           | 0.047        | 0.00                              | 2.32                              | 37.03                         |
| 555.50         | 2.38                         | 0.076           | 0.048        | 0.00                              | 2.38                              | 39.38                         |
| 555.60         | 2.43                         | 0.081           | 0.050        | 0.00                              | 2.43                              | 41.81                         |
| 555.70         | 2.49                         | 0.086           | 0.051        | 0.00                              | 2.49                              | 44.31                         |
| 555.80         | 2.55                         | 0.092           | 0.053        | 0.00                              | 2.55                              | 46.88                         |
| 555.90         | 2.60                         | 0.097           | 0.054        | 0.00                              | 2.60                              | 49.53                         |

# O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond2

Return Event: 25 years

Storm Event: 25-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 556.00            | 2.66                            | 0.102              | 0.056           | 0.00                                 | 2.66                                 | 52.25                            |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond2 (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 553.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 3.11 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 1.76 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.050 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.60 ft               |                             |              |
| Volume (Peak)                      | 0.039 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.183 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.174 ac-ft             |                             |              |
| Volume (Retained)                  | 0.009 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.76 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours            |
| Hydrograph Volume | 0.174 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 7.850           | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.03                         |
| 8.100           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.350           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 8.600           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.850           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.100           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.350           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.600           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 9.850           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 10.100          | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 10.350          | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 10.600          | 0.11                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 10.850          | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.15                         |
| 11.100          | 0.15                         | 0.16                         | 0.17                         | 0.18                         | 0.19                         |
| 11.350          | 0.20                         | 0.21                         | 0.23                         | 0.24                         | 0.28                         |
| 11.600          | 0.36                         | 0.50                         | 0.69                         | 0.92                         | 1.05                         |
| 11.850          | 1.23                         | 1.44                         | 1.62                         | 1.73                         | 1.76                         |
| 12.100          | 1.71                         | 1.60                         | 1.47                         | 1.33                         | 1.19                         |
| 12.350          | 1.03                         | 0.84                         | 0.58                         | 0.42                         | 0.33                         |
| 12.600          | 0.28                         | 0.24                         | 0.22                         | 0.21                         | 0.20                         |
| 12.850          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.17                         |
| 13.100          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 13.350          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 13.600          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 13.850          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.100          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 14.350          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 14.600          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.100          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 15.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 15.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.600       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 18.100       | 0.05                      | 0.05                      | 0.04                      | 0.04                      | 0.04                      |
| 18.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.03                      |
| 19.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond2 (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond2'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin2        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin2  | 0.183          | 11.900               | 3.11                             |
| Flow (In)   | Pond2   | 0.183          | 11.900               | 3.11                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond3

Return Event: 25 years

Storm Event: 25-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 554.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 554.00         | 0.00                         | 0.000           | 0.016        | 0.00                              | 0.00                              | 0.00                          |
| 554.10         | 0.00                         | 0.002           | 0.018        | 0.00                              | 0.00                              | 0.81                          |
| 554.20         | 0.00                         | 0.004           | 0.019        | 0.00                              | 0.00                              | 1.71                          |
| 554.30         | 0.00                         | 0.006           | 0.021        | 0.00                              | 0.00                              | 2.69                          |
| 554.40         | 0.00                         | 0.008           | 0.023        | 0.00                              | 0.00                              | 3.76                          |
| 554.50         | 0.00                         | 0.010           | 0.025        | 0.00                              | 0.00                              | 4.92                          |
| 554.60         | 0.37                         | 0.013           | 0.027        | 0.00                              | 0.37                              | 6.55                          |
| 554.70         | 1.05                         | 0.016           | 0.029        | 0.00                              | 1.05                              | 8.59                          |
| 554.80         | 1.94                         | 0.019           | 0.031        | 0.00                              | 1.94                              | 10.94                         |
| 554.90         | 2.98                         | 0.022           | 0.034        | 0.00                              | 2.98                              | 13.56                         |
| 555.00         | 4.17                         | 0.025           | 0.036        | 0.00                              | 4.17                              | 16.43                         |
| 555.10         | 4.58                         | 0.029           | 0.038        | 0.00                              | 4.58                              | 18.63                         |
| 555.20         | 4.94                         | 0.033           | 0.040        | 0.00                              | 4.94                              | 20.88                         |
| 555.30         | 5.28                         | 0.037           | 0.042        | 0.00                              | 5.28                              | 23.21                         |
| 555.40         | 5.60                         | 0.041           | 0.044        | 0.00                              | 5.60                              | 25.61                         |
| 555.50         | 5.91                         | 0.046           | 0.046        | 0.00                              | 5.91                              | 28.11                         |
| 555.60         | 6.19                         | 0.051           | 0.049        | 0.00                              | 6.19                              | 30.69                         |
| 555.70         | 6.47                         | 0.056           | 0.051        | 0.00                              | 6.47                              | 33.37                         |
| 555.80         | 6.73                         | 0.061           | 0.053        | 0.00                              | 6.73                              | 36.15                         |
| 555.90         | 6.99                         | 0.066           | 0.056        | 0.00                              | 6.99                              | 39.04                         |
| 556.00         | 7.23                         | 0.072           | 0.058        | 0.00                              | 7.23                              | 42.03                         |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond3 (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 554.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 2.46 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 2.43 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.200 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.85 ft               |                             |              |
| Volume (Peak)                      | 0.020 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.246 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.236 ac-ft             |                             |              |
| Volume (Retained)                  | 0.010 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.43 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.236 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.950           | 0.00                         | 0.02                         | 0.04                         | 0.06                         | 0.06                         |
| 10.200          | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 10.450          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 10.700          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 10.950          | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 11.200          | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.18                         |
| 11.450          | 0.19                         | 0.20                         | 0.22                         | 0.23                         | 0.26                         |
| 11.700          | 0.29                         | 0.35                         | 0.45                         | 0.61                         | 0.82                         |
| 11.950          | 1.08                         | 1.42                         | 1.76                         | 2.08                         | 2.32                         |
| 12.200          | 2.43                         | 2.40                         | 2.27                         | 2.07                         | 1.84                         |
| 12.450          | 1.61                         | 1.39                         | 1.20                         | 1.04                         | 0.93                         |
| 12.700          | 0.82                         | 0.72                         | 0.64                         | 0.58                         | 0.52                         |
| 12.950          | 0.47                         | 0.43                         | 0.40                         | 0.37                         | 0.35                         |
| 13.200          | 0.34                         | 0.32                         | 0.30                         | 0.29                         | 0.27                         |
| 13.450          | 0.26                         | 0.25                         | 0.24                         | 0.23                         | 0.22                         |
| 13.700          | 0.21                         | 0.21                         | 0.20                         | 0.20                         | 0.19                         |
| 13.950          | 0.19                         | 0.18                         | 0.18                         | 0.17                         | 0.17                         |
| 14.200          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 14.450          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 14.700          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 14.950          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 15.200          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 15.450          | 0.12                         | 0.12                         | 0.11                         | 0.11                         | 0.11                         |
| 15.700          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 15.950          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 16.200          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 16.450          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.700          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 16.950          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.200          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.450          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.700          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 17.950          | 0.08                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.200          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.450          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.700          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 18.950          | 0.07                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 19.200          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 19.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 19.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 19.950       | 0.06                      | 0.06                      | 0.05                      | 0.05                      | 0.05                      |
| 20.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 20.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 21.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.450       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.700       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 22.950       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 23.200       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 23.450       | 0.05                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.700       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.950       | 0.04                      | 0.04                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond3 (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond3'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin3        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin3  | 0.246          | 12.150               | 2.46                             |
| Flow (In)   | Pond3   | 0.246          | 12.150               | 2.46                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond4

Return Event: 25 years

Storm Event: 25-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 545.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 545.00         | 0.00                         | 0.000           | 0.010        | 0.00                              | 0.00                              | 0.00                          |
| 545.10         | 0.00                         | 0.001           | 0.011        | 0.00                              | 0.00                              | 0.51                          |
| 545.20         | 0.00                         | 0.002           | 0.012        | 0.00                              | 0.00                              | 1.07                          |
| 545.30         | 0.00                         | 0.003           | 0.013        | 0.00                              | 0.00                              | 1.67                          |
| 545.40         | 0.00                         | 0.005           | 0.014        | 0.00                              | 0.00                              | 2.31                          |
| 545.50         | 0.00                         | 0.006           | 0.015        | 0.00                              | 0.00                              | 3.00                          |
| 545.60         | 0.02                         | 0.008           | 0.016        | 0.00                              | 0.02                              | 3.75                          |
| 545.70         | 0.07                         | 0.009           | 0.017        | 0.00                              | 0.07                              | 4.58                          |
| 545.80         | 0.14                         | 0.011           | 0.018        | 0.00                              | 0.14                              | 5.49                          |
| 545.90         | 0.20                         | 0.013           | 0.019        | 0.00                              | 0.20                              | 6.44                          |
| 546.00         | 0.24                         | 0.015           | 0.020        | 0.00                              | 0.24                              | 7.42                          |
| 546.10         | 0.28                         | 0.017           | 0.021        | 0.00                              | 0.28                              | 8.45                          |
| 546.20         | 0.31                         | 0.019           | 0.022        | 0.00                              | 0.31                              | 9.52                          |
| 546.30         | 0.33                         | 0.021           | 0.023        | 0.00                              | 0.33                              | 10.65                         |
| 546.40         | 0.36                         | 0.024           | 0.024        | 0.00                              | 0.36                              | 11.83                         |
| 546.50         | 0.38                         | 0.026           | 0.026        | 0.00                              | 0.38                              | 13.07                         |
| 546.60         | 0.41                         | 0.029           | 0.027        | 0.00                              | 0.41                              | 14.36                         |
| 546.70         | 0.43                         | 0.032           | 0.028        | 0.00                              | 0.43                              | 15.71                         |
| 546.80         | 0.45                         | 0.034           | 0.029        | 0.00                              | 0.45                              | 17.12                         |
| 546.90         | 0.47                         | 0.037           | 0.031        | 0.00                              | 0.47                              | 18.60                         |
| 547.00         | 0.48                         | 0.041           | 0.032        | 0.00                              | 0.48                              | 20.13                         |
| 547.10         | 0.50                         | 0.044           | 0.033        | 0.00                              | 0.50                              | 21.73                         |
| 547.20         | 0.52                         | 0.047           | 0.035        | 0.00                              | 0.52                              | 23.39                         |
| 547.30         | 0.54                         | 0.051           | 0.036        | 0.00                              | 0.54                              | 25.11                         |
| 547.40         | 0.55                         | 0.054           | 0.037        | 0.00                              | 0.55                              | 26.89                         |
| 547.50         | 0.57                         | 0.058           | 0.039        | 0.00                              | 0.57                              | 28.75                         |
| 547.60         | 0.92                         | 0.062           | 0.040        | 0.00                              | 0.92                              | 30.99                         |
| 547.70         | 1.54                         | 0.066           | 0.041        | 0.00                              | 1.54                              | 33.59                         |
| 547.80         | 2.34                         | 0.070           | 0.043        | 0.00                              | 2.34                              | 36.42                         |
| 547.90         | 3.28                         | 0.075           | 0.044        | 0.00                              | 3.28                              | 39.48                         |



## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 25 years

Label: Pond4

Storm Event: 25-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 548.00            | 4.35                            | 0.079              | 0.046           | 0.00                                 | 4.35                                 | 42.73                            |
| 548.10            | 5.54                            | 0.084              | 0.047           | 0.00                                 | 5.54                                 | 46.15                            |
| 548.20            | 6.82                            | 0.089              | 0.048           | 0.00                                 | 6.82                                 | 49.73                            |
| 548.30            | 8.19                            | 0.094              | 0.049           | 0.00                                 | 8.19                                 | 53.45                            |
| 548.40            | 9.66                            | 0.098              | 0.050           | 0.00                                 | 9.66                                 | 57.31                            |
| 548.50            | 11.21                           | 0.104              | 0.051           | 0.00                                 | 11.21                                | 61.31                            |
| 548.60            | 12.83                           | 0.109              | 0.052           | 0.00                                 | 12.83                                | 65.44                            |
| 548.70            | 14.53                           | 0.114              | 0.053           | 0.00                                 | 14.53                                | 69.70                            |
| 548.80            | 16.31                           | 0.119              | 0.055           | 0.00                                 | 16.31                                | 74.09                            |
| 548.90            | 18.15                           | 0.125              | 0.056           | 0.00                                 | 18.15                                | 78.60                            |
| 549.00            | 20.06                           | 0.131              | 0.057           | 0.00                                 | 20.06                                | 83.24                            |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond4 (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 545.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 2.30 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 0.54 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.100 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 547.33 ft               |                             |              |
| Volume (Peak)                      | 0.052 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.134 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.126 ac-ft             |                             |              |
| Volume (Retained)                  | 0.008 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 0.54 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.126 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 8.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 8.600           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 8.850           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 9.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 9.350           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.600           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.850           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 10.100          | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 10.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.07                         |
| 10.600          | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 10.850          | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 11.100          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.12                         |
| 11.350          | 0.13                         | 0.13                         | 0.14                         | 0.15                         | 0.16                         |
| 11.600          | 0.18                         | 0.21                         | 0.25                         | 0.29                         | 0.33                         |
| 11.850          | 0.38                         | 0.43                         | 0.48                         | 0.51                         | 0.53                         |
| 12.100          | 0.54                         | 0.54                         | 0.54                         | 0.53                         | 0.53                         |
| 12.350          | 0.52                         | 0.52                         | 0.51                         | 0.50                         | 0.50                         |
| 12.600          | 0.49                         | 0.48                         | 0.47                         | 0.47                         | 0.46                         |
| 12.850          | 0.45                         | 0.44                         | 0.43                         | 0.42                         | 0.41                         |
| 13.100          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.350          | 0.35                         | 0.34                         | 0.33                         | 0.32                         | 0.31                         |
| 13.600          | 0.29                         | 0.28                         | 0.27                         | 0.26                         | 0.24                         |
| 13.850          | 0.23                         | 0.22                         | 0.21                         | 0.19                         | 0.18                         |
| 14.100          | 0.16                         | 0.15                         | 0.14                         | 0.13                         | 0.12                         |
| 14.350          | 0.11                         | 0.10                         | 0.10                         | 0.09                         | 0.09                         |
| 14.600          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 14.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 15.100          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.350          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 15.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.350          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 16.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 17.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 17.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.100       | 0.04                      | 0.04                      | 0.03                      | 0.03                      | 0.03                      |
| 18.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 18.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.350       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.600       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 19.850       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.100       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.350       | 0.03                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.600       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 20.850       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.100       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.350       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.600       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 21.850       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.100       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.350       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.600       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 22.850       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.100       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.350       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.600       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | 0.02                      |
| 23.850       | 0.02                      | 0.02                      | 0.02                      | 0.02                      | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond4 (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond4'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin4        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin4  | 0.134          | 11.900               | 2.30                             |
| Flow (In)   | Pond4   | 0.134          | 11.900               | 2.30                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)  
 Label: Pond5

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 563.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 563.00         | 0.00                         | 0.000           | 0.023        | 0.00                              | 0.00                              | 0.00                          |
| 563.10         | 0.00                         | 0.002           | 0.026        | 0.00                              | 0.00                              | 1.19                          |
| 563.20         | 0.00                         | 0.005           | 0.029        | 0.00                              | 0.00                              | 2.51                          |
| 563.30         | 0.00                         | 0.008           | 0.032        | 0.00                              | 0.00                              | 3.97                          |
| 563.40         | 0.00                         | 0.012           | 0.035        | 0.00                              | 0.00                              | 5.58                          |
| 563.50         | 0.00                         | 0.015           | 0.038        | 0.00                              | 0.00                              | 7.34                          |
| 563.60         | 0.00                         | 0.019           | 0.041        | 0.00                              | 0.00                              | 9.26                          |
| 563.70         | 0.00                         | 0.023           | 0.045        | 0.00                              | 0.00                              | 11.34                         |
| 563.75         | 0.00                         | 0.026           | 0.047        | 0.00                              | 0.00                              | 12.45                         |
| 563.80         | 0.35                         | 0.028           | 0.048        | 0.00                              | 0.35                              | 13.95                         |
| 563.90         | 1.83                         | 0.033           | 0.052        | 0.00                              | 1.83                              | 17.87                         |
| 564.00         | 3.94                         | 0.039           | 0.056        | 0.00                              | 3.94                              | 22.60                         |
| 564.10         | 6.52                         | 0.044           | 0.060        | 0.00                              | 6.52                              | 27.99                         |
| 564.20         | 9.51                         | 0.051           | 0.063        | 0.00                              | 9.51                              | 33.95                         |
| 564.30         | 12.85                        | 0.057           | 0.067        | 0.00                              | 12.85                             | 40.44                         |
| 564.40         | 16.51                        | 0.064           | 0.071        | 0.00                              | 16.51                             | 47.44                         |
| 564.50         | 20.46                        | 0.071           | 0.075        | 0.00                              | 20.46                             | 54.92                         |
| 564.60         | 24.69                        | 0.079           | 0.079        | 0.00                              | 24.69                             | 62.86                         |
| 564.70         | 29.17                        | 0.087           | 0.083        | 0.00                              | 29.17                             | 71.25                         |
| 564.80         | 33.89                        | 0.095           | 0.087        | 0.00                              | 33.89                             | 80.10                         |
| 564.90         | 38.85                        | 0.104           | 0.092        | 0.00                              | 38.85                             | 89.38                         |
| 565.00         | 44.02                        | 0.114           | 0.096        | 0.00                              | 44.02                             | 99.09                         |

## O'Day Park Detention Calculations

Subsection: Detention Time

Label: Pond5 (IN)

Return Event: 25 years

Storm Event: 25-year

| Infiltration   |                 |
|--|-----------------|
| Infiltration Method<br>(Computed)  | No Infiltration |
| <b>Approximate Detention Times</b>                                       |                 |
| Time to Peak (Outflow +<br>Infiltration, Peak to Peak<br>Detention Time) | 11.950 hours    |
| Time to Peak (Inflow, Peak<br>to Peak Detention Time)                    | 11.900 hours    |
| Detention Time (Peak to<br>Peak)   | 0.050 hours     |
| Time to Centroid (Outflow)   | 13.348 hours    |
| Time to Centroid (Inflow)  | 12.885 hours    |
| Detention Time (Centroid to<br>Centroid)                                 | 0.463 hours     |
| Weighted Average Plug Time   | 1.241 hours     |
| Maximum Plug Volume Plug<br>Time   | 0.098 hours     |
| Maximum Inflow Plug<br>Volume  | 0.025 ac-ft     |
| Time (Maximum Plug<br>Volume, Start)                                     | 11.900 hours    |
| Time (Maximum Plug<br>Volume, End)                                       | 11.950 hours    |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond5 (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 563.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 6.25 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 6.05 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 11.950 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 564.08 ft               |                             |              |
| Volume (Peak)                      | 0.043 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.362 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.336 ac-ft             |                             |              |
| Volume (Retained)                  | 0.026 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 6.05 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.336 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 9.450           | 0.00                         | 0.03                         | 0.07                         | 0.09                         | 0.11                         |
| 9.700           | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.14                         |
| 9.950           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 10.200          | 0.16                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 10.450          | 0.19                         | 0.20                         | 0.20                         | 0.21                         | 0.22                         |
| 10.700          | 0.22                         | 0.23                         | 0.24                         | 0.25                         | 0.26                         |
| 10.950          | 0.27                         | 0.28                         | 0.29                         | 0.30                         | 0.32                         |
| 11.200          | 0.34                         | 0.36                         | 0.39                         | 0.42                         | 0.44                         |
| 11.450          | 0.46                         | 0.49                         | 0.58                         | 0.79                         | 1.13                         |
| 11.700          | 1.60                         | 2.24                         | 2.97                         | 3.96                         | 5.43                         |
| 11.950          | 6.05                         | 5.50                         | 4.28                         | 2.65                         | 1.50                         |
| 12.200          | 1.10                         | 0.91                         | 0.81                         | 0.74                         | 0.68                         |
| 12.450          | 0.62                         | 0.56                         | 0.51                         | 0.47                         | 0.44                         |
| 12.700          | 0.42                         | 0.40                         | 0.39                         | 0.38                         | 0.36                         |
| 12.950          | 0.35                         | 0.34                         | 0.33                         | 0.32                         | 0.31                         |
| 13.200          | 0.30                         | 0.30                         | 0.29                         | 0.28                         | 0.27                         |
| 13.450          | 0.27                         | 0.26                         | 0.25                         | 0.25                         | 0.24                         |
| 13.700          | 0.23                         | 0.23                         | 0.22                         | 0.22                         | 0.21                         |
| 13.950          | 0.21                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 14.200          | 0.19                         | 0.19                         | 0.18                         | 0.18                         | 0.18                         |
| 14.450          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.17                         |
| 14.700          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 14.950          | 0.16                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 15.200          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.14                         |
| 15.450          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 15.700          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 15.950          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.200          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 16.450          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.700          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.950          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 17.200          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.450          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.700          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.950          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.200          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.450          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.700          | 0.09                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 18.950       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.200       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 19.450       | 0.08                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.700       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 19.950       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.200       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.450       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 20.700       | 0.07                      | 0.07                      | 0.06                      | 0.06                      | 0.06                      |
| 20.950       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.200       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 21.950       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.200       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 22.950       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.200       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.450       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.700       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 23.950       | 0.06                      | 0.06                      | (N/A)                     | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond5 (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond5'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin5        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin5  | 0.362          | 11.900               | 6.25                             |
| Flow (In)   | Pond5   | 0.362          | 11.900               | 6.25                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Label: Pond7

Return Event: 25 years

Storm Event: 25-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 529.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 529.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 529.50         | 0.24                         | 0.008           | 0.049        | 0.00                              | 0.24                              | 4.15                          |
| 530.00         | 0.38                         | 0.065           | 0.194        | 0.00                              | 0.38                              | 31.68                         |
| 530.50         | 0.48                         | 0.166           | 0.210        | 0.00                              | 0.48                              | 80.68                         |
| 531.00         | 0.57                         | 0.275           | 0.227        | 0.00                              | 0.57                              | 133.64                        |
| 531.50         | 15.49                        | 0.393           | 0.244        | 0.00                              | 15.49                             | 205.51                        |
| 532.00         | 42.71                        | 0.519           | 0.261        | 0.00                              | 42.71                             | 293.78                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond7 (IN)

Return Event: 25 years  
 Storm Event: 25-year

| Infiltration                       |                          |                             |              |
|------------------------------------|--------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration          |                             |              |
| Initial Conditions                 |                          |                             |              |
| Elevation (Water Surface, Initial) | 529.00 ft                |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Time Increment                     | 0.050 hours              |                             |              |
| Inflow/Outflow Hydrograph Summary  |                          |                             |              |
| Flow (Peak In)                     | 13.94 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 5.52 ft <sup>3</sup> /s  | Time to Peak (Flow, Outlet) | 12.100 hours |
| Peak Conditions                    |                          |                             |              |
| Elevation (Water Surface, Peak)    | 531.17 ft                |                             |              |
| Volume (Peak)                      | 0.313 ac-ft              |                             |              |
| Mass Balance (ac-ft)               |                          |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Volume (Total Inflow)              | 0.769 ac-ft              |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft              |                             |              |
| Volume (Total Outlet Outflow)      | 0.705 ac-ft              |                             |              |
| Volume (Retained)                  | 0.062 ac-ft              |                             |              |
| Volume (Unrouted)                  | -0.003 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.3 %                    |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 5.52 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.705 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.350           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.850           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 7.350           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.600           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.850           | 0.04                         | 0.04                         | 0.04                         | 0.05                         | 0.05                         |
| 8.100           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.06                         |
| 8.350           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.600           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 8.850           | 0.09                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 9.100           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.12                         |
| 9.350           | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 9.600           | 0.13                         | 0.14                         | 0.14                         | 0.14                         | 0.15                         |
| 9.850           | 0.15                         | 0.16                         | 0.16                         | 0.17                         | 0.17                         |
| 10.100          | 0.18                         | 0.18                         | 0.19                         | 0.20                         | 0.20                         |
| 10.350          | 0.21                         | 0.22                         | 0.23                         | 0.24                         | 0.24                         |
| 10.600          | 0.24                         | 0.24                         | 0.25                         | 0.25                         | 0.25                         |
| 10.850          | 0.25                         | 0.25                         | 0.25                         | 0.26                         | 0.26                         |
| 11.100          | 0.26                         | 0.27                         | 0.27                         | 0.27                         | 0.28                         |
| 11.350          | 0.28                         | 0.29                         | 0.29                         | 0.30                         | 0.31                         |
| 11.600          | 0.32                         | 0.34                         | 0.37                         | 0.40                         | 0.42                         |
| 11.850          | 0.46                         | 0.50                         | 0.54                         | 1.94                         | 5.26                         |
| 12.100          | 5.52                         | 4.52                         | 3.61                         | 2.96                         | 2.51                         |
| 12.350          | 2.19                         | 1.94                         | 1.75                         | 1.57                         | 1.42                         |
| 12.600          | 1.29                         | 1.19                         | 1.12                         | 1.06                         | 1.01                         |
| 12.850          | 0.97                         | 0.93                         | 0.90                         | 0.87                         | 0.84                         |
| 13.100          | 0.81                         | 0.78                         | 0.76                         | 0.74                         | 0.72                         |
| 13.350          | 0.70                         | 0.68                         | 0.66                         | 0.65                         | 0.63                         |
| 13.600          | 0.61                         | 0.60                         | 0.58                         | 0.57                         | 0.57                         |
| 13.850          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.100          | 0.57                         | 0.57                         | 0.57                         | 0.57                         | 0.57                         |
| 14.350          | 0.57                         | 0.57                         | 0.56                         | 0.56                         | 0.56                         |
| 14.600          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 14.850          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.100          | 0.56                         | 0.56                         | 0.56                         | 0.56                         | 0.56                         |
| 15.350          | 0.56                         | 0.55                         | 0.55                         | 0.55                         | 0.55                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 25 years  
 Storm Event: 25-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.600       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 15.850       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 16.100       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.350       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 16.600       | 0.54                      | 0.54                      | 0.53                      | 0.53                      | 0.53                      |
| 16.850       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 17.100       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.52                      |
| 17.350       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 17.600       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 17.850       | 0.52                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.100       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 18.350       | 0.51                      | 0.51                      | 0.50                      | 0.50                      | 0.50                      |
| 18.600       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 18.850       | 0.50                      | 0.50                      | 0.50                      | 0.49                      | 0.49                      |
| 19.100       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 19.350       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.48                      |
| 19.600       | 0.48                      | 0.48                      | 0.48                      | 0.48                      | 0.48                      |
| 19.850       | 0.48                      | 0.48                      | 0.47                      | 0.47                      | 0.47                      |
| 20.100       | 0.47                      | 0.47                      | 0.47                      | 0.47                      | 0.47                      |
| 20.350       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 20.600       | 0.46                      | 0.46                      | 0.46                      | 0.45                      | 0.45                      |
| 20.850       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 21.100       | 0.45                      | 0.45                      | 0.44                      | 0.44                      | 0.44                      |
| 21.350       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.600       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 21.850       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.42                      |
| 22.100       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.350       | 0.42                      | 0.42                      | 0.42                      | 0.41                      | 0.41                      |
| 22.600       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 22.850       | 0.41                      | 0.41                      | 0.40                      | 0.40                      | 0.40                      |
| 23.100       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 23.350       | 0.40                      | 0.40                      | 0.39                      | 0.39                      | 0.39                      |
| 23.600       | 0.39                      | 0.39                      | 0.39                      | 0.39                      | 0.39                      |
| 23.850       | 0.39                      | 0.39                      | 0.38                      | 0.38                      | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond7 (IN)

Return Event: 25 years

Storm Event: 25-year

## Summary for Hydrograph Addition at 'Pond7'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin 7       |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin 7 | 0.769          | 11.900               | 13.94                            |
| Flow (In)   | Pond7   | 0.769          | 11.900               | 13.94                            |



## **Appendix H**

### **100-Yr Proposed Hydraulic Runoff Calculations**

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Catchments Summary

| Label    | Scenario                  | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|----------|---------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| Basin 7  | Post-Development 100 year | 100                  | 1.058                     | 11.900               | 19.02                          |
| Basin1A  | Post-Development 100 year | 100                  | 1.077                     | 12.150               | 11.03                          |
| Basin1B  | Post-Development 100 year | 100                  | 0.191                     | 11.900               | 3.45                           |
| Basin2   | Post-Development 100 year | 100                  | 0.238                     | 11.900               | 3.97                           |
| Basin3   | Post-Development 100 year | 100                  | 0.332                     | 12.150               | 3.29                           |
| Basin4   | Post-Development 100 year | 100                  | 0.175                     | 11.900               | 2.95                           |
| Basin5   | Post-Development 100 year | 100                  | 0.474                     | 11.900               | 8.07                           |
| Bypass 4 | Post-Development 100 year | 100                  | 2.724                     | 12.100               | 32.60                          |
| Bypass1  | Post-Development 100 year | 100                  | 2.142                     | 12.000               | 33.08                          |
| Bypass2  | Post-Development 100 year | 100                  | 11.295                    | 12.150               | 124.94                         |
| Bypass3  | Post-Development 100 year | 100                  | 16.676                    | 12.100               | 192.94                         |

## Node Summary

| Label     | Scenario                  | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) |
|-----------|---------------------------|----------------------|---------------------------|----------------------|--------------------------------|
| J-14      | Post-Development 100 year | 100                  | 0.955                     | 12.050               | 12.44                          |
| J-3       | Post-Development 100 year | 100                  | 0.447                     | 11.950               | 7.44                           |
| J-4       | Post-Development 100 year | 100                  | 2.093                     | 12.100               | 17.16                          |
| J-5       | Post-Development 100 year | 100                  | 0.448                     | 11.950               | 7.83                           |
| J-6       | Post-Development 100 year | 100                  | 0.717                     | 12.100               | 5.94                           |
| J-8       | Post-Development 100 year | 100                  | 1.659                     | 12.050               | 14.30                          |
| O-1       | Post-Development 100 year | 100                  | 34.887                    | 12.100               | 382.83                         |
| Outfall1B | Post-Development 100 year | 100                  | 0.891                     | 12.750               | 2.78                           |

## Pond Summary

# O'Day Park Detention Calculations

Subsection: Master Network Summary

## Pond Summary

| Label        | Scenario                  | Return Event (years) | Hydrograph Volume (ac-ft) | Time to Peak (hours) | Peak Flow (ft <sup>3</sup> /s) | Maximum Water Surface Elevation (ft) | Maximum Pond Storage (ac-ft) |
|--------------|---------------------------|----------------------|---------------------------|----------------------|--------------------------------|--------------------------------------|------------------------------|
| Pond1A (IN)  | Post-Development 100 year | 100                  | 1.077                     | 12.150               | 11.03                          | (N/A)                                | (N/A)                        |
| Pond1A (OUT) | Post-Development 100 year | 100                  | 0.808                     | 12.150               | 10.93                          | 536.24                               | 0.297                        |
| Pond1B (IN)  | Post-Development 100 year | 100                  | 0.999                     | 12.150               | 11.54                          | (N/A)                                | (N/A)                        |
| Pond1B (OUT) | Post-Development 100 year | 100                  | 0.891                     | 12.750               | 2.78                           | 534.17                               | 0.453                        |
| Pond2 (IN)   | Post-Development 100 year | 100                  | 0.238                     | 11.900               | 3.97                           | (N/A)                                | (N/A)                        |
| Pond2 (OUT)  | Post-Development 100 year | 100                  | 0.228                     | 12.050               | 2.03                           | 554.96                               | 0.052                        |
| Pond3 (IN)   | Post-Development 100 year | 100                  | 0.332                     | 12.150               | 3.29                           | (N/A)                                | (N/A)                        |
| Pond3 (OUT)  | Post-Development 100 year | 100                  | 0.321                     | 12.200               | 3.25                           | 554.92                               | 0.023                        |
| Pond4 (IN)   | Post-Development 100 year | 100                  | 0.175                     | 11.900               | 2.95                           | (N/A)                                | (N/A)                        |
| Pond4 (OUT)  | Post-Development 100 year | 100                  | 0.167                     | 12.100               | 1.14                           | 547.64                               | 0.064                        |
| Pond5 (IN)   | Post-Development 100 year | 100                  | 0.474                     | 11.900               | 8.07                           | (N/A)                                | (N/A)                        |
| Pond5 (OUT)  | Post-Development 100 year | 100                  | 0.448                     | 11.950               | 7.83                           | 564.14                               | 0.047                        |
| Pond7 (IN)   | Post-Development 100 year | 100                  | 1.058                     | 11.900               | 19.02                          | (N/A)                                | (N/A)                        |
| Pond7 (OUT)  | Post-Development 100 year | 100                  | 0.955                     | 12.050               | 12.44                          | 531.40                               | 0.368                        |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Return Event: 100 years

Label: Time-Depth - 1

Storm Event: 100-year

| Time-Depth Curve: 100-year |              |
|----------------------------|--------------|
| Label                      | 100-year     |
| Start Time                 | 0.000 hours  |
| Increment                  | 0.100 hours  |
| End Time                   | 24.000 hours |
| Return Event               | 100 years    |

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 0.000           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           |
| 0.500           | 0.0           | 0.0           | 0.1           | 0.1           | 0.1           |
| 1.000           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 1.500           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           |
| 2.000           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 2.500           | 0.2           | 0.2           | 0.2           | 0.2           | 0.2           |
| 3.000           | 0.2           | 0.3           | 0.3           | 0.3           | 0.3           |
| 3.500           | 0.3           | 0.3           | 0.3           | 0.3           | 0.3           |
| 4.000           | 0.3           | 0.4           | 0.4           | 0.4           | 0.4           |
| 4.500           | 0.4           | 0.4           | 0.4           | 0.4           | 0.4           |
| 5.000           | 0.5           | 0.5           | 0.5           | 0.5           | 0.5           |
| 5.500           | 0.5           | 0.5           | 0.5           | 0.6           | 0.6           |
| 6.000           | 0.6           | 0.6           | 0.6           | 0.6           | 0.6           |
| 6.500           | 0.6           | 0.7           | 0.7           | 0.7           | 0.7           |
| 7.000           | 0.7           | 0.7           | 0.7           | 0.8           | 0.8           |
| 7.500           | 0.8           | 0.8           | 0.8           | 0.8           | 0.8           |
| 8.000           | 0.9           | 0.9           | 0.9           | 0.9           | 0.9           |
| 8.500           | 1.0           | 1.0           | 1.0           | 1.0           | 1.0           |
| 9.000           | 1.1           | 1.1           | 1.1           | 1.1           | 1.2           |
| 9.500           | 1.2           | 1.2           | 1.2           | 1.2           | 1.3           |
| 10.000          | 1.3           | 1.3           | 1.4           | 1.4           | 1.4           |
| 10.500          | 1.5           | 1.5           | 1.5           | 1.6           | 1.6           |
| 11.000          | 1.7           | 1.7           | 1.8           | 1.9           | 2.0           |
| 11.500          | 2.0           | 2.2           | 2.6           | 3.1           | 4.1           |
| 12.000          | 4.8           | 4.9           | 5.0           | 5.1           | 5.2           |
| 12.500          | 5.3           | 5.4           | 5.4           | 5.5           | 5.5           |
| 13.000          | 5.6           | 5.6           | 5.6           | 5.7           | 5.7           |
| 13.500          | 5.8           | 5.8           | 5.8           | 5.8           | 5.9           |
| 14.000          | 5.9           | 5.9           | 6.0           | 6.0           | 6.0           |
| 14.500          | 6.0           | 6.1           | 6.1           | 6.1           | 6.1           |
| 15.000          | 6.1           | 6.2           | 6.2           | 6.2           | 6.2           |
| 15.500          | 6.2           | 6.3           | 6.3           | 6.3           | 6.3           |
| 16.000          | 6.3           | 6.4           | 6.4           | 6.4           | 6.4           |
| 16.500          | 6.4           | 6.4           | 6.4           | 6.5           | 6.5           |
| 17.000          | 6.5           | 6.5           | 6.5           | 6.5           | 6.6           |

## O'Day Park Detention Calculations

Subsection: Time-Depth Curve

Return Event: 100 years

Label: Time-Depth - 1

Storm Event: 100-year

### CUMULATIVE RAINFALL (in)

Output Time Increment = 0.100 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) | Depth<br>(in) |
|-----------------|---------------|---------------|---------------|---------------|---------------|
| 17.500          | 6.6           | 6.6           | 6.6           | 6.6           | 6.6           |
| 18.000          | 6.6           | 6.6           | 6.7           | 6.7           | 6.7           |
| 18.500          | 6.7           | 6.7           | 6.7           | 6.7           | 6.7           |
| 19.000          | 6.8           | 6.8           | 6.8           | 6.8           | 6.8           |
| 19.500          | 6.8           | 6.8           | 6.8           | 6.8           | 6.8           |
| 20.000          | 6.9           | 6.9           | 6.9           | 6.9           | 6.9           |
| 20.500          | 6.9           | 6.9           | 6.9           | 6.9           | 6.9           |
| 21.000          | 6.9           | 7.0           | 7.0           | 7.0           | 7.0           |
| 21.500          | 7.0           | 7.0           | 7.0           | 7.0           | 7.0           |
| 22.000          | 7.0           | 7.0           | 7.1           | 7.1           | 7.1           |
| 22.500          | 7.1           | 7.1           | 7.1           | 7.1           | 7.1           |
| 23.000          | 7.1           | 7.1           | 7.1           | 7.1           | 7.2           |
| 23.500          | 7.2           | 7.2           | 7.2           | 7.2           | 7.2           |
| 24.000          | 7.2           | (N/A)         | (N/A)         | (N/A)         | (N/A)         |

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin1A

Return Event: 100 years  
 Storm Event: 100-year

### Time of Concentration Results

| Segment #1: TR-55 Sheet Flow                |                     |
|---|---------------------|
| Hydraulic Length                            | 240.00 ft           |
| Manning's n                                 | 0.400               |
| Slope                                       | 0.063 ft/ft         |
| 2 Year 24 Hour Depth                        | 3.5 in              |
| Average Velocity                            | 0.15 ft/s           |
| Segment Time of Concentration               | 0.437 hours         |
| Segment #2: TR-55 Channel Flow              |                     |
| Flow Area                                   | 4.0 ft <sup>2</sup> |
| Hydraulic Length                            | 286.00 ft           |
| Manning's n                                 | 0.030               |
| Slope                                       | 0.039 ft/ft         |
| Wetted Perimeter                            | 8.20 ft             |
| Average Velocity                            | 6.04 ft/s           |
| Segment Time of Concentration               | 0.013 hours         |
| Segment #3: TR-55 Channel Flow              |                     |
| Flow Area                                   | 0.8 ft <sup>2</sup> |
| Hydraulic Length                            | 65.00 ft            |
| Manning's n                                 | 0.013               |
| Slope                                       | 0.108 ft/ft         |
| Wetted Perimeter                            | 3.14 ft             |
| Average Velocity                            | 14.93 ft/s          |
| Segment Time of Concentration               | 0.001 hours         |
| Segment #4: TR-55 Shallow Concentrated Flow |                     |
| Hydraulic Length                            | 185.00 ft           |
| Is Paved?                                   | False               |
| Slope                                       | 0.070 ft/ft         |
| Average Velocity                            | 4.28 ft/s           |
| Segment Time of Concentration               | 0.012 hours         |
| Time of Concentration (Composite)           |                     |
| Time of Concentration (Composite)           | 0.463 hours         |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin1B

Return Event: 100 years

Storm Event: 100-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 94.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.188 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.56 ft/s   |
| Segment Time of Concentration | 0.017 hours |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin2

Return Event: 100 years  
Storm Event: 100-year

## Time of Concentration Results

---

### Segment #1: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 85.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.047 ft/ft |
| Average Velocity              | 3.50 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 57.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 4.55 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---



## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
 Label: Basin3

Return Event: 100 years  
 Storm Event: 100-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 250.00 ft   |
| Manning's n                   | 0.400       |
| Slope                         | 0.048 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.14 ft/s   |
| Segment Time of Concentration | 0.502 hours |

---



---

#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 49.00 ft    |
| Is Paved?                     | False       |
| Slope                         | 0.230 ft/ft |
| Average Velocity              | 7.74 ft/s   |
| Segment Time of Concentration | 0.002 hours |

---



---

#### Segment #3: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.0 ft <sup>2</sup> |
| Hydraulic Length              | 44.00 ft            |
| Manning's n                   | 0.030               |
| Slope                         | 0.010 ft/ft         |
| Wetted Perimeter              | 3.10 ft             |
| Average Velocity              | 4.86 ft/s           |
| Segment Time of Concentration | 0.003 hours         |

---



---

#### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.506 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin4

Return Event: 100 years  
Storm Event: 100-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 148.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.61 ft/s   |
| Segment Time of Concentration | 0.026 hours |

---

### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 20.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.333 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.44 ft/s   |
| Segment Time of Concentration | 0.004 hours |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Basin5

Return Event: 100 years  
Storm Event: 100-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 230.00 ft   |
| Manning's n                   | 0.015       |
| Slope                         | 0.045 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.83 ft/s   |
| Segment Time of Concentration | 0.035 hours |

---

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Label: Basin 7

Return Event: 100 years

Storm Event: 100-year

## Time of Concentration Results

---

### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 360.00 ft   |
| Manning's n                   | 0.030       |
| Slope                         | 0.060 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 1.29 ft/s   |
| Segment Time of Concentration | 0.078 hours |

---

### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 0.8 ft <sup>2</sup> |
| Hydraulic Length              | 64.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.063 ft/ft         |
| Wetted Perimeter              | 3.14 ft             |
| Average Velocity              | 11.37 ft/s          |
| Segment Time of Concentration | 0.002 hours         |

---

### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.083 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Return Event: 100 years

Label: Bypass1

Storm Event: 100-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 78.00 ft    |
| Manning's n                   | 0.030       |
| Slope                         | 0.010 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.47 ft/s   |
| Segment Time of Concentration | 0.046 hours |

---



---

#### Segment #2: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 154.00 ft   |
| Manning's n                   | 0.080       |
| Slope                         | 0.290 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.93 ft/s   |
| Segment Time of Concentration | 0.046 hours |

---



---

#### Segment #3: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 110.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.073 ft/ft |
| Average Velocity              | 4.36 ft/s   |
| Segment Time of Concentration | 0.007 hours |

---



---

#### Segment #4: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,611.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.099 hours          |

---



---

#### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.198 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Return Event: 100 years

Label: Bypass2

Storm Event: 100-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 287.00 ft   |
| Manning's n                   | 0.150       |
| Slope                         | 0.063 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.35 ft/s   |
| Segment Time of Concentration | 0.229 hours |

---



---

#### Segment #2: TR-55 Channel Flow

---

|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 7.5 ft <sup>2</sup> |
| Hydraulic Length              | 1,044.00 ft         |
| Manning's n                   | 0.030               |
| Slope                         | 0.013 ft/ft         |
| Wetted Perimeter              | 15.13 ft            |
| Average Velocity              | 3.55 ft/s           |
| Segment Time of Concentration | 0.082 hours         |

---



---

#### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 60.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,010.00 ft          |
| Manning's n                   | 0.100                |
| Slope                         | 0.049 ft/ft          |
| Wetted Perimeter              | 60.13 ft             |
| Average Velocity              | 3.29 ft/s            |
| Segment Time of Concentration | 0.085 hours          |

---



---

#### Segment #4: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 36.0 ft <sup>2</sup> |
| Hydraulic Length              | 745.00 ft            |
| Manning's n                   | 0.045                |
| Slope                         | 0.020 ft/ft          |
| Wetted Perimeter              | 19.70 ft             |
| Average Velocity              | 7.00 ft/s            |
| Segment Time of Concentration | 0.030 hours          |

---



---

#### Time of Concentration (Composite)

---

|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.426 hours |
|-----------------------------------|-------------|

---

## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Return Event: 100 years

Label: Bypass3

Storm Event: 100-year

### Time of Concentration Results

---

#### Segment #1: TR-55 Sheet Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.041 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.85 ft/s   |
| Segment Time of Concentration | 0.098 hours |

---



---

#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 418.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.041 ft/ft |
| Average Velocity              | 3.27 ft/s   |
| Segment Time of Concentration | 0.036 hours |

---



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#### Segment #3: TR-55 Channel Flow

---

|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 32.0 ft <sup>2</sup> |
| Hydraulic Length              | 1,740.00 ft          |
| Manning's n                   | 0.080                |
| Slope                         | 0.030 ft/ft          |
| Wetted Perimeter              | 17.89 ft             |
| Average Velocity              | 4.75 ft/s            |
| Segment Time of Concentration | 0.102 hours          |

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#### Segment #4: TR-55 Channel Flow

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|                               |                     |
|-------------------------------|---------------------|
| Flow Area                     | 3.1 ft <sup>2</sup> |
| Hydraulic Length              | 38.00 ft            |
| Manning's n                   | 0.013               |
| Slope                         | 0.022 ft/ft         |
| Wetted Perimeter              | 6.28 ft             |
| Average Velocity              | 10.64 ft/s          |
| Segment Time of Concentration | 0.001 hours         |

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#### Segment #5: TR-55 Channel Flow

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|                  |                      |
|------------------|----------------------|
| Flow Area        | 72.0 ft <sup>2</sup> |
| Hydraulic Length | 2,454.00 ft          |
| Manning's n      | 0.040                |
| Slope            | 0.006 ft/ft          |

# O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations  
Label: Bypass3

Return Event: 100 years  
Storm Event: 100-year

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| Segment #5: TR-55 Channel Flow |             |
|--------------------------------|-------------|
| Wetted Perimeter               | 36.88 ft    |
| Average Velocity               | 4.51 ft/s   |
| Segment Time of Concentration  | 0.151 hours |

---

| Time of Concentration (Composite) |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.387 hours |

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## O'Day Park Detention Calculations

Subsection: Time of Concentration Calculations

Return Event: 100 years

Label: Bypass 4

Storm Event: 100-year

### Time of Concentration Results

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#### Segment #1: TR-55 Sheet Flow

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|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 300.00 ft   |
| Manning's n                   | 0.040       |
| Slope                         | 0.049 ft/ft |
| 2 Year 24 Hour Depth          | 3.5 in      |
| Average Velocity              | 0.91 ft/s   |
| Segment Time of Concentration | 0.091 hours |

---

#### Segment #2: TR-55 Shallow Concentrated Flow

---

|                               |             |
|-------------------------------|-------------|
| Hydraulic Length              | 970.00 ft   |
| Is Paved?                     | False       |
| Slope                         | 0.049 ft/ft |
| Average Velocity              | 3.57 ft/s   |
| Segment Time of Concentration | 0.075 hours |

---

#### Segment #3: TR-55 Channel Flow

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|                               |                      |
|-------------------------------|----------------------|
| Flow Area                     | 72.0 ft <sup>2</sup> |
| Hydraulic Length              | 3,226.00 ft          |
| Manning's n                   | 0.040                |
| Slope                         | 0.006 ft/ft          |
| Wetted Perimeter              | 36.88 ft             |
| Average Velocity              | 4.51 ft/s            |
| Segment Time of Concentration | 0.199 hours          |

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#### Time of Concentration (Composite)

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|                                   |             |
|-----------------------------------|-------------|
| Time of Concentration (Composite) | 0.366 hours |
|-----------------------------------|-------------|

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## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1A

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 1.060           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.140           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.200           | (N/A)    | (N/A)     | 88.673      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin1B

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description   | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|--|--------|-----------------|----------|-----------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D | 80.000 | 0.470           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->  | (N/A)  | 0.470           | (N/A)    | (N/A)     | 80.000      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin2

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil C | 98.000 | 0.330           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.110           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.440           | (N/A)    | (N/A)     | 93.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin3

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.460        | 0.0   | 0.0    | 80.000      |
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.260        | 0.0   | 0.0    | 98.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.720        | (N/A) | (N/A)  | 86.500      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin4

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.240           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.090           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.330           | (N/A)    | (N/A)     | 93.091      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin5

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.680           | 0.0      | 0.0       | 98.000      |
| Brush - brush, weed, grass mix - good - Soil D                                      | 73.000 | 0.230           | 0.0      | 0.0       | 73.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 0.910           | (N/A)    | (N/A)     | 91.681      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Basin 7

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.230           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 2.260           | 0.0      | 0.0       | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 2.490           | (N/A)    | (N/A)     | 81.663      |



## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass1

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.160           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 0.880           | 0.0      | 0.0       | 80.000      |
| Woods - fair - Soil D   | 79.000 | 4.240           | 0.0      | 0.0       | 79.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 5.280           | (N/A)    | (N/A)     | 79.742      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass2

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 2.070           | 0.0      | 0.0       | 98.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 1.600           | 0.0      | 0.0       | 80.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 22.430          | 0.0      | 0.0       | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 26.100          | (N/A)    | (N/A)     | 83.146      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass3

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area (acres) | C (%) | UC (%) | Adjusted CN |
|---|--------|--------------|-------|--------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 4.210        | 0.0   | 0.0    | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 29.890       | 0.0   | 0.0    | 82.000      |
| Open space (Lawns,parks etc.) - Good condition; grass cover > 75% - Soil D          | 80.000 | 3.610        | 0.0   | 0.0    | 80.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 37.710       | (N/A) | (N/A)  | 83.595      |

## O'Day Park Detention Calculations

Subsection: Runoff CN-Area  
 Label: Bypass 4

Return Event: 100 years  
 Storm Event: 100-year

### Runoff Curve Number Data

| Soil/Surface Description  | CN     | Area<br>(acres) | C<br>(%) | UC<br>(%) | Adjusted CN |
|---|--------|-----------------|----------|-----------|-------------|
| Impervious Areas - Paved parking lots, roofs, driveways, Streets and roads - Soil D | 98.000 | 0.770           | 0.0      | 0.0       | 98.000      |
| Woods - grass combination - fair - Soil D   | 82.000 | 5.390           | 0.0      | 0.0       | 82.000      |
| COMPOSITE AREA & WEIGHTED CN --->   | (N/A)  | 6.160           | (N/A)    | (N/A)     | 84.000      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1A

Return Event: 100 years  
 Storm Event: 100-year

|  |                          |
|--|--------------------------|
| Storm Event  | 100-year                 |
| Return Event   | 100 years                |
| Duration   | 24.000 hours             |
| Depth  | 7.2 in                   |
| Time of Concentration<br>(Composite)                   | 0.463 hours              |
| Area (User Defined)                                    | 2.200 acres              |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.062 hours              |
| Time to Peak (Computed)                                | 12.173 hours             |
| Flow (Peak, Computed)                                  | 11.06 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 12.150 hours             |
| Flow (Peak Interpolated<br>Output)                     | 11.03 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 89.000                   |
| Area (User Defined)                                    | 2.200 acres              |
| Maximum Retention<br>(Pervious)                        | 1.2 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.2 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 5.9 in                   |
| Runoff Volume (Pervious)                               | 1.082 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 1.077 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.463 hours              |
| Computational Time<br>Increment                        | 0.062 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 5.38 ft <sup>3</sup> /s  |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin1A

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.309 hours |
| Unit receding limb, $T_r$      | 1.236 hours |
| Total unit time, $T_b$         | 1.545 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.463 hours  |
| Area (User Defined)                  | 2.200 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 3.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 3.500           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.750           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 4.000           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 4.250           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 4.500           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 4.750           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 5.000           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 5.250           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 5.500           | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 5.750           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 6.000           | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 6.250           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 6.500           | 0.11                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 6.750           | 0.12                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 7.000           | 0.13                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 7.250           | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 7.500           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.17                         |
| 7.750           | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.18                         |
| 8.000           | 0.18                         | 0.18                         | 0.18                         | 0.19                         | 0.19                         |
| 8.250           | 0.19                         | 0.20                         | 0.20                         | 0.20                         | 0.21                         |
| 8.500           | 0.21                         | 0.22                         | 0.22                         | 0.23                         | 0.24                         |
| 8.750           | 0.24                         | 0.25                         | 0.26                         | 0.26                         | 0.27                         |
| 9.000           | 0.27                         | 0.28                         | 0.29                         | 0.29                         | 0.30                         |
| 9.250           | 0.31                         | 0.31                         | 0.32                         | 0.32                         | 0.32                         |
| 9.500           | 0.33                         | 0.33                         | 0.33                         | 0.34                         | 0.34                         |
| 9.750           | 0.34                         | 0.35                         | 0.36                         | 0.36                         | 0.37                         |
| 10.000          | 0.38                         | 0.39                         | 0.40                         | 0.41                         | 0.42                         |
| 10.250          | 0.43                         | 0.44                         | 0.46                         | 0.47                         | 0.49                         |
| 10.500          | 0.50                         | 0.52                         | 0.53                         | 0.55                         | 0.57                         |
| 10.750          | 0.59                         | 0.61                         | 0.63                         | 0.65                         | 0.68                         |
| 11.000          | 0.70                         | 0.73                         | 0.76                         | 0.79                         | 0.82                         |
| 11.250          | 0.86                         | 0.90                         | 0.95                         | 1.00                         | 1.06                         |
| 11.500          | 1.12                         | 1.19                         | 1.32                         | 1.52                         | 1.84                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 11.750       | 2.31                      | 2.98                      | 3.97                      | 5.23                      | 6.72                      |
| 12.000       | 8.33                      | 9.84                      | 10.77                     | 11.03                     | 10.70                     |
| 12.250       | 9.88                      | 8.74                      | 7.50                      | 6.36                      | 5.40                      |
| 12.500       | 4.61                      | 3.96                      | 3.45                      | 3.02                      | 2.66                      |
| 12.750       | 2.36                      | 2.11                      | 1.90                      | 1.74                      | 1.60                      |
| 13.000       | 1.48                      | 1.39                      | 1.30                      | 1.23                      | 1.16                      |
| 13.250       | 1.11                      | 1.05                      | 1.01                      | 0.97                      | 0.93                      |
| 13.500       | 0.90                      | 0.88                      | 0.85                      | 0.83                      | 0.81                      |
| 13.750       | 0.78                      | 0.76                      | 0.74                      | 0.73                      | 0.71                      |
| 14.000       | 0.69                      | 0.67                      | 0.66                      | 0.64                      | 0.63                      |
| 14.250       | 0.62                      | 0.60                      | 0.59                      | 0.58                      | 0.57                      |
| 14.500       | 0.57                      | 0.56                      | 0.55                      | 0.55                      | 0.54                      |
| 14.750       | 0.53                      | 0.53                      | 0.52                      | 0.52                      | 0.51                      |
| 15.000       | 0.50                      | 0.50                      | 0.49                      | 0.49                      | 0.48                      |
| 15.250       | 0.48                      | 0.47                      | 0.47                      | 0.46                      | 0.46                      |
| 15.500       | 0.45                      | 0.45                      | 0.44                      | 0.43                      | 0.43                      |
| 15.750       | 0.42                      | 0.42                      | 0.41                      | 0.41                      | 0.40                      |
| 16.000       | 0.40                      | 0.39                      | 0.39                      | 0.38                      | 0.38                      |
| 16.250       | 0.37                      | 0.37                      | 0.36                      | 0.36                      | 0.36                      |
| 16.500       | 0.35                      | 0.35                      | 0.35                      | 0.35                      | 0.35                      |
| 16.750       | 0.34                      | 0.34                      | 0.34                      | 0.34                      | 0.33                      |
| 17.000       | 0.33                      | 0.33                      | 0.33                      | 0.33                      | 0.32                      |
| 17.250       | 0.32                      | 0.32                      | 0.32                      | 0.32                      | 0.32                      |
| 17.500       | 0.31                      | 0.31                      | 0.31                      | 0.31                      | 0.31                      |
| 17.750       | 0.30                      | 0.30                      | 0.30                      | 0.30                      | 0.30                      |
| 18.000       | 0.29                      | 0.29                      | 0.29                      | 0.29                      | 0.29                      |
| 18.250       | 0.28                      | 0.28                      | 0.28                      | 0.28                      | 0.28                      |
| 18.500       | 0.27                      | 0.27                      | 0.27                      | 0.27                      | 0.27                      |
| 18.750       | 0.27                      | 0.26                      | 0.26                      | 0.26                      | 0.26                      |
| 19.000       | 0.26                      | 0.25                      | 0.25                      | 0.25                      | 0.25                      |
| 19.250       | 0.25                      | 0.24                      | 0.24                      | 0.24                      | 0.24                      |
| 19.500       | 0.24                      | 0.23                      | 0.23                      | 0.23                      | 0.23                      |
| 19.750       | 0.23                      | 0.22                      | 0.22                      | 0.22                      | 0.22                      |
| 20.000       | 0.22                      | 0.21                      | 0.21                      | 0.21                      | 0.21                      |
| 20.250       | 0.21                      | 0.21                      | 0.21                      | 0.20                      | 0.20                      |
| 20.500       | 0.20                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 20.750       | 0.20                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 21.000       | 0.20                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 21.250       | 0.20                      | 0.20                      | 0.19                      | 0.19                      | 0.19                      |
| 21.500       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 21.750       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 22.000       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 22.250       | 0.19                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1A

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 22.500          | 0.19                         | 0.19                         | 0.19                         | 0.18                         | 0.18                         |
| 22.750          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.000          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.250          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.500          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.750          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 24.000          | 0.17                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin1B

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.470 acres  |

|  |                         |
|--|-------------------------|
| Computational Time<br>Increment            | 0.011 hours             |
| Time to Peak (Computed)                    | 11.922 hours            |
| Flow (Peak, Computed)                      | 3.56 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated<br>Output)         | 3.45 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 80.000      |
| Area (User Defined)                         | 0.470 acres |
| Maximum Retention<br>(Pervious)             | 2.5 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.5 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 4.9 in      |
| Runoff Volume (Pervious)              | 0.191 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.191 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration<br>(Composite)  | 0.083 hours             |
| Computational Time<br>Increment       | 0.011 hours             |
| Unit Hydrograph Shape<br>Factor       | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 6.39 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin1B

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.470 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.600           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.850           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 6.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.850           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.600           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.850           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.350           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 8.600           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.850           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 9.100           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.350           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.600           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 9.850           | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 10.100          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.350          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.600          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.11                         |
| 10.850          | 0.11                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 11.100          | 0.14                         | 0.15                         | 0.16                         | 0.17                         | 0.19                         |
| 11.350          | 0.20                         | 0.21                         | 0.22                         | 0.24                         | 0.34                         |
| 11.600          | 0.47                         | 0.71                         | 1.00                         | 1.37                         | 1.78                         |
| 11.850          | 2.54                         | 3.45                         | 3.33                         | 2.90                         | 1.98                         |
| 12.100          | 0.90                         | 0.61                         | 0.52                         | 0.47                         | 0.44                         |
| 12.350          | 0.41                         | 0.37                         | 0.34                         | 0.31                         | 0.28                         |
| 12.600          | 0.26                         | 0.25                         | 0.24                         | 0.23                         | 0.23                         |
| 12.850          | 0.22                         | 0.21                         | 0.20                         | 0.20                         | 0.19                         |
| 13.100          | 0.18                         | 0.18                         | 0.17                         | 0.17                         | 0.17                         |
| 13.350          | 0.16                         | 0.16                         | 0.15                         | 0.15                         | 0.15                         |
| 13.600          | 0.14                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 13.850          | 0.13                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin1B

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.100       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 14.350       | 0.11                      | 0.11                      | 0.11                      | 0.10                      | 0.10                      |
| 14.600       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 14.850       | 0.10                      | 0.10                      | 0.10                      | 0.09                      | 0.09                      |
| 15.100       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 15.350       | 0.09                      | 0.09                      | 0.08                      | 0.08                      | 0.08                      |
| 15.600       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 15.850       | 0.08                      | 0.08                      | 0.07                      | 0.07                      | 0.07                      |
| 16.100       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 16.350       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 16.600       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 16.850       | 0.07                      | 0.07                      | 0.06                      | 0.06                      | 0.06                      |
| 17.100       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 17.350       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 17.600       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 17.850       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.06                      |
| 18.100       | 0.06                      | 0.06                      | 0.06                      | 0.05                      | 0.05                      |
| 18.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 18.600       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 18.850       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 19.100       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 19.350       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.04                      |
| 19.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 20.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 20.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 20.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 20.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 21.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 22.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.100       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.350       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.600       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 23.850       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin2

Return Event: 100 years  
 Storm Event: 100-year

|  |                         |
|--|-------------------------|
| Storm Event  | 100-year                |
| Return Event   | 100 years               |
| Duration   | 24.000 hours            |
| Depth  | 7.2 in                  |
| Time of Concentration<br>(Composite)                   | 0.083 hours             |
| Area (User Defined)                                    | 0.440 acres             |
| <hr/>  |                         |
| Computational Time<br>Increment                        | 0.011 hours             |
| Time to Peak (Computed)                                | 11.922 hours            |
| Flow (Peak, Computed)                                  | 4.04 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours             |
| Time to Flow (Peak<br>Interpolated Output)             | 11.900 hours            |
| Flow (Peak Interpolated<br>Output)                     | 3.97 ft <sup>3</sup> /s |
| <hr/>  |                         |
| <b>Drainage Area</b>                                   |                         |
| SCS CN (Composite)                                     | 94.000                  |
| Area (User Defined)                                    | 0.440 acres             |
| Maximum Retention<br>(Pervious)                        | 0.6 in                  |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.1 in                  |
| <hr/>  |                         |
| <b>Cumulative Runoff</b>                               |                         |
| Cumulative Runoff Depth<br>(Pervious)                  | 6.5 in                  |
| Runoff Volume (Pervious)                               | 0.238 ac-ft             |
| <hr/>  |                         |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                         |
| Volume   | 0.238 ac-ft             |
| <hr/>  |                         |
| <b>SCS Unit Hydrograph Parameters</b>                  |                         |
| Time of Concentration<br>(Composite)                   | 0.083 hours             |
| Computational Time<br>Increment                        | 0.011 hours             |
| Unit Hydrograph Shape<br>Factor                        | 483.432                 |
| K Factor   | 0.749                   |
| Receding/Rising, Tr/Tp                                 | 1.670                   |
| Unit peak, qp  | 5.98 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin2

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.440 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 1.800           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.050           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 2.300           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 2.550           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 2.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.050           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.300           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 3.550           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 3.800           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.050           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.300           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.550           | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.03                         |
| 4.800           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.050           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.550           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.050           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.300           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.550           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.800           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 7.050           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.300           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.550           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.800           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.050           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 8.300           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.550           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.08                         |
| 8.800           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 9.050           | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.300           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.550           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 9.800           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 10.050          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.13                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.300          | 0.13                         | 0.13                         | 0.14                         | 0.14                         | 0.14                         |
| 10.550          | 0.15                         | 0.15                         | 0.16                         | 0.17                         | 0.17                         |
| 10.800          | 0.18                         | 0.18                         | 0.19                         | 0.20                         | 0.20                         |
| 11.050          | 0.21                         | 0.22                         | 0.24                         | 0.25                         | 0.26                         |
| 11.300          | 0.28                         | 0.29                         | 0.31                         | 0.32                         | 0.34                         |
| 11.550          | 0.48                         | 0.66                         | 0.97                         | 1.33                         | 1.76                         |
| 11.800          | 2.21                         | 3.04                         | 3.97                         | 3.73                         | 3.17                         |
| 12.050          | 2.14                         | 0.97                         | 0.65                         | 0.55                         | 0.50                         |
| 12.300          | 0.47                         | 0.43                         | 0.39                         | 0.36                         | 0.32                         |
| 12.550          | 0.30                         | 0.27                         | 0.26                         | 0.25                         | 0.24                         |
| 12.800          | 0.24                         | 0.23                         | 0.22                         | 0.21                         | 0.20                         |
| 13.050          | 0.20                         | 0.19                         | 0.19                         | 0.18                         | 0.18                         |
| 13.300          | 0.17                         | 0.17                         | 0.16                         | 0.16                         | 0.15                         |
| 13.550          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 13.800          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 14.050          | 0.12                         | 0.12                         | 0.12                         | 0.11                         | 0.11                         |
| 14.300          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 14.550          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.800          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 15.050          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.300          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.800          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.07                         |
| 16.050          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.300          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.550          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.800          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 17.050          | 0.07                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.300          | 0.06                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.550          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.800          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.050          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.300          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.550          | 0.05                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin2

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.050          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.300          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.550          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.800          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin3

Return Event: 100 years  
 Storm Event: 100-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 100-year     |
| Return Event                      | 100 years    |
| Duration                          | 24.000 hours |
| Depth                             | 7.2 in       |
| Time of Concentration (Composite) | 0.506 hours  |
| Area (User Defined)               | 0.720 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.067 hours             |
| Time to Peak (Computed)                 | 12.147 hours            |
| Flow (Peak, Computed)                   | 3.29 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 12.150 hours            |
| Flow (Peak Interpolated Output)         | 3.29 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 86.000      |
| Area (User Defined)                      | 0.720 acres |
| Maximum Retention (Pervious)             | 1.6 in      |
| Maximum Retention (Pervious, 20 percent) | 0.3 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 5.6 in      |
| Runoff Volume (Pervious)           | 0.333 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.332 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.506 hours             |
| Computational Time Increment          | 0.067 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 1.61 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin3

Return Event: 100 years  
Storm Event: 100-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.337 hours |
| Unit receding limb, $T_r$      | 1.350 hours |
| Total unit time, $T_b$         | 1.687 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.506 hours  |
| Area (User Defined)                  | 0.720 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.250           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.500           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 4.750           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.000           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.250           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.500           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.02                         |
| 5.750           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.000           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.250           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.500           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.750           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.000           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.250           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 7.500           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.750           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.000           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.250           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.500           | 0.05                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 8.750           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 9.000           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 9.250           | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 9.500           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.750           | 0.09                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 10.000          | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.12                         |
| 10.250          | 0.12                         | 0.12                         | 0.13                         | 0.13                         | 0.13                         |
| 10.500          | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 10.750          | 0.16                         | 0.17                         | 0.18                         | 0.18                         | 0.19                         |
| 11.000          | 0.20                         | 0.21                         | 0.21                         | 0.22                         | 0.23                         |
| 11.250          | 0.24                         | 0.26                         | 0.27                         | 0.28                         | 0.30                         |
| 11.500          | 0.32                         | 0.34                         | 0.37                         | 0.43                         | 0.52                         |
| 11.750          | 0.64                         | 0.82                         | 1.09                         | 1.44                         | 1.84                         |
| 12.000          | 2.32                         | 2.74                         | 3.08                         | 3.29                         | 3.26                         |
| 12.250          | 3.10                         | 2.84                         | 2.52                         | 2.18                         | 1.88                         |
| 12.500          | 1.61                         | 1.39                         | 1.22                         | 1.07                         | 0.94                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin3

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 12.750          | 0.83                         | 0.75                         | 0.67                         | 0.61                         | 0.56                         |
| 13.000          | 0.52                         | 0.48                         | 0.45                         | 0.42                         | 0.40                         |
| 13.250          | 0.38                         | 0.36                         | 0.34                         | 0.33                         | 0.31                         |
| 13.500          | 0.30                         | 0.29                         | 0.28                         | 0.27                         | 0.26                         |
| 13.750          | 0.26                         | 0.25                         | 0.24                         | 0.24                         | 0.23                         |
| 14.000          | 0.23                         | 0.22                         | 0.21                         | 0.21                         | 0.21                         |
| 14.250          | 0.20                         | 0.20                         | 0.19                         | 0.19                         | 0.19                         |
| 14.500          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.17                         |
| 14.750          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 15.000          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 15.250          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 15.500          | 0.15                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 15.750          | 0.14                         | 0.14                         | 0.13                         | 0.13                         | 0.13                         |
| 16.000          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 16.250          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.500          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.750          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 17.000          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.10                         |
| 17.250          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.500          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.750          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 18.000          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.250          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.500          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.750          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 19.000          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 19.250          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 19.500          | 0.08                         | 0.08                         | 0.08                         | 0.07                         | 0.07                         |
| 19.750          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.000          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.250          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.500          | 0.07                         | 0.07                         | 0.07                         | 0.06                         | 0.06                         |
| 20.750          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.000          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.250          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.500          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.750          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.000          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.250          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.500          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.750          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.000          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.250          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: Basin3

Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 23.500          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.750          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 24.000          | 0.06                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin4

Return Event: 100 years  
 Storm Event: 100-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 100-year     |
| Return Event                      | 100 years    |
| Duration                          | 24.000 hours |
| Depth                             | 7.2 in       |
| Time of Concentration (Composite) | 0.083 hours  |
| Area (User Defined)               | 0.330 acres  |

|   |                         |
|---|-------------------------|
| Computational Time Increment            | 0.011 hours             |
| Time to Peak (Computed)                 | 11.922 hours            |
| Flow (Peak, Computed)                   | 3.01 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours             |
| Time to Flow (Peak Interpolated Output) | 11.900 hours            |
| Flow (Peak Interpolated Output)         | 2.95 ft <sup>3</sup> /s |

|  |             |
|--|-------------|
| <b>Drainage Area</b>                     |             |
| SCS CN (Composite)                       | 93.000      |
| Area (User Defined)                      | 0.330 acres |
| Maximum Retention (Pervious)             | 0.8 in      |
| Maximum Retention (Pervious, 20 percent) | 0.2 in      |

|                                    |             |
|------------------------------------|-------------|
| <b>Cumulative Runoff</b>           |             |
| Cumulative Runoff Depth (Pervious) | 6.4 in      |
| Runoff Volume (Pervious)           | 0.175 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 0.175 ac-ft |

|                                       |                         |
|---------------------------------------|-------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                         |
| Time of Concentration (Composite)     | 0.083 hours             |
| Computational Time Increment          | 0.011 hours             |
| Unit Hydrograph Shape Factor          | 483.432                 |
| K Factor                              | 0.749                   |
| Receding/Rising, Tr/Tp                | 1.670                   |
| Unit peak, qp                         | 4.49 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin4

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.330 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.350           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.600           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 2.850           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.350           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.850           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.100           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 4.350           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 4.600           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 4.850           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.100           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.350           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.600           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.850           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 6.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.350           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.600           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.850           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 7.350           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 7.600           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.850           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.100           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.350           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.600           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.850           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.100           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.350           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.600           | 0.06                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 9.850           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 10.100          | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 10.350          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.11                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 10.600          | 0.11                         | 0.12                         | 0.12                         | 0.12                         | 0.13                         |
| 10.850          | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.15                         |
| 11.100          | 0.16                         | 0.17                         | 0.18                         | 0.19                         | 0.20                         |
| 11.350          | 0.22                         | 0.23                         | 0.24                         | 0.25                         | 0.35                         |
| 11.600          | 0.49                         | 0.72                         | 0.98                         | 1.30                         | 1.64                         |
| 11.850          | 2.25                         | 2.95                         | 2.78                         | 2.36                         | 1.59                         |
| 12.100          | 0.72                         | 0.49                         | 0.41                         | 0.38                         | 0.35                         |
| 12.350          | 0.32                         | 0.29                         | 0.27                         | 0.24                         | 0.22                         |
| 12.600          | 0.20                         | 0.20                         | 0.19                         | 0.18                         | 0.18                         |
| 12.850          | 0.17                         | 0.16                         | 0.16                         | 0.15                         | 0.15                         |
| 13.100          | 0.14                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 13.350          | 0.13                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 13.600          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 13.850          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 14.100          | 0.09                         | 0.09                         | 0.09                         | 0.08                         | 0.08                         |
| 14.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 14.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.100          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.350          | 0.07                         | 0.07                         | 0.06                         | 0.06                         | 0.06                         |
| 15.600          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 15.850          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.05                         |
| 16.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.600          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 16.850          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.100          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.350          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 17.600          | 0.05                         | 0.05                         | 0.04                         | 0.04                         | 0.04                         |
| 17.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.350          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.600          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 18.850          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.100          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 19.350          | 0.04                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 19.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.100          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 20.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.100          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin4

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 21.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.100          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 22.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.100          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.350          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.600          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 23.850          | 0.03                         | 0.03                         | 0.03                         | 0.03                         | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin5

Return Event: 100 years  
 Storm Event: 100-year

|  |                          |
|--|--------------------------|
| Storm Event  | 100-year                 |
| Return Event   | 100 years                |
| Duration   | 24.000 hours             |
| Depth  | 7.2 in                   |
| Time of Concentration<br>(Composite)                   | 0.083 hours              |
| Area (User Defined)                                    | 0.910 acres              |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.011 hours              |
| Time to Peak (Computed)                                | 11.922 hours             |
| Flow (Peak, Computed)                                  | 8.22 ft <sup>3</sup> /s  |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 11.900 hours             |
| Flow (Peak Interpolated<br>Output)                     | 8.07 ft <sup>3</sup> /s  |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 92.000                   |
| Area (User Defined)                                    | 0.910 acres              |
| Maximum Retention<br>(Pervious)                        | 0.9 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.2 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 6.3 in                   |
| Runoff Volume (Pervious)                               | 0.474 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 0.474 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.083 hours              |
| Computational Time<br>Increment                        | 0.011 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 12.37 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin5

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 0.910 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 2.300           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 2.550           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 2.800           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 3.050           | 0.01                         | 0.01                         | 0.01                         | 0.02                         | 0.02                         |
| 3.300           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 3.550           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 3.800           | 0.02                         | 0.02                         | 0.03                         | 0.03                         | 0.03                         |
| 4.050           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 4.300           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.04                         |
| 4.550           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 4.800           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 5.050           | 0.04                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 5.300           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 5.550           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 5.800           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 6.050           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 6.300           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 6.550           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 6.800           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 7.050           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 7.300           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 7.550           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 7.800           | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 8.050           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 8.300           | 0.11                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 8.550           | 0.13                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 8.800           | 0.14                         | 0.15                         | 0.15                         | 0.15                         | 0.16                         |
| 9.050           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 9.300           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 9.550           | 0.17                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 9.800           | 0.19                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 10.050          | 0.21                         | 0.22                         | 0.23                         | 0.23                         | 0.24                         |
| 10.300          | 0.25                         | 0.26                         | 0.26                         | 0.27                         | 0.28                         |
| 10.550          | 0.29                         | 0.30                         | 0.31                         | 0.32                         | 0.33                         |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 100 years  
 Storm Event: 100-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 10.800       | 0.35                      | 0.36                      | 0.37                      | 0.38                      | 0.40                      |
| 11.050       | 0.41                      | 0.44                      | 0.46                      | 0.49                      | 0.52                      |
| 11.300       | 0.55                      | 0.58                      | 0.61                      | 0.64                      | 0.67                      |
| 11.550       | 0.96                      | 1.31                      | 1.94                      | 2.66                      | 3.53                      |
| 11.800       | 4.45                      | 6.14                      | 8.07                      | 7.59                      | 6.47                      |
| 12.050       | 4.37                      | 1.98                      | 1.34                      | 1.13                      | 1.03                      |
| 12.300       | 0.95                      | 0.88                      | 0.81                      | 0.73                      | 0.66                      |
| 12.550       | 0.61                      | 0.56                      | 0.54                      | 0.52                      | 0.50                      |
| 12.800       | 0.48                      | 0.47                      | 0.45                      | 0.43                      | 0.42                      |
| 13.050       | 0.40                      | 0.39                      | 0.38                      | 0.37                      | 0.36                      |
| 13.300       | 0.35                      | 0.34                      | 0.33                      | 0.33                      | 0.32                      |
| 13.550       | 0.31                      | 0.30                      | 0.29                      | 0.29                      | 0.28                      |
| 13.800       | 0.27                      | 0.27                      | 0.26                      | 0.26                      | 0.25                      |
| 14.050       | 0.24                      | 0.24                      | 0.24                      | 0.23                      | 0.23                      |
| 14.300       | 0.23                      | 0.23                      | 0.22                      | 0.22                      | 0.22                      |
| 14.550       | 0.22                      | 0.22                      | 0.21                      | 0.21                      | 0.21                      |
| 14.800       | 0.21                      | 0.20                      | 0.20                      | 0.20                      | 0.20                      |
| 15.050       | 0.20                      | 0.19                      | 0.19                      | 0.19                      | 0.19                      |
| 15.300       | 0.18                      | 0.18                      | 0.18                      | 0.18                      | 0.18                      |
| 15.550       | 0.17                      | 0.17                      | 0.17                      | 0.17                      | 0.16                      |
| 15.800       | 0.16                      | 0.16                      | 0.16                      | 0.15                      | 0.15                      |
| 16.050       | 0.15                      | 0.15                      | 0.15                      | 0.15                      | 0.15                      |
| 16.300       | 0.15                      | 0.15                      | 0.14                      | 0.14                      | 0.14                      |
| 16.550       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.14                      |
| 16.800       | 0.14                      | 0.14                      | 0.14                      | 0.14                      | 0.13                      |
| 17.050       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 17.300       | 0.13                      | 0.13                      | 0.13                      | 0.13                      | 0.13                      |
| 17.550       | 0.13                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 17.800       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 18.050       | 0.12                      | 0.12                      | 0.12                      | 0.11                      | 0.11                      |
| 18.300       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 18.550       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 18.800       | 0.11                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 19.050       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 19.300       | 0.10                      | 0.10                      | 0.10                      | 0.09                      | 0.09                      |
| 19.550       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 19.800       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 20.050       | 0.09                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 20.300       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 20.550       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 20.800       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 21.050       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 21.300       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin5

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 21.800          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.050          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.300          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.800          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.050          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 23.300          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 23.550          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 23.800          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Basin 7

Return Event: 100 years  
 Storm Event: 100-year

|  |                          |
|--|--------------------------|
| Storm Event  | 100-year                 |
| Return Event   | 100 years                |
| Duration   | 24.000 hours             |
| Depth  | 7.2 in                   |
| Time of Concentration<br>(Composite)                   | 0.083 hours              |
| Area (User Defined)                                    | 2.490 acres              |
| <hr/>  |                          |
| Computational Time<br>Increment                        | 0.011 hours              |
| Time to Peak (Computed)                                | 11.922 hours             |
| Flow (Peak, Computed)                                  | 19.58 ft <sup>3</sup> /s |
| Output Increment                                       | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output)             | 11.900 hours             |
| Flow (Peak Interpolated<br>Output)                     | 19.02 ft <sup>3</sup> /s |
| <hr/>  |                          |
| <b>Drainage Area</b>                                   |                          |
| SCS CN (Composite)                                     | 82.000                   |
| Area (User Defined)                                    | 2.490 acres              |
| Maximum Retention<br>(Pervious)                        | 2.2 in                   |
| Maximum Retention<br>(Pervious, 20 percent)            | 0.4 in                   |
| <hr/>  |                          |
| <b>Cumulative Runoff</b>                               |                          |
| Cumulative Runoff Depth<br>(Pervious)                  | 5.1 in                   |
| Runoff Volume (Pervious)                               | 1.059 ac-ft              |
| <hr/>  |                          |
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |                          |
| Volume   | 1.058 ac-ft              |
| <hr/>  |                          |
| <b>SCS Unit Hydrograph Parameters</b>                  |                          |
| Time of Concentration<br>(Composite)                   | 0.083 hours              |
| Computational Time<br>Increment                        | 0.011 hours              |
| Unit Hydrograph Shape<br>Factor                        | 483.432                  |
| K Factor   | 0.749                    |
| Receding/Rising, Tr/Tp                                 | 1.670                    |
| Unit peak, qp  | 33.86 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Basin 7

Return Event: 100 years  
Storm Event: 100-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.056 hours |
| Unit receding limb, $T_r$      | 0.222 hours |
| Total unit time, $T_b$         | 0.278 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.083 hours  |
| Area (User Defined)                  | 2.490 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.950           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 5.200           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.450           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 5.700           | 0.02                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 5.950           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 6.200           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 6.450           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 6.700           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 6.950           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 7.200           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 7.450           | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 7.700           | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 7.950           | 0.11                         | 0.12                         | 0.12                         | 0.12                         | 0.13                         |
| 8.200           | 0.13                         | 0.14                         | 0.14                         | 0.15                         | 0.15                         |
| 8.450           | 0.16                         | 0.16                         | 0.17                         | 0.17                         | 0.18                         |
| 8.700           | 0.18                         | 0.19                         | 0.19                         | 0.20                         | 0.21                         |
| 8.950           | 0.21                         | 0.22                         | 0.22                         | 0.23                         | 0.23                         |
| 9.200           | 0.23                         | 0.24                         | 0.24                         | 0.24                         | 0.25                         |
| 9.450           | 0.25                         | 0.25                         | 0.26                         | 0.26                         | 0.27                         |
| 9.700           | 0.28                         | 0.29                         | 0.30                         | 0.31                         | 0.32                         |
| 9.950           | 0.33                         | 0.34                         | 0.35                         | 0.36                         | 0.37                         |
| 10.200          | 0.39                         | 0.40                         | 0.42                         | 0.43                         | 0.45                         |
| 10.450          | 0.47                         | 0.48                         | 0.50                         | 0.52                         | 0.55                         |
| 10.700          | 0.57                         | 0.60                         | 0.62                         | 0.65                         | 0.68                         |
| 10.950          | 0.71                         | 0.74                         | 0.78                         | 0.82                         | 0.88                         |
| 11.200          | 0.94                         | 1.00                         | 1.07                         | 1.14                         | 1.21                         |
| 11.450          | 1.28                         | 1.35                         | 1.94                         | 2.69                         | 4.05                         |
| 11.700          | 5.66                         | 7.68                         | 9.93                         | 14.10                        | 19.02                        |
| 11.950          | 18.27                        | 15.83                        | 10.79                        | 4.92                         | 3.34                         |
| 12.200          | 2.83                         | 2.58                         | 2.39                         | 2.21                         | 2.03                         |
| 12.450          | 1.85                         | 1.66                         | 1.53                         | 1.42                         | 1.36                         |
| 12.700          | 1.31                         | 1.27                         | 1.23                         | 1.18                         | 1.14                         |
| 12.950          | 1.10                         | 1.06                         | 1.02                         | 0.99                         | 0.97                         |
| 13.200          | 0.94                         | 0.92                         | 0.90                         | 0.88                         | 0.85                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Basin 7

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.450          | 0.83                         | 0.81                         | 0.79                         | 0.77                         | 0.75                         |
| 13.700          | 0.73                         | 0.72                         | 0.70                         | 0.68                         | 0.67                         |
| 13.950          | 0.65                         | 0.64                         | 0.62                         | 0.61                         | 0.61                         |
| 14.200          | 0.60                         | 0.59                         | 0.59                         | 0.58                         | 0.58                         |
| 14.450          | 0.57                         | 0.57                         | 0.56                         | 0.55                         | 0.55                         |
| 14.700          | 0.54                         | 0.54                         | 0.53                         | 0.52                         | 0.52                         |
| 14.950          | 0.51                         | 0.51                         | 0.50                         | 0.50                         | 0.49                         |
| 15.200          | 0.48                         | 0.48                         | 0.47                         | 0.47                         | 0.46                         |
| 15.450          | 0.46                         | 0.45                         | 0.45                         | 0.44                         | 0.43                         |
| 15.700          | 0.43                         | 0.42                         | 0.42                         | 0.41                         | 0.40                         |
| 15.950          | 0.40                         | 0.39                         | 0.39                         | 0.38                         | 0.38                         |
| 16.200          | 0.38                         | 0.38                         | 0.38                         | 0.37                         | 0.37                         |
| 16.450          | 0.37                         | 0.37                         | 0.37                         | 0.36                         | 0.36                         |
| 16.700          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.35                         |
| 16.950          | 0.35                         | 0.35                         | 0.34                         | 0.34                         | 0.34                         |
| 17.200          | 0.34                         | 0.34                         | 0.34                         | 0.33                         | 0.33                         |
| 17.450          | 0.33                         | 0.33                         | 0.32                         | 0.32                         | 0.32                         |
| 17.700          | 0.32                         | 0.32                         | 0.31                         | 0.31                         | 0.31                         |
| 17.950          | 0.31                         | 0.31                         | 0.30                         | 0.30                         | 0.30                         |
| 18.200          | 0.30                         | 0.30                         | 0.29                         | 0.29                         | 0.29                         |
| 18.450          | 0.29                         | 0.29                         | 0.28                         | 0.28                         | 0.28                         |
| 18.700          | 0.28                         | 0.27                         | 0.27                         | 0.27                         | 0.27                         |
| 18.950          | 0.27                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 19.200          | 0.26                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 19.450          | 0.25                         | 0.24                         | 0.24                         | 0.24                         | 0.24                         |
| 19.700          | 0.24                         | 0.23                         | 0.23                         | 0.23                         | 0.23                         |
| 19.950          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.22                         |
| 20.200          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.22                         |
| 20.450          | 0.22                         | 0.22                         | 0.22                         | 0.22                         | 0.21                         |
| 20.700          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 20.950          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 21.200          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 21.450          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 21.700          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 21.950          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 22.200          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 22.450          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 22.700          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 22.950          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.19                         |
| 23.200          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 23.450          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 23.700          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: Basin 7

Storm Event: 100-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.950       | 0.19                      | 0.19                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass1

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.198 hours  |
| Area (User Defined)                  | 5.280 acres  |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.026 hours              |
| Time to Peak (Computed)                    | 11.993 hours             |
| Flow (Peak, Computed)                      | 33.09 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.000 hours             |
| Flow (Peak Interpolated<br>Output)         | 33.08 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 80.000      |
| Area (User Defined)                         | 5.280 acres |
| Maximum Retention<br>(Pervious)             | 2.5 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.5 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 4.9 in      |
| Runoff Volume (Pervious)              | 2.147 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 2.142 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.198 hours              |
| Computational Time<br>Increment       | 0.026 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 30.20 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass1

Return Event: 100 years  
Storm Event: 100-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.132 hours |
| Unit receding limb, $T_r$      | 0.528 hours |
| Total unit time, $T_b$         | 0.660 hours |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass1

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.198 hours  |
| Area (User Defined)                  | 5.280 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.500           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 5.750           | 0.01                         | 0.02                         | 0.02                         | 0.02                         | 0.03                         |
| 6.000           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 6.250           | 0.05                         | 0.05                         | 0.05                         | 0.06                         | 0.06                         |
| 6.500           | 0.06                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 6.750           | 0.08                         | 0.09                         | 0.09                         | 0.10                         | 0.10                         |
| 7.000           | 0.10                         | 0.11                         | 0.11                         | 0.12                         | 0.12                         |
| 7.250           | 0.12                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 7.500           | 0.14                         | 0.15                         | 0.15                         | 0.16                         | 0.16                         |
| 7.750           | 0.17                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 8.000           | 0.19                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 8.250           | 0.22                         | 0.23                         | 0.23                         | 0.24                         | 0.25                         |
| 8.500           | 0.26                         | 0.27                         | 0.28                         | 0.29                         | 0.30                         |
| 8.750           | 0.31                         | 0.32                         | 0.33                         | 0.35                         | 0.36                         |
| 9.000           | 0.37                         | 0.38                         | 0.39                         | 0.40                         | 0.41                         |
| 9.250           | 0.42                         | 0.42                         | 0.43                         | 0.44                         | 0.44                         |
| 9.500           | 0.45                         | 0.45                         | 0.46                         | 0.47                         | 0.49                         |
| 9.750           | 0.50                         | 0.52                         | 0.54                         | 0.55                         | 0.57                         |
| 10.000          | 0.59                         | 0.61                         | 0.63                         | 0.66                         | 0.68                         |
| 10.250          | 0.71                         | 0.74                         | 0.77                         | 0.80                         | 0.83                         |
| 10.500          | 0.86                         | 0.89                         | 0.93                         | 0.96                         | 1.01                         |
| 10.750          | 1.05                         | 1.10                         | 1.15                         | 1.21                         | 1.26                         |
| 11.000          | 1.32                         | 1.38                         | 1.45                         | 1.53                         | 1.63                         |
| 11.250          | 1.73                         | 1.86                         | 1.98                         | 2.11                         | 2.25                         |
| 11.500          | 2.39                         | 2.70                         | 3.43                         | 4.67                         | 6.72                         |
| 11.750          | 9.40                         | 12.92                        | 17.52                        | 24.05                        | 30.29                        |
| 12.000          | 33.08                        | 31.43                        | 25.44                        | 18.15                        | 12.57                        |
| 12.250          | 9.35                         | 7.43                         | 6.23                         | 5.40                         | 4.78                         |
| 12.500          | 4.26                         | 3.83                         | 3.47                         | 3.20                         | 3.00                         |
| 12.750          | 2.85                         | 2.73                         | 2.63                         | 2.54                         | 2.45                         |
| 13.000          | 2.36                         | 2.27                         | 2.19                         | 2.12                         | 2.06                         |
| 13.250          | 2.01                         | 1.95                         | 1.91                         | 1.86                         | 1.81                         |
| 13.500          | 1.76                         | 1.72                         | 1.67                         | 1.63                         | 1.59                         |
| 13.750          | 1.56                         | 1.52                         | 1.49                         | 1.45                         | 1.42                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: Bypass1

Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.000       | 1.38                      | 1.35                      | 1.32                      | 1.30                      | 1.28                      |
| 14.250       | 1.26                      | 1.25                      | 1.23                      | 1.22                      | 1.21                      |
| 14.500       | 1.20                      | 1.19                      | 1.17                      | 1.16                      | 1.15                      |
| 14.750       | 1.14                      | 1.13                      | 1.11                      | 1.10                      | 1.09                      |
| 15.000       | 1.08                      | 1.07                      | 1.05                      | 1.04                      | 1.03                      |
| 15.250       | 1.02                      | 1.01                      | 1.00                      | 0.98                      | 0.97                      |
| 15.500       | 0.96                      | 0.95                      | 0.94                      | 0.92                      | 0.91                      |
| 15.750       | 0.90                      | 0.89                      | 0.88                      | 0.86                      | 0.85                      |
| 16.000       | 0.84                      | 0.83                      | 0.82                      | 0.81                      | 0.80                      |
| 16.250       | 0.80                      | 0.79                      | 0.79                      | 0.78                      | 0.78                      |
| 16.500       | 0.77                      | 0.77                      | 0.77                      | 0.76                      | 0.76                      |
| 16.750       | 0.75                      | 0.75                      | 0.74                      | 0.74                      | 0.74                      |
| 17.000       | 0.73                      | 0.73                      | 0.72                      | 0.72                      | 0.71                      |
| 17.250       | 0.71                      | 0.71                      | 0.70                      | 0.70                      | 0.69                      |
| 17.500       | 0.69                      | 0.68                      | 0.68                      | 0.68                      | 0.67                      |
| 17.750       | 0.67                      | 0.66                      | 0.66                      | 0.65                      | 0.65                      |
| 18.000       | 0.65                      | 0.64                      | 0.64                      | 0.63                      | 0.63                      |
| 18.250       | 0.62                      | 0.62                      | 0.62                      | 0.61                      | 0.61                      |
| 18.500       | 0.60                      | 0.60                      | 0.59                      | 0.59                      | 0.59                      |
| 18.750       | 0.58                      | 0.58                      | 0.57                      | 0.57                      | 0.56                      |
| 19.000       | 0.56                      | 0.55                      | 0.55                      | 0.55                      | 0.54                      |
| 19.250       | 0.54                      | 0.53                      | 0.53                      | 0.52                      | 0.52                      |
| 19.500       | 0.52                      | 0.51                      | 0.51                      | 0.50                      | 0.50                      |
| 19.750       | 0.49                      | 0.49                      | 0.49                      | 0.48                      | 0.48                      |
| 20.000       | 0.47                      | 0.47                      | 0.46                      | 0.46                      | 0.46                      |
| 20.250       | 0.46                      | 0.46                      | 0.46                      | 0.45                      | 0.45                      |
| 20.500       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 20.750       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 21.000       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.250       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 21.500       | 0.44                      | 0.44                      | 0.43                      | 0.43                      | 0.43                      |
| 21.750       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 22.000       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.42                      |
| 22.250       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.500       | 0.42                      | 0.42                      | 0.42                      | 0.42                      | 0.42                      |
| 22.750       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 23.000       | 0.41                      | 0.41                      | 0.41                      | 0.41                      | 0.41                      |
| 23.250       | 0.41                      | 0.41                      | 0.40                      | 0.40                      | 0.40                      |
| 23.500       | 0.40                      | 0.40                      | 0.40                      | 0.40                      | 0.40                      |
| 23.750       | 0.40                      | 0.40                      | 0.40                      | 0.39                      | 0.39                      |
| 24.000       | 0.39                      | (N/A)                     | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass2

Return Event: 100 years  
 Storm Event: 100-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 100-year     |
| Return Event                      | 100 years    |
| Duration                          | 24.000 hours |
| Depth                             | 7.2 in       |
| Time of Concentration (Composite) | 0.426 hours  |
| Area (User Defined)               | 26.100 acres |

|   |                           |
|---|---------------------------|
| Computational Time Increment            | 0.057 hours               |
| Time to Peak (Computed)                 | 12.151 hours              |
| Flow (Peak, Computed)                   | 124.98 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours               |
| Time to Flow (Peak Interpolated Output) | 12.150 hours              |
| Flow (Peak Interpolated Output)         | 124.94 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 83.000       |
| Area (User Defined)                      | 26.100 acres |
| Maximum Retention (Pervious)             | 2.0 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |              |
|------------------------------------|--------------|
| <b>Cumulative Runoff</b>           |              |
| Cumulative Runoff Depth (Pervious) | 5.2 in       |
| Runoff Volume (Pervious)           | 11.347 ac-ft |

|  |              |
|--|--------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |              |
| Volume   | 11.295 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration (Composite)     | 0.426 hours              |
| Computational Time Increment          | 0.057 hours              |
| Unit Hydrograph Shape Factor          | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 69.44 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass2

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.284 hours |
| Unit receding limb, $T_r$      | 1.136 hours |
| Total unit time, $T_b$         | 1.420 hours |

---

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass2

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.426 hours  |
| Area (User Defined)                  | 26.100 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.700           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 4.950           | 0.02                         | 0.03                         | 0.05                         | 0.06                         | 0.07                         |
| 5.200           | 0.09                         | 0.10                         | 0.12                         | 0.13                         | 0.15                         |
| 5.450           | 0.17                         | 0.18                         | 0.20                         | 0.22                         | 0.24                         |
| 5.700           | 0.25                         | 0.27                         | 0.29                         | 0.31                         | 0.33                         |
| 5.950           | 0.34                         | 0.36                         | 0.38                         | 0.40                         | 0.42                         |
| 6.200           | 0.44                         | 0.46                         | 0.48                         | 0.50                         | 0.52                         |
| 6.450           | 0.54                         | 0.56                         | 0.58                         | 0.60                         | 0.62                         |
| 6.700           | 0.64                         | 0.66                         | 0.68                         | 0.70                         | 0.72                         |
| 6.950           | 0.75                         | 0.77                         | 0.79                         | 0.81                         | 0.83                         |
| 7.200           | 0.85                         | 0.88                         | 0.90                         | 0.92                         | 0.94                         |
| 7.450           | 0.96                         | 0.99                         | 1.01                         | 1.03                         | 1.06                         |
| 7.700           | 1.08                         | 1.10                         | 1.12                         | 1.15                         | 1.17                         |
| 7.950           | 1.19                         | 1.22                         | 1.24                         | 1.27                         | 1.29                         |
| 8.200           | 1.32                         | 1.35                         | 1.39                         | 1.43                         | 1.47                         |
| 8.450           | 1.51                         | 1.56                         | 1.61                         | 1.66                         | 1.72                         |
| 8.700           | 1.77                         | 1.83                         | 1.88                         | 1.94                         | 2.00                         |
| 8.950           | 2.06                         | 2.12                         | 2.19                         | 2.25                         | 2.31                         |
| 9.200           | 2.37                         | 2.43                         | 2.48                         | 2.52                         | 2.56                         |
| 9.450           | 2.60                         | 2.64                         | 2.67                         | 2.71                         | 2.75                         |
| 9.700           | 2.79                         | 2.84                         | 2.90                         | 2.97                         | 3.05                         |
| 9.950           | 3.13                         | 3.22                         | 3.31                         | 3.41                         | 3.52                         |
| 10.200          | 3.63                         | 3.75                         | 3.88                         | 4.02                         | 4.16                         |
| 10.450          | 4.30                         | 4.46                         | 4.62                         | 4.78                         | 4.96                         |
| 10.700          | 5.14                         | 5.34                         | 5.56                         | 5.78                         | 6.02                         |
| 10.950          | 6.28                         | 6.54                         | 6.82                         | 7.12                         | 7.44                         |
| 11.200          | 7.80                         | 8.20                         | 8.65                         | 9.16                         | 9.71                         |
| 11.450          | 10.30                        | 10.99                        | 11.88                        | 13.25                        | 15.48                        |
| 11.700          | 19.01                        | 24.69                        | 32.96                        | 44.65                        | 59.87                        |
| 11.950          | 78.05                        | 97.06                        | 113.43                       | 123.61                       | 124.94                       |
| 12.200          | 117.45                       | 104.89                       | 90.36                        | 76.16                        | 63.74                        |
| 12.450          | 53.69                        | 45.78                        | 39.45                        | 34.34                        | 30.11                        |
| 12.700          | 26.61                        | 23.73                        | 21.37                        | 19.44                        | 17.87                        |
| 12.950          | 16.57                        | 15.50                        | 14.59                        | 13.78                        | 13.06                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: Bypass2

Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 13.200       | 12.41                     | 11.85                     | 11.36                     | 10.95                     | 10.60                     |
| 13.450       | 10.29                     | 10.00                     | 9.72                      | 9.45                      | 9.19                      |
| 13.700       | 8.95                      | 8.72                      | 8.50                      | 8.29                      | 8.09                      |
| 13.950       | 7.90                      | 7.71                      | 7.52                      | 7.35                      | 7.18                      |
| 14.200       | 7.02                      | 6.88                      | 6.75                      | 6.64                      | 6.54                      |
| 14.450       | 6.45                      | 6.37                      | 6.29                      | 6.22                      | 6.15                      |
| 14.700       | 6.08                      | 6.01                      | 5.95                      | 5.89                      | 5.83                      |
| 14.950       | 5.76                      | 5.70                      | 5.64                      | 5.58                      | 5.52                      |
| 15.200       | 5.46                      | 5.40                      | 5.34                      | 5.28                      | 5.22                      |
| 15.450       | 5.15                      | 5.09                      | 5.03                      | 4.97                      | 4.91                      |
| 15.700       | 4.85                      | 4.79                      | 4.73                      | 4.67                      | 4.61                      |
| 15.950       | 4.55                      | 4.49                      | 4.42                      | 4.36                      | 4.31                      |
| 16.200       | 4.25                      | 4.20                      | 4.16                      | 4.12                      | 4.08                      |
| 16.450       | 4.05                      | 4.02                      | 4.00                      | 3.97                      | 3.94                      |
| 16.700       | 3.92                      | 3.90                      | 3.87                      | 3.85                      | 3.83                      |
| 16.950       | 3.81                      | 3.79                      | 3.76                      | 3.74                      | 3.72                      |
| 17.200       | 3.70                      | 3.68                      | 3.65                      | 3.63                      | 3.61                      |
| 17.450       | 3.59                      | 3.57                      | 3.55                      | 3.52                      | 3.50                      |
| 17.700       | 3.48                      | 3.46                      | 3.44                      | 3.41                      | 3.39                      |
| 17.950       | 3.37                      | 3.35                      | 3.33                      | 3.31                      | 3.28                      |
| 18.200       | 3.26                      | 3.24                      | 3.22                      | 3.20                      | 3.17                      |
| 18.450       | 3.15                      | 3.13                      | 3.11                      | 3.09                      | 3.06                      |
| 18.700       | 3.04                      | 3.02                      | 3.00                      | 2.98                      | 2.95                      |
| 18.950       | 2.93                      | 2.91                      | 2.89                      | 2.87                      | 2.84                      |
| 19.200       | 2.82                      | 2.80                      | 2.78                      | 2.76                      | 2.73                      |
| 19.450       | 2.71                      | 2.69                      | 2.67                      | 2.65                      | 2.62                      |
| 19.700       | 2.60                      | 2.58                      | 2.56                      | 2.54                      | 2.51                      |
| 19.950       | 2.49                      | 2.47                      | 2.45                      | 2.43                      | 2.41                      |
| 20.200       | 2.39                      | 2.37                      | 2.36                      | 2.34                      | 2.33                      |
| 20.450       | 2.32                      | 2.32                      | 2.31                      | 2.30                      | 2.30                      |
| 20.700       | 2.29                      | 2.29                      | 2.28                      | 2.28                      | 2.27                      |
| 20.950       | 2.27                      | 2.26                      | 2.26                      | 2.25                      | 2.25                      |
| 21.200       | 2.25                      | 2.24                      | 2.24                      | 2.23                      | 2.23                      |
| 21.450       | 2.22                      | 2.22                      | 2.22                      | 2.21                      | 2.21                      |
| 21.700       | 2.20                      | 2.20                      | 2.19                      | 2.19                      | 2.19                      |
| 21.950       | 2.18                      | 2.18                      | 2.17                      | 2.17                      | 2.16                      |
| 22.200       | 2.16                      | 2.15                      | 2.15                      | 2.15                      | 2.14                      |
| 22.450       | 2.14                      | 2.13                      | 2.13                      | 2.12                      | 2.12                      |
| 22.700       | 2.12                      | 2.11                      | 2.11                      | 2.10                      | 2.10                      |
| 22.950       | 2.09                      | 2.09                      | 2.09                      | 2.08                      | 2.08                      |
| 23.200       | 2.07                      | 2.07                      | 2.06                      | 2.06                      | 2.05                      |
| 23.450       | 2.05                      | 2.05                      | 2.04                      | 2.04                      | 2.03                      |
| 23.700       | 2.03                      | 2.02                      | 2.02                      | 2.02                      | 2.01                      |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
Label: Bypass2

Return Event: 100 years  
Storm Event: 100-year

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 23.950       | 2.01                      | 2.00                      | (N/A)                     | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
 Label: Bypass3

Return Event: 100 years  
 Storm Event: 100-year

|                                   |              |
|-----------------------------------|--------------|
| Storm Event                       | 100-year     |
| Return Event                      | 100 years    |
| Duration                          | 24.000 hours |
| Depth                             | 7.2 in       |
| Time of Concentration (Composite) | 0.387 hours  |
| Area (User Defined)               | 37.710 acres |

|   |                           |
|---|---------------------------|
| Computational Time Increment            | 0.052 hours               |
| Time to Peak (Computed)                 | 12.089 hours              |
| Flow (Peak, Computed)                   | 193.35 ft <sup>3</sup> /s |
| Output Increment                        | 0.050 hours               |
| Time to Flow (Peak Interpolated Output) | 12.100 hours              |
| Flow (Peak Interpolated Output)         | 192.94 ft <sup>3</sup> /s |

|  |              |
|--|--------------|
| <b>Drainage Area</b>                     |              |
| SCS CN (Composite)                       | 84.000       |
| Area (User Defined)                      | 37.710 acres |
| Maximum Retention (Pervious)             | 1.9 in       |
| Maximum Retention (Pervious, 20 percent) | 0.4 in       |

|                                    |              |
|------------------------------------|--------------|
| <b>Cumulative Runoff</b>           |              |
| Cumulative Runoff Depth (Pervious) | 5.3 in       |
| Runoff Volume (Pervious)           | 16.750 ac-ft |

|  |              |
|--|--------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |              |
| Volume   | 16.676 ac-ft |

|                                       |                           |
|---------------------------------------|---------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                           |
| Time of Concentration (Composite)     | 0.387 hours               |
| Computational Time Increment          | 0.052 hours               |
| Unit Hydrograph Shape Factor          | 483.432                   |
| K Factor                              | 0.749                     |
| Receding/Rising, Tr/Tp                | 1.670                     |
| Unit peak, qp                         | 110.27 ft <sup>3</sup> /s |



# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass3

Return Event: 100 years  
Storm Event: 100-year

---

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.258 hours |
| Unit receding limb, $T_r$      | 1.033 hours |
| Total unit time, $T_b$         | 1.292 hours |

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## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass3

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.387 hours  |
| Area (User Defined)                  | 37.710 acres |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.400           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.02                         |
| 4.650           | 0.03                         | 0.04                         | 0.06                         | 0.08                         | 0.10                         |
| 4.900           | 0.12                         | 0.14                         | 0.17                         | 0.19                         | 0.21                         |
| 5.150           | 0.24                         | 0.26                         | 0.29                         | 0.31                         | 0.34                         |
| 5.400           | 0.37                         | 0.39                         | 0.42                         | 0.44                         | 0.47                         |
| 5.650           | 0.50                         | 0.53                         | 0.55                         | 0.58                         | 0.61                         |
| 5.900           | 0.64                         | 0.67                         | 0.69                         | 0.72                         | 0.75                         |
| 6.150           | 0.78                         | 0.81                         | 0.84                         | 0.87                         | 0.90                         |
| 6.400           | 0.93                         | 0.96                         | 0.99                         | 1.02                         | 1.05                         |
| 6.650           | 1.08                         | 1.11                         | 1.15                         | 1.18                         | 1.21                         |
| 6.900           | 1.24                         | 1.27                         | 1.30                         | 1.34                         | 1.37                         |
| 7.150           | 1.40                         | 1.43                         | 1.47                         | 1.50                         | 1.53                         |
| 7.400           | 1.57                         | 1.60                         | 1.63                         | 1.67                         | 1.70                         |
| 7.650           | 1.73                         | 1.77                         | 1.80                         | 1.84                         | 1.87                         |
| 7.900           | 1.91                         | 1.94                         | 1.98                         | 2.01                         | 2.05                         |
| 8.150           | 2.09                         | 2.13                         | 2.18                         | 2.24                         | 2.30                         |
| 8.400           | 2.37                         | 2.44                         | 2.51                         | 2.59                         | 2.67                         |
| 8.650           | 2.76                         | 2.84                         | 2.93                         | 3.01                         | 3.10                         |
| 8.900           | 3.20                         | 3.29                         | 3.38                         | 3.48                         | 3.57                         |
| 9.150           | 3.67                         | 3.75                         | 3.83                         | 3.90                         | 3.97                         |
| 9.400           | 4.03                         | 4.08                         | 4.13                         | 4.18                         | 4.23                         |
| 9.650           | 4.28                         | 4.35                         | 4.43                         | 4.53                         | 4.64                         |
| 9.900           | 4.76                         | 4.89                         | 5.03                         | 5.18                         | 5.33                         |
| 10.150          | 5.50                         | 5.67                         | 5.86                         | 6.05                         | 6.26                         |
| 10.400          | 6.48                         | 6.70                         | 6.94                         | 7.18                         | 7.43                         |
| 10.650          | 7.70                         | 7.98                         | 8.29                         | 8.62                         | 8.97                         |
| 10.900          | 9.34                         | 9.74                         | 10.14                        | 10.56                        | 11.01                        |
| 11.150          | 11.51                        | 12.07                        | 12.71                        | 13.43                        | 14.23                        |
| 11.400          | 15.09                        | 16.00                        | 17.05                        | 18.46                        | 20.76                        |
| 11.650          | 24.73                        | 31.25                        | 41.12                        | 55.20                        | 74.54                        |
| 11.900          | 99.68                        | 129.42                       | 159.41                       | 182.47                       | 192.94                       |
| 12.150          | 188.42                       | 171.19                       | 147.16                       | 122.43                       | 100.44                       |
| 12.400          | 83.07                        | 69.91                        | 59.74                        | 51.47                        | 44.75                        |
| 12.650          | 39.27                        | 34.80                        | 31.19                        | 28.29                        | 25.96                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: Bypass3

Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 12.900       | 24.06                     | 22.50                     | 21.16                     | 19.98                     | 18.95                     |
| 13.150       | 18.05                     | 17.28                     | 16.63                     | 16.07                     | 15.57                     |
| 13.400       | 15.12                     | 14.69                     | 14.28                     | 13.89                     | 13.52                     |
| 13.650       | 13.16                     | 12.82                     | 12.49                     | 12.18                     | 11.89                     |
| 13.900       | 11.60                     | 11.33                     | 11.06                     | 10.80                     | 10.55                     |
| 14.150       | 10.31                     | 10.09                     | 9.89                      | 9.72                      | 9.56                      |
| 14.400       | 9.43                      | 9.30                      | 9.19                      | 9.09                      | 8.98                      |
| 14.650       | 8.89                      | 8.79                      | 8.70                      | 8.61                      | 8.52                      |
| 14.900       | 8.43                      | 8.34                      | 8.25                      | 8.16                      | 8.07                      |
| 15.150       | 7.99                      | 7.90                      | 7.81                      | 7.72                      | 7.63                      |
| 15.400       | 7.54                      | 7.45                      | 7.37                      | 7.28                      | 7.19                      |
| 15.650       | 7.10                      | 7.01                      | 6.92                      | 6.83                      | 6.74                      |
| 15.900       | 6.65                      | 6.56                      | 6.48                      | 6.39                      | 6.30                      |
| 16.150       | 6.22                      | 6.14                      | 6.07                      | 6.01                      | 5.96                      |
| 16.400       | 5.91                      | 5.87                      | 5.83                      | 5.79                      | 5.75                      |
| 16.650       | 5.72                      | 5.69                      | 5.65                      | 5.62                      | 5.59                      |
| 16.900       | 5.55                      | 5.52                      | 5.49                      | 5.46                      | 5.43                      |
| 17.150       | 5.40                      | 5.36                      | 5.33                      | 5.30                      | 5.27                      |
| 17.400       | 5.24                      | 5.20                      | 5.17                      | 5.14                      | 5.11                      |
| 17.650       | 5.08                      | 5.05                      | 5.01                      | 4.98                      | 4.95                      |
| 17.900       | 4.92                      | 4.89                      | 4.86                      | 4.82                      | 4.79                      |
| 18.150       | 4.76                      | 4.73                      | 4.70                      | 4.66                      | 4.63                      |
| 18.400       | 4.60                      | 4.57                      | 4.54                      | 4.50                      | 4.47                      |
| 18.650       | 4.44                      | 4.41                      | 4.38                      | 4.34                      | 4.31                      |
| 18.900       | 4.28                      | 4.25                      | 4.22                      | 4.18                      | 4.15                      |
| 19.150       | 4.12                      | 4.09                      | 4.06                      | 4.02                      | 3.99                      |
| 19.400       | 3.96                      | 3.93                      | 3.89                      | 3.86                      | 3.83                      |
| 19.650       | 3.80                      | 3.77                      | 3.73                      | 3.70                      | 3.67                      |
| 19.900       | 3.64                      | 3.61                      | 3.57                      | 3.54                      | 3.51                      |
| 20.150       | 3.48                      | 3.46                      | 3.43                      | 3.41                      | 3.40                      |
| 20.400       | 3.38                      | 3.37                      | 3.36                      | 3.35                      | 3.34                      |
| 20.650       | 3.34                      | 3.33                      | 3.32                      | 3.31                      | 3.31                      |
| 20.900       | 3.30                      | 3.29                      | 3.29                      | 3.28                      | 3.28                      |
| 21.150       | 3.27                      | 3.26                      | 3.26                      | 3.25                      | 3.24                      |
| 21.400       | 3.24                      | 3.23                      | 3.22                      | 3.22                      | 3.21                      |
| 21.650       | 3.21                      | 3.20                      | 3.19                      | 3.19                      | 3.18                      |
| 21.900       | 3.17                      | 3.17                      | 3.16                      | 3.16                      | 3.15                      |
| 22.150       | 3.14                      | 3.14                      | 3.13                      | 3.12                      | 3.12                      |
| 22.400       | 3.11                      | 3.10                      | 3.10                      | 3.09                      | 3.09                      |
| 22.650       | 3.08                      | 3.07                      | 3.07                      | 3.06                      | 3.05                      |
| 22.900       | 3.05                      | 3.04                      | 3.03                      | 3.03                      | 3.02                      |
| 23.150       | 3.02                      | 3.01                      | 3.00                      | 3.00                      | 2.99                      |
| 23.400       | 2.98                      | 2.98                      | 2.97                      | 2.96                      | 2.96                      |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass3

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 23.650          | 2.95                         | 2.95                         | 2.94                         | 2.93                         | 2.93                         |
| 23.900          | 2.92                         | 2.91                         | 2.90                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary

Return Event: 100 years

Label: Bypass 4

Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

|  |                          |
|--|--------------------------|
| Computational Time<br>Increment            | 0.049 hours              |
| Time to Peak (Computed)                    | 12.087 hours             |
| Flow (Peak, Computed)                      | 32.81 ft <sup>3</sup> /s |
| Output Increment                           | 0.050 hours              |
| Time to Flow (Peak<br>Interpolated Output) | 12.100 hours             |
| Flow (Peak Interpolated<br>Output)         | 32.60 ft <sup>3</sup> /s |

|   |             |
|---|-------------|
| <b>Drainage Area</b>                        |             |
| SCS CN (Composite)                          | 84.000      |
| Area (User Defined)                         | 6.160 acres |
| Maximum Retention<br>(Pervious)             | 1.9 in      |
| Maximum Retention<br>(Pervious, 20 percent) | 0.4 in      |

|                                       |             |
|---------------------------------------|-------------|
| <b>Cumulative Runoff</b>              |             |
| Cumulative Runoff Depth<br>(Pervious) | 5.3 in      |
| Runoff Volume (Pervious)              | 2.736 ac-ft |

|  |             |
|--|-------------|
| <b>Hydrograph Volume (Area under Hydrograph curve)</b> |             |
| Volume   | 2.724 ac-ft |

|                                       |                          |
|---------------------------------------|--------------------------|
| <b>SCS Unit Hydrograph Parameters</b> |                          |
| Time of Concentration<br>(Composite)  | 0.366 hours              |
| Computational Time<br>Increment       | 0.049 hours              |
| Unit Hydrograph Shape<br>Factor       | 483.432                  |
| K Factor                              | 0.749                    |
| Receding/Rising, Tr/Tp                | 1.670                    |
| Unit peak, qp                         | 19.09 ft <sup>3</sup> /s |

# O'Day Park Detention Calculations

Subsection: Unit Hydrograph Summary  
Label: Bypass 4

Return Event: 100 years  
Storm Event: 100-year

| SCS Unit Hydrograph Parameters |             |
|--------------------------------|-------------|
| Unit peak time, $T_p$          | 0.244 hours |
| Unit receding limb, $T_r$      | 0.975 hours |
| Total unit time, $T_b$         | 1.218 hours |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass 4

Return Event: 100 years  
 Storm Event: 100-year

|                                      |              |
|--------------------------------------|--------------|
| Storm Event                          | 100-year     |
| Return Event                         | 100 years    |
| Duration                             | 24.000 hours |
| Depth                                | 7.2 in       |
| Time of Concentration<br>(Composite) | 0.366 hours  |
| Area (User Defined)                  | 6.160 acres  |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 4.500           | 0.00                         | 0.00                         | 0.00                         | 0.01                         | 0.01                         |
| 4.750           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 5.000           | 0.03                         | 0.03                         | 0.04                         | 0.04                         | 0.04                         |
| 5.250           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.07                         |
| 5.500           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.09                         |
| 5.750           | 0.09                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 6.000           | 0.11                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 6.250           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 6.500           | 0.16                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 6.750           | 0.19                         | 0.19                         | 0.20                         | 0.20                         | 0.21                         |
| 7.000           | 0.21                         | 0.22                         | 0.23                         | 0.23                         | 0.24                         |
| 7.250           | 0.24                         | 0.25                         | 0.25                         | 0.26                         | 0.26                         |
| 7.500           | 0.27                         | 0.27                         | 0.28                         | 0.29                         | 0.29                         |
| 7.750           | 0.30                         | 0.30                         | 0.31                         | 0.31                         | 0.32                         |
| 8.000           | 0.32                         | 0.33                         | 0.34                         | 0.34                         | 0.35                         |
| 8.250           | 0.36                         | 0.37                         | 0.38                         | 0.39                         | 0.40                         |
| 8.500           | 0.41                         | 0.43                         | 0.44                         | 0.45                         | 0.47                         |
| 8.750           | 0.48                         | 0.50                         | 0.51                         | 0.53                         | 0.54                         |
| 9.000           | 0.56                         | 0.57                         | 0.59                         | 0.60                         | 0.62                         |
| 9.250           | 0.63                         | 0.64                         | 0.65                         | 0.66                         | 0.67                         |
| 9.500           | 0.68                         | 0.69                         | 0.69                         | 0.70                         | 0.71                         |
| 9.750           | 0.73                         | 0.74                         | 0.76                         | 0.78                         | 0.81                         |
| 10.000          | 0.83                         | 0.85                         | 0.88                         | 0.91                         | 0.94                         |
| 10.250          | 0.97                         | 1.00                         | 1.03                         | 1.07                         | 1.11                         |
| 10.500          | 1.15                         | 1.19                         | 1.23                         | 1.27                         | 1.32                         |
| 10.750          | 1.37                         | 1.43                         | 1.49                         | 1.55                         | 1.61                         |
| 11.000          | 1.68                         | 1.75                         | 1.82                         | 1.91                         | 2.00                         |
| 11.250          | 2.11                         | 2.23                         | 2.36                         | 2.51                         | 2.66                         |
| 11.500          | 2.82                         | 3.05                         | 3.40                         | 4.10                         | 5.23                         |
| 11.750          | 7.00                         | 9.46                         | 12.87                        | 17.32                        | 22.59                        |
| 12.000          | 27.76                        | 31.40                        | 32.60                        | 31.10                        | 27.52                        |
| 12.250          | 23.14                        | 18.93                        | 15.40                        | 12.71                        | 10.69                        |
| 12.500          | 9.11                         | 7.85                         | 6.84                         | 6.01                         | 5.35                         |
| 12.750          | 4.81                         | 4.39                         | 4.04                         | 3.77                         | 3.53                         |

## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)

Return Event: 100 years

Label: Bypass 4

Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 13.000          | 3.33                         | 3.16                         | 3.01                         | 2.88                         | 2.77                         |
| 13.250          | 2.68                         | 2.59                         | 2.51                         | 2.44                         | 2.37                         |
| 13.500          | 2.31                         | 2.25                         | 2.19                         | 2.13                         | 2.07                         |
| 13.750          | 2.02                         | 1.97                         | 1.92                         | 1.88                         | 1.83                         |
| 14.000          | 1.79                         | 1.75                         | 1.71                         | 1.67                         | 1.63                         |
| 14.250          | 1.60                         | 1.58                         | 1.55                         | 1.53                         | 1.51                         |
| 14.500          | 1.49                         | 1.48                         | 1.46                         | 1.45                         | 1.43                         |
| 14.750          | 1.42                         | 1.40                         | 1.39                         | 1.37                         | 1.36                         |
| 15.000          | 1.34                         | 1.33                         | 1.31                         | 1.30                         | 1.29                         |
| 15.250          | 1.27                         | 1.26                         | 1.24                         | 1.23                         | 1.21                         |
| 15.500          | 1.20                         | 1.18                         | 1.17                         | 1.15                         | 1.14                         |
| 15.750          | 1.13                         | 1.11                         | 1.10                         | 1.08                         | 1.07                         |
| 16.000          | 1.05                         | 1.04                         | 1.02                         | 1.01                         | 1.00                         |
| 16.250          | 0.99                         | 0.98                         | 0.97                         | 0.96                         | 0.96                         |
| 16.500          | 0.95                         | 0.94                         | 0.94                         | 0.93                         | 0.93                         |
| 16.750          | 0.92                         | 0.92                         | 0.91                         | 0.91                         | 0.90                         |
| 17.000          | 0.90                         | 0.89                         | 0.88                         | 0.88                         | 0.87                         |
| 17.250          | 0.87                         | 0.86                         | 0.86                         | 0.85                         | 0.85                         |
| 17.500          | 0.84                         | 0.84                         | 0.83                         | 0.83                         | 0.82                         |
| 17.750          | 0.82                         | 0.81                         | 0.81                         | 0.80                         | 0.80                         |
| 18.000          | 0.79                         | 0.79                         | 0.78                         | 0.78                         | 0.77                         |
| 18.250          | 0.77                         | 0.76                         | 0.75                         | 0.75                         | 0.74                         |
| 18.500          | 0.74                         | 0.73                         | 0.73                         | 0.72                         | 0.72                         |
| 18.750          | 0.71                         | 0.71                         | 0.70                         | 0.70                         | 0.69                         |
| 19.000          | 0.69                         | 0.68                         | 0.68                         | 0.67                         | 0.67                         |
| 19.250          | 0.66                         | 0.66                         | 0.65                         | 0.65                         | 0.64                         |
| 19.500          | 0.63                         | 0.63                         | 0.62                         | 0.62                         | 0.61                         |
| 19.750          | 0.61                         | 0.60                         | 0.60                         | 0.59                         | 0.59                         |
| 20.000          | 0.58                         | 0.58                         | 0.57                         | 0.57                         | 0.56                         |
| 20.250          | 0.56                         | 0.56                         | 0.55                         | 0.55                         | 0.55                         |
| 20.500          | 0.55                         | 0.55                         | 0.55                         | 0.54                         | 0.54                         |
| 20.750          | 0.54                         | 0.54                         | 0.54                         | 0.54                         | 0.54                         |
| 21.000          | 0.54                         | 0.54                         | 0.53                         | 0.53                         | 0.53                         |
| 21.250          | 0.53                         | 0.53                         | 0.53                         | 0.53                         | 0.53                         |
| 21.500          | 0.53                         | 0.53                         | 0.52                         | 0.52                         | 0.52                         |
| 21.750          | 0.52                         | 0.52                         | 0.52                         | 0.52                         | 0.52                         |
| 22.000          | 0.52                         | 0.52                         | 0.51                         | 0.51                         | 0.51                         |
| 22.250          | 0.51                         | 0.51                         | 0.51                         | 0.51                         | 0.51                         |
| 22.500          | 0.51                         | 0.50                         | 0.50                         | 0.50                         | 0.50                         |
| 22.750          | 0.50                         | 0.50                         | 0.50                         | 0.50                         | 0.50                         |
| 23.000          | 0.50                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 23.250          | 0.49                         | 0.49                         | 0.49                         | 0.49                         | 0.49                         |
| 23.500          | 0.48                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |



## O'Day Park Detention Calculations

Subsection: Unit Hydrograph (Hydrograph Table)  
 Label: Bypass 4

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 23.750          | 0.48                         | 0.48                         | 0.48                         | 0.48                         | 0.48                         |
| 24.000          | 0.47                         | (N/A)                        | (N/A)                        | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Addition Summary  
 Label: O-1

Return Event: 100 years  
 Storm Event: 100-year

### Summary for Hydrograph Addition at 'O-1'

| Upstream Link                       | Upstream Node  |
|-------------------------------------|----------------|
| <Catchment to Outflow Node><br>CO-4 | Bypass2<br>J-4 |
| <Catchment to Outflow Node>         | Bypass 4       |
| <Catchment to Outflow Node>         | Bypass1        |
| <Catchment to Outflow Node>         | Bypass3        |

### Node Inflows

| Inflow Type | Element  | Volume<br>(ac-ft) | Time to Peak<br>(hours) | Flow (Peak)<br>(ft <sup>3</sup> /s) |
|-------------|----------|-------------------|-------------------------|-------------------------------------|
| Flow (From) | Bypass2  | 11.295            | 12.150                  | 124.94                              |
| Flow (From) | CO-4     | 2.050             | 12.250                  | 11.59                               |
| Flow (From) | Bypass 4 | 2.724             | 12.100                  | 32.60                               |
| Flow (From) | Bypass1  | 2.142             | 12.000                  | 33.08                               |
| Flow (From) | Bypass3  | 16.676            | 12.100                  | 192.94                              |
| Flow (In)   | O-1      | 34.887            | 12.100                  | 382.83                              |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 0.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 1.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 2.750           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.000           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.250           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.500           | 533.00            | 533.00            | 533.00            | 533.00            | 533.00            |
| 3.750           | 533.00            | 533.00            | 533.01            | 533.01            | 533.01            |
| 4.000           | 533.01            | 533.01            | 533.01            | 533.01            | 533.02            |
| 4.250           | 533.02            | 533.02            | 533.02            | 533.02            | 533.02            |
| 4.500           | 533.03            | 533.03            | 533.03            | 533.03            | 533.04            |
| 4.750           | 533.04            | 533.04            | 533.05            | 533.05            | 533.05            |
| 5.000           | 533.06            | 533.06            | 533.06            | 533.07            | 533.07            |
| 5.250           | 533.07            | 533.08            | 533.08            | 533.09            | 533.09            |
| 5.500           | 533.10            | 533.10            | 533.11            | 533.11            | 533.12            |
| 5.750           | 533.12            | 533.13            | 533.13            | 533.14            | 533.14            |
| 6.000           | 533.15            | 533.15            | 533.16            | 533.17            | 533.17            |
| 6.250           | 533.18            | 533.19            | 533.19            | 533.20            | 533.21            |
| 6.500           | 533.21            | 533.22            | 533.23            | 533.23            | 533.24            |
| 6.750           | 533.25            | 533.26            | 533.26            | 533.27            | 533.28            |
| 7.000           | 533.29            | 533.30            | 533.30            | 533.31            | 533.32            |
| 7.250           | 533.33            | 533.34            | 533.35            | 533.36            | 533.37            |
| 7.500           | 533.38            | 533.38            | 533.39            | 533.40            | 533.41            |
| 7.750           | 533.42            | 533.43            | 533.44            | 533.45            | 533.46            |
| 8.000           | 533.47            | 533.48            | 533.49            | 533.51            | 533.52            |
| 8.250           | 533.53            | 533.54            | 533.55            | 533.56            | 533.57            |
| 8.500           | 533.58            | 533.60            | 533.61            | 533.62            | 533.63            |
| 8.750           | 533.65            | 533.66            | 533.68            | 533.69            | 533.70            |
| 9.000           | 533.72            | 533.73            | 533.75            | 533.77            | 533.78            |
| 9.250           | 533.80            | 533.82            | 533.83            | 533.85            | 533.87            |
| 9.500           | 533.88            | 533.90            | 533.92            | 533.94            | 533.95            |
| 9.750           | 533.97            | 533.99            | 534.01            | 534.03            | 534.04            |
| 10.000          | 534.06            | 534.08            | 534.10            | 534.12            | 534.14            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 534.17            | 534.19            | 534.21            | 534.23            | 534.26            |
| 10.500          | 534.28            | 534.30            | 534.33            | 534.36            | 534.38            |
| 10.750          | 534.41            | 534.44            | 534.47            | 534.50            | 534.53            |
| 11.000          | 534.56            | 534.59            | 534.63            | 534.66            | 534.70            |
| 11.250          | 534.74            | 534.77            | 534.81            | 534.86            | 534.90            |
| 11.500          | 534.95            | 535.00            | 535.05            | 535.11            | 535.18            |
| 11.750          | 535.26            | 535.37            | 535.50            | 535.68            | 535.90            |
| 12.000          | 536.11            | 536.21            | 536.23            | 536.24            | 536.24            |
| 12.250          | 536.23            | 536.22            | 536.20            | 536.18            | 536.16            |
| 12.500          | 536.14            | 536.13            | 536.12            | 536.11            | 536.10            |
| 12.750          | 536.09            | 536.08            | 536.07            | 536.07            | 536.06            |
| 13.000          | 536.06            | 536.05            | 536.05            | 536.05            | 536.04            |
| 13.250          | 536.04            | 536.04            | 536.04            | 536.04            | 536.03            |
| 13.500          | 536.03            | 536.03            | 536.03            | 536.03            | 536.03            |
| 13.750          | 536.03            | 536.03            | 536.03            | 536.03            | 536.03            |
| 14.000          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.250          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.500          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 14.750          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 15.000          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 15.250          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 15.500          | 536.02            | 536.02            | 536.02            | 536.02            | 536.02            |
| 15.750          | 536.02            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 16.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 17.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 18.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 19.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1A (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 20.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 21.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 22.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 23.000          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 23.250          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 23.500          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 23.750          | 536.01            | 536.01            | 536.01            | 536.01            | 536.01            |
| 24.000          | 536.01            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 0.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 1.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 2.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 3.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.500           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 4.750           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.000           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.250           | 530.00            | 530.00            | 530.00            | 530.00            | 530.00            |
| 5.500           | 530.00            | 530.00            | 530.00            | 530.01            | 530.01            |
| 5.750           | 530.01            | 530.01            | 530.01            | 530.01            | 530.01            |
| 6.000           | 530.02            | 530.02            | 530.02            | 530.02            | 530.02            |
| 6.250           | 530.02            | 530.03            | 530.03            | 530.03            | 530.03            |
| 6.500           | 530.03            | 530.03            | 530.04            | 530.04            | 530.04            |
| 6.750           | 530.04            | 530.04            | 530.05            | 530.05            | 530.05            |
| 7.000           | 530.05            | 530.05            | 530.06            | 530.06            | 530.06            |
| 7.250           | 530.06            | 530.06            | 530.06            | 530.07            | 530.07            |
| 7.500           | 530.07            | 530.07            | 530.07            | 530.08            | 530.08            |
| 7.750           | 530.08            | 530.08            | 530.09            | 530.09            | 530.09            |
| 8.000           | 530.09            | 530.09            | 530.10            | 530.10            | 530.10            |
| 8.250           | 530.10            | 530.10            | 530.11            | 530.11            | 530.11            |
| 8.500           | 530.11            | 530.11            | 530.12            | 530.12            | 530.12            |
| 8.750           | 530.12            | 530.12            | 530.12            | 530.13            | 530.13            |
| 9.000           | 530.13            | 530.13            | 530.13            | 530.14            | 530.14            |
| 9.250           | 530.14            | 530.14            | 530.14            | 530.14            | 530.14            |
| 9.500           | 530.14            | 530.15            | 530.15            | 530.15            | 530.15            |
| 9.750           | 530.16            | 530.16            | 530.16            | 530.17            | 530.17            |
| 10.000          | 530.17            | 530.18            | 530.18            | 530.19            | 530.19            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 530.20            | 530.20            | 530.20            | 530.21            | 530.21            |
| 10.500          | 530.22            | 530.22            | 530.23            | 530.23            | 530.24            |
| 10.750          | 530.24            | 530.25            | 530.26            | 530.26            | 530.27            |
| 11.000          | 530.28            | 530.29            | 530.30            | 530.31            | 530.32            |
| 11.250          | 530.33            | 530.35            | 530.36            | 530.38            | 530.40            |
| 11.500          | 530.42            | 530.46            | 530.54            | 530.66            | 530.80            |
| 11.750          | 530.94            | 531.09            | 531.26            | 531.44            | 531.61            |
| 12.000          | 531.80            | 532.08            | 532.40            | 532.69            | 532.96            |
| 12.250          | 533.20            | 533.42            | 533.60            | 533.76            | 533.88            |
| 12.500          | 533.99            | 534.07            | 534.12            | 534.15            | 534.17            |
| 12.750          | 534.17            | 534.17            | 534.16            | 534.16            | 534.15            |
| 13.000          | 534.14            | 534.13            | 534.12            | 534.11            | 534.10            |
| 13.250          | 534.10            | 534.09            | 534.08            | 534.08            | 534.07            |
| 13.500          | 534.06            | 534.06            | 534.05            | 534.05            | 534.04            |
| 13.750          | 534.04            | 534.03            | 534.03            | 534.03            | 534.02            |
| 14.000          | 534.02            | 534.02            | 534.01            | 534.01            | 534.01            |
| 14.250          | 534.00            | 534.00            | 534.00            | 534.00            | 533.99            |
| 14.500          | 533.99            | 533.99            | 533.99            | 533.98            | 533.98            |
| 14.750          | 533.97            | 533.97            | 533.97            | 533.96            | 533.96            |
| 15.000          | 533.95            | 533.95            | 533.95            | 533.94            | 533.94            |
| 15.250          | 533.93            | 533.93            | 533.92            | 533.91            | 533.91            |
| 15.500          | 533.90            | 533.90            | 533.89            | 533.89            | 533.88            |
| 15.750          | 533.87            | 533.87            | 533.86            | 533.85            | 533.85            |
| 16.000          | 533.84            | 533.83            | 533.83            | 533.82            | 533.81            |
| 16.250          | 533.80            | 533.80            | 533.79            | 533.78            | 533.77            |
| 16.500          | 533.77            | 533.76            | 533.75            | 533.74            | 533.73            |
| 16.750          | 533.73            | 533.72            | 533.71            | 533.70            | 533.69            |
| 17.000          | 533.68            | 533.68            | 533.67            | 533.66            | 533.65            |
| 17.250          | 533.64            | 533.63            | 533.62            | 533.62            | 533.61            |
| 17.500          | 533.60            | 533.59            | 533.58            | 533.57            | 533.56            |
| 17.750          | 533.55            | 533.54            | 533.54            | 533.53            | 533.52            |
| 18.000          | 533.51            | 533.50            | 533.49            | 533.48            | 533.47            |
| 18.250          | 533.46            | 533.45            | 533.44            | 533.43            | 533.42            |
| 18.500          | 533.41            | 533.41            | 533.40            | 533.39            | 533.38            |
| 18.750          | 533.37            | 533.36            | 533.35            | 533.34            | 533.33            |
| 19.000          | 533.32            | 533.31            | 533.30            | 533.29            | 533.28            |
| 19.250          | 533.27            | 533.26            | 533.25            | 533.24            | 533.23            |
| 19.500          | 533.22            | 533.21            | 533.19            | 533.18            | 533.17            |
| 19.750          | 533.16            | 533.15            | 533.14            | 533.13            | 533.12            |
| 20.000          | 533.11            | 533.10            | 533.09            | 533.08            | 533.07            |
| 20.250          | 533.06            | 533.04            | 533.03            | 533.02            | 533.01            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond1B (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 533.00            | 532.99            | 532.98            | 532.97            | 532.96            |
| 20.750          | 532.95            | 532.93            | 532.92            | 532.91            | 532.90            |
| 21.000          | 532.89            | 532.88            | 532.87            | 532.86            | 532.84            |
| 21.250          | 532.83            | 532.82            | 532.81            | 532.80            | 532.79            |
| 21.500          | 532.78            | 532.77            | 532.75            | 532.74            | 532.73            |
| 21.750          | 532.72            | 532.71            | 532.70            | 532.69            | 532.67            |
| 22.000          | 532.66            | 532.65            | 532.64            | 532.63            | 532.62            |
| 22.250          | 532.61            | 532.59            | 532.58            | 532.57            | 532.56            |
| 22.500          | 532.55            | 532.54            | 532.52            | 532.51            | 532.50            |
| 22.750          | 532.49            | 532.48            | 532.47            | 532.45            | 532.44            |
| 23.000          | 532.43            | 532.42            | 532.41            | 532.39            | 532.38            |
| 23.250          | 532.37            | 532.36            | 532.35            | 532.34            | 532.32            |
| 23.500          | 532.31            | 532.30            | 532.29            | 532.28            | 532.26            |
| 23.750          | 532.25            | 532.24            | 532.23            | 532.22            | 532.20            |
| 24.000          | 532.19            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 0.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.000           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.250           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.500           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 1.750           | 553.00            | 553.00            | 553.00            | 553.00            | 553.00            |
| 2.000           | 553.00            | 553.00            | 553.00            | 553.01            | 553.01            |
| 2.250           | 553.01            | 553.01            | 553.01            | 553.01            | 553.01            |
| 2.500           | 553.02            | 553.02            | 553.02            | 553.02            | 553.02            |
| 2.750           | 553.03            | 553.03            | 553.03            | 553.04            | 553.04            |
| 3.000           | 553.04            | 553.04            | 553.05            | 553.05            | 553.05            |
| 3.250           | 553.06            | 553.06            | 553.07            | 553.07            | 553.07            |
| 3.500           | 553.08            | 553.08            | 553.09            | 553.09            | 553.10            |
| 3.750           | 553.10            | 553.10            | 553.11            | 553.11            | 553.12            |
| 4.000           | 553.12            | 553.13            | 553.13            | 553.14            | 553.14            |
| 4.250           | 553.15            | 553.15            | 553.16            | 553.16            | 553.17            |
| 4.500           | 553.18            | 553.18            | 553.19            | 553.19            | 553.20            |
| 4.750           | 553.21            | 553.21            | 553.22            | 553.23            | 553.23            |
| 5.000           | 553.24            | 553.25            | 553.25            | 553.26            | 553.27            |
| 5.250           | 553.27            | 553.28            | 553.29            | 553.29            | 553.30            |
| 5.500           | 553.31            | 553.32            | 553.32            | 553.33            | 553.34            |
| 5.750           | 553.35            | 553.35            | 553.36            | 553.37            | 553.38            |
| 6.000           | 553.39            | 553.39            | 553.40            | 553.41            | 553.42            |
| 6.250           | 553.43            | 553.43            | 553.44            | 553.45            | 553.46            |
| 6.500           | 553.47            | 553.48            | 553.49            | 553.49            | 553.50            |
| 6.750           | 553.51            | 553.51            | 553.52            | 553.52            | 553.52            |
| 7.000           | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 7.250           | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 7.500           | 553.52            | 553.52            | 553.53            | 553.53            | 553.53            |
| 7.750           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 8.000           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 8.250           | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 8.500           | 553.53            | 553.53            | 553.53            | 553.53            | 553.54            |
| 8.750           | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 9.000           | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 9.250           | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 9.500           | 553.54            | 553.54            | 553.54            | 553.54            | 553.55            |
| 9.750           | 553.55            | 553.55            | 553.55            | 553.55            | 553.55            |
| 10.000          | 553.55            | 553.55            | 553.55            | 553.56            | 553.56            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 553.56            | 553.56            | 553.56            | 553.56            | 553.57            |
| 10.500          | 553.57            | 553.57            | 553.57            | 553.57            | 553.58            |
| 10.750          | 553.58            | 553.58            | 553.58            | 553.59            | 553.59            |
| 11.000          | 553.59            | 553.60            | 553.60            | 553.60            | 553.61            |
| 11.250          | 553.61            | 553.62            | 553.62            | 553.62            | 553.63            |
| 11.500          | 553.63            | 553.65            | 553.67            | 553.72            | 553.79            |
| 11.750          | 553.89            | 554.02            | 554.21            | 554.47            | 554.72            |
| 12.000          | 554.89            | 554.96            | 554.91            | 554.79            | 554.64            |
| 12.250          | 554.50            | 554.36            | 554.22            | 554.08            | 553.95            |
| 12.500          | 553.84            | 553.74            | 553.69            | 553.65            | 553.63            |
| 12.750          | 553.62            | 553.62            | 553.61            | 553.61            | 553.61            |
| 13.000          | 553.60            | 553.60            | 553.60            | 553.60            | 553.60            |
| 13.250          | 553.59            | 553.59            | 553.59            | 553.59            | 553.59            |
| 13.500          | 553.58            | 553.58            | 553.58            | 553.58            | 553.58            |
| 13.750          | 553.57            | 553.57            | 553.57            | 553.57            | 553.57            |
| 14.000          | 553.57            | 553.56            | 553.56            | 553.56            | 553.56            |
| 14.250          | 553.56            | 553.56            | 553.56            | 553.56            | 553.56            |
| 14.500          | 553.56            | 553.56            | 553.55            | 553.55            | 553.55            |
| 14.750          | 553.55            | 553.55            | 553.55            | 553.55            | 553.55            |
| 15.000          | 553.55            | 553.55            | 553.55            | 553.55            | 553.55            |
| 15.250          | 553.55            | 553.55            | 553.55            | 553.55            | 553.54            |
| 15.500          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 15.750          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 16.000          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 16.250          | 553.54            | 553.54            | 553.54            | 553.54            | 553.54            |
| 16.500          | 553.54            | 553.54            | 553.54            | 553.53            | 553.53            |
| 16.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.000          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.250          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 17.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 18.000          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 18.250          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 18.500          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 18.750          | 553.53            | 553.53            | 553.53            | 553.53            | 553.53            |
| 19.000          | 553.53            | 553.53            | 553.53            | 553.52            | 553.52            |
| 19.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 19.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond2 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 20.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 21.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 22.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 22.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 22.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 22.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 23.000          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 23.250          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 23.500          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 23.750          | 553.52            | 553.52            | 553.52            | 553.52            | 553.52            |
| 24.000          | 553.52            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 0.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 1.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 2.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.500           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 3.750           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.000           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.250           | 554.00            | 554.00            | 554.00            | 554.00            | 554.00            |
| 4.500           | 554.00            | 554.00            | 554.00            | 554.01            | 554.01            |
| 4.750           | 554.01            | 554.01            | 554.01            | 554.01            | 554.01            |
| 5.000           | 554.02            | 554.02            | 554.02            | 554.02            | 554.02            |
| 5.250           | 554.03            | 554.03            | 554.03            | 554.03            | 554.04            |
| 5.500           | 554.04            | 554.04            | 554.05            | 554.05            | 554.05            |
| 5.750           | 554.06            | 554.06            | 554.07            | 554.07            | 554.07            |
| 6.000           | 554.08            | 554.08            | 554.09            | 554.09            | 554.10            |
| 6.250           | 554.10            | 554.11            | 554.11            | 554.12            | 554.12            |
| 6.500           | 554.13            | 554.13            | 554.14            | 554.15            | 554.15            |
| 6.750           | 554.16            | 554.16            | 554.17            | 554.18            | 554.18            |
| 7.000           | 554.19            | 554.20            | 554.21            | 554.21            | 554.22            |
| 7.250           | 554.23            | 554.23            | 554.24            | 554.25            | 554.25            |
| 7.500           | 554.26            | 554.27            | 554.28            | 554.29            | 554.29            |
| 7.750           | 554.30            | 554.31            | 554.32            | 554.33            | 554.33            |
| 8.000           | 554.34            | 554.35            | 554.36            | 554.37            | 554.38            |
| 8.250           | 554.39            | 554.39            | 554.40            | 554.41            | 554.42            |
| 8.500           | 554.43            | 554.44            | 554.45            | 554.46            | 554.47            |
| 8.750           | 554.48            | 554.49            | 554.50            | 554.51            | 554.51            |
| 9.000           | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 9.250           | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 9.500           | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 9.750           | 554.52            | 554.52            | 554.53            | 554.53            | 554.53            |
| 10.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 10.500          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 10.750          | 554.54            | 554.54            | 554.54            | 554.55            | 554.55            |
| 11.000          | 554.55            | 554.55            | 554.55            | 554.56            | 554.56            |
| 11.250          | 554.56            | 554.56            | 554.57            | 554.57            | 554.57            |
| 11.500          | 554.58            | 554.58            | 554.59            | 554.60            | 554.61            |
| 11.750          | 554.62            | 554.64            | 554.67            | 554.71            | 554.75            |
| 12.000          | 554.80            | 554.85            | 554.88            | 554.91            | 554.92            |
| 12.250          | 554.92            | 554.90            | 554.88            | 554.85            | 554.82            |
| 12.500          | 554.79            | 554.76            | 554.74            | 554.72            | 554.70            |
| 12.750          | 554.68            | 554.67            | 554.66            | 554.65            | 554.64            |
| 13.000          | 554.63            | 554.62            | 554.62            | 554.61            | 554.61            |
| 13.250          | 554.60            | 554.60            | 554.60            | 554.59            | 554.59            |
| 13.500          | 554.59            | 554.58            | 554.58            | 554.58            | 554.57            |
| 13.750          | 554.57            | 554.57            | 554.57            | 554.57            | 554.56            |
| 14.000          | 554.56            | 554.56            | 554.56            | 554.56            | 554.56            |
| 14.250          | 554.56            | 554.55            | 554.55            | 554.55            | 554.55            |
| 14.500          | 554.55            | 554.55            | 554.55            | 554.55            | 554.55            |
| 14.750          | 554.55            | 554.55            | 554.55            | 554.55            | 554.55            |
| 15.000          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 15.250          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 15.500          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 15.750          | 554.54            | 554.54            | 554.54            | 554.54            | 554.54            |
| 16.000          | 554.54            | 554.53            | 554.53            | 554.53            | 554.53            |
| 16.250          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 16.500          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 16.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 17.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 17.250          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 17.500          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 17.750          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 18.000          | 554.53            | 554.53            | 554.53            | 554.53            | 554.53            |
| 18.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 18.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 19.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 20.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 20.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond3 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 20.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 21.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 21.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 21.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 21.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 22.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 22.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 22.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 22.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 23.000          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 23.250          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 23.500          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 23.750          | 554.52            | 554.52            | 554.52            | 554.52            | 554.52            |
| 24.000          | 554.52            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 0.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.500           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 1.750           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.000           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.250           | 545.00            | 545.00            | 545.00            | 545.00            | 545.00            |
| 2.500           | 545.01            | 545.01            | 545.01            | 545.01            | 545.01            |
| 2.750           | 545.01            | 545.02            | 545.02            | 545.02            | 545.02            |
| 3.000           | 545.03            | 545.03            | 545.03            | 545.03            | 545.04            |
| 3.250           | 545.04            | 545.04            | 545.05            | 545.05            | 545.05            |
| 3.500           | 545.06            | 545.06            | 545.06            | 545.07            | 545.07            |
| 3.750           | 545.08            | 545.08            | 545.08            | 545.09            | 545.09            |
| 4.000           | 545.10            | 545.10            | 545.11            | 545.11            | 545.12            |
| 4.250           | 545.12            | 545.13            | 545.13            | 545.14            | 545.14            |
| 4.500           | 545.15            | 545.15            | 545.16            | 545.16            | 545.17            |
| 4.750           | 545.18            | 545.18            | 545.19            | 545.19            | 545.20            |
| 5.000           | 545.21            | 545.21            | 545.22            | 545.23            | 545.23            |
| 5.250           | 545.24            | 545.25            | 545.25            | 545.26            | 545.27            |
| 5.500           | 545.27            | 545.28            | 545.29            | 545.30            | 545.30            |
| 5.750           | 545.31            | 545.32            | 545.33            | 545.33            | 545.34            |
| 6.000           | 545.35            | 545.36            | 545.36            | 545.37            | 545.38            |
| 6.250           | 545.39            | 545.40            | 545.41            | 545.41            | 545.42            |
| 6.500           | 545.43            | 545.44            | 545.45            | 545.46            | 545.46            |
| 6.750           | 545.47            | 545.48            | 545.49            | 545.50            | 545.51            |
| 7.000           | 545.52            | 545.52            | 545.53            | 545.54            | 545.54            |
| 7.250           | 545.55            | 545.56            | 545.56            | 545.57            | 545.58            |
| 7.500           | 545.58            | 545.59            | 545.59            | 545.60            | 545.60            |
| 7.750           | 545.61            | 545.61            | 545.61            | 545.62            | 545.62            |
| 8.000           | 545.62            | 545.62            | 545.63            | 545.63            | 545.63            |
| 8.250           | 545.63            | 545.63            | 545.64            | 545.64            | 545.64            |
| 8.500           | 545.64            | 545.64            | 545.65            | 545.65            | 545.65            |
| 8.750           | 545.65            | 545.66            | 545.66            | 545.66            | 545.66            |
| 9.000           | 545.66            | 545.67            | 545.67            | 545.67            | 545.67            |
| 9.250           | 545.67            | 545.68            | 545.68            | 545.68            | 545.68            |
| 9.500           | 545.68            | 545.68            | 545.68            | 545.68            | 545.69            |
| 9.750           | 545.69            | 545.69            | 545.69            | 545.69            | 545.70            |
| 10.000          | 545.70            | 545.70            | 545.70            | 545.71            | 545.71            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 545.71            | 545.72            | 545.72            | 545.72            | 545.73            |
| 10.500          | 545.73            | 545.73            | 545.74            | 545.74            | 545.75            |
| 10.750          | 545.75            | 545.76            | 545.76            | 545.77            | 545.77            |
| 11.000          | 545.78            | 545.78            | 545.79            | 545.80            | 545.81            |
| 11.250          | 545.82            | 545.83            | 545.84            | 545.85            | 545.86            |
| 11.500          | 545.88            | 545.90            | 545.94            | 546.02            | 546.14            |
| 11.750          | 546.29            | 546.48            | 546.72            | 547.01            | 547.30            |
| 12.000          | 547.52            | 547.63            | 547.64            | 547.59            | 547.55            |
| 12.250          | 547.52            | 547.50            | 547.47            | 547.44            | 547.41            |
| 12.500          | 547.38            | 547.34            | 547.31            | 547.27            | 547.23            |
| 12.750          | 547.19            | 547.15            | 547.11            | 547.06            | 547.02            |
| 13.000          | 546.98            | 546.94            | 546.89            | 546.85            | 546.81            |
| 13.250          | 546.76            | 546.72            | 546.67            | 546.63            | 546.59            |
| 13.500          | 546.54            | 546.50            | 546.45            | 546.41            | 546.37            |
| 13.750          | 546.33            | 546.29            | 546.24            | 546.21            | 546.17            |
| 14.000          | 546.13            | 546.09            | 546.06            | 546.02            | 545.99            |
| 14.250          | 545.96            | 545.93            | 545.90            | 545.88            | 545.85            |
| 14.500          | 545.83            | 545.82            | 545.80            | 545.79            | 545.78            |
| 14.750          | 545.77            | 545.76            | 545.75            | 545.74            | 545.74            |
| 15.000          | 545.73            | 545.73            | 545.72            | 545.72            | 545.72            |
| 15.250          | 545.72            | 545.71            | 545.71            | 545.71            | 545.71            |
| 15.500          | 545.70            | 545.70            | 545.70            | 545.70            | 545.70            |
| 15.750          | 545.70            | 545.69            | 545.69            | 545.69            | 545.69            |
| 16.000          | 545.69            | 545.69            | 545.68            | 545.68            | 545.68            |
| 16.250          | 545.68            | 545.68            | 545.68            | 545.68            | 545.68            |
| 16.500          | 545.67            | 545.67            | 545.67            | 545.67            | 545.67            |
| 16.750          | 545.67            | 545.67            | 545.67            | 545.67            | 545.67            |
| 17.000          | 545.67            | 545.67            | 545.67            | 545.66            | 545.66            |
| 17.250          | 545.66            | 545.66            | 545.66            | 545.66            | 545.66            |
| 17.500          | 545.66            | 545.66            | 545.66            | 545.66            | 545.66            |
| 17.750          | 545.66            | 545.66            | 545.66            | 545.65            | 545.65            |
| 18.000          | 545.65            | 545.65            | 545.65            | 545.65            | 545.65            |
| 18.250          | 545.65            | 545.65            | 545.65            | 545.65            | 545.65            |
| 18.500          | 545.65            | 545.65            | 545.65            | 545.65            | 545.65            |
| 18.750          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 19.000          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 19.250          | 545.64            | 545.64            | 545.64            | 545.64            | 545.64            |
| 19.500          | 545.64            | 545.64            | 545.63            | 545.63            | 545.63            |
| 19.750          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 20.000          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |
| 20.250          | 545.63            | 545.63            | 545.63            | 545.63            | 545.63            |



## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond4 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 545.63            | 545.63            | 545.63            | 545.62            | 545.62            |
| 20.750          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 21.000          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 21.250          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 21.500          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 21.750          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 22.000          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 22.250          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 22.500          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 22.750          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 23.000          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 23.250          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 23.500          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 23.750          | 545.62            | 545.62            | 545.62            | 545.62            | 545.62            |
| 24.000          | 545.62            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 0.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 1.750           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.000           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.250           | 563.00            | 563.00            | 563.00            | 563.00            | 563.00            |
| 2.500           | 563.00            | 563.00            | 563.00            | 563.00            | 563.01            |
| 2.750           | 563.01            | 563.01            | 563.01            | 563.01            | 563.01            |
| 3.000           | 563.02            | 563.02            | 563.02            | 563.02            | 563.02            |
| 3.250           | 563.03            | 563.03            | 563.03            | 563.04            | 563.04            |
| 3.500           | 563.04            | 563.05            | 563.05            | 563.05            | 563.06            |
| 3.750           | 563.06            | 563.06            | 563.07            | 563.07            | 563.08            |
| 4.000           | 563.08            | 563.09            | 563.09            | 563.10            | 563.10            |
| 4.250           | 563.10            | 563.11            | 563.11            | 563.12            | 563.12            |
| 4.500           | 563.13            | 563.14            | 563.14            | 563.15            | 563.15            |
| 4.750           | 563.16            | 563.16            | 563.17            | 563.18            | 563.18            |
| 5.000           | 563.19            | 563.20            | 563.20            | 563.21            | 563.22            |
| 5.250           | 563.22            | 563.23            | 563.24            | 563.24            | 563.25            |
| 5.500           | 563.26            | 563.26            | 563.27            | 563.28            | 563.29            |
| 5.750           | 563.30            | 563.30            | 563.31            | 563.32            | 563.33            |
| 6.000           | 563.33            | 563.34            | 563.35            | 563.36            | 563.36            |
| 6.250           | 563.37            | 563.38            | 563.39            | 563.40            | 563.41            |
| 6.500           | 563.41            | 563.42            | 563.43            | 563.44            | 563.45            |
| 6.750           | 563.46            | 563.47            | 563.47            | 563.48            | 563.49            |
| 7.000           | 563.50            | 563.51            | 563.52            | 563.53            | 563.54            |
| 7.250           | 563.54            | 563.55            | 563.56            | 563.57            | 563.58            |
| 7.500           | 563.59            | 563.60            | 563.61            | 563.62            | 563.63            |
| 7.750           | 563.63            | 563.64            | 563.65            | 563.66            | 563.67            |
| 8.000           | 563.68            | 563.69            | 563.70            | 563.71            | 563.72            |
| 8.250           | 563.73            | 563.74            | 563.75            | 563.76            | 563.76            |
| 8.500           | 563.76            | 563.77            | 563.77            | 563.77            | 563.77            |
| 8.750           | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 9.000           | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 9.250           | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 9.500           | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 9.750           | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 10.000          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 563.78            | 563.78            | 563.78            | 563.79            | 563.79            |
| 10.500          | 563.79            | 563.79            | 563.79            | 563.79            | 563.79            |
| 10.750          | 563.79            | 563.80            | 563.80            | 563.80            | 563.80            |
| 11.000          | 563.80            | 563.80            | 563.80            | 563.81            | 563.81            |
| 11.250          | 563.81            | 563.81            | 563.81            | 563.82            | 563.82            |
| 11.500          | 563.82            | 563.83            | 563.85            | 563.88            | 563.92            |
| 11.750          | 563.96            | 564.00            | 564.05            | 564.12            | 564.14            |
| 12.000          | 564.12            | 564.06            | 563.97            | 563.90            | 563.87            |
| 12.250          | 563.85            | 563.85            | 563.84            | 563.83            | 563.83            |
| 12.500          | 563.82            | 563.82            | 563.82            | 563.81            | 563.81            |
| 12.750          | 563.81            | 563.81            | 563.81            | 563.81            | 563.81            |
| 13.000          | 563.81            | 563.80            | 563.80            | 563.80            | 563.80            |
| 13.250          | 563.80            | 563.80            | 563.80            | 563.80            | 563.80            |
| 13.500          | 563.80            | 563.80            | 563.79            | 563.79            | 563.79            |
| 13.750          | 563.79            | 563.79            | 563.79            | 563.79            | 563.79            |
| 14.000          | 563.79            | 563.79            | 563.79            | 563.78            | 563.78            |
| 14.250          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.500          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 14.750          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 15.000          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 15.250          | 563.78            | 563.78            | 563.78            | 563.78            | 563.78            |
| 15.500          | 563.78            | 563.78            | 563.77            | 563.77            | 563.77            |
| 15.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 16.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 17.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 17.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 17.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 17.750          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 18.000          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 18.250          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 18.500          | 563.77            | 563.77            | 563.77            | 563.77            | 563.77            |
| 18.750          | 563.77            | 563.77            | 563.77            | 563.76            | 563.76            |
| 19.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 19.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond5 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 20.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 21.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 22.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.000          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.250          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.500          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 23.750          | 563.76            | 563.76            | 563.76            | 563.76            | 563.76            |
| 24.000          | 563.76            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 0.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 1.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 2.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 3.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.250           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.500           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 4.750           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.000           | 529.00            | 529.00            | 529.00            | 529.00            | 529.00            |
| 5.250           | 529.01            | 529.01            | 529.01            | 529.01            | 529.01            |
| 5.500           | 529.02            | 529.02            | 529.02            | 529.02            | 529.03            |
| 5.750           | 529.03            | 529.03            | 529.04            | 529.04            | 529.04            |
| 6.000           | 529.05            | 529.05            | 529.05            | 529.06            | 529.06            |
| 6.250           | 529.06            | 529.07            | 529.07            | 529.07            | 529.08            |
| 6.500           | 529.08            | 529.08            | 529.09            | 529.09            | 529.10            |
| 6.750           | 529.10            | 529.10            | 529.11            | 529.11            | 529.11            |
| 7.000           | 529.12            | 529.12            | 529.13            | 529.13            | 529.13            |
| 7.250           | 529.14            | 529.14            | 529.15            | 529.15            | 529.16            |
| 7.500           | 529.16            | 529.16            | 529.17            | 529.17            | 529.18            |
| 7.750           | 529.18            | 529.19            | 529.19            | 529.19            | 529.20            |
| 8.000           | 529.20            | 529.21            | 529.21            | 529.22            | 529.22            |
| 8.250           | 529.23            | 529.24            | 529.24            | 529.25            | 529.26            |
| 8.500           | 529.26            | 529.27            | 529.28            | 529.29            | 529.30            |
| 8.750           | 529.31            | 529.32            | 529.33            | 529.34            | 529.35            |
| 9.000           | 529.36            | 529.37            | 529.38            | 529.39            | 529.40            |
| 9.250           | 529.41            | 529.42            | 529.43            | 529.44            | 529.45            |
| 9.500           | 529.46            | 529.46            | 529.47            | 529.48            | 529.49            |
| 9.750           | 529.50            | 529.50            | 529.50            | 529.51            | 529.51            |
| 10.000          | 529.51            | 529.52            | 529.52            | 529.52            | 529.53            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 529.53            | 529.54            | 529.55            | 529.55            | 529.56            |
| 10.500          | 529.57            | 529.58            | 529.59            | 529.60            | 529.61            |
| 10.750          | 529.62            | 529.63            | 529.64            | 529.66            | 529.67            |
| 11.000          | 529.69            | 529.70            | 529.72            | 529.74            | 529.76            |
| 11.250          | 529.79            | 529.81            | 529.84            | 529.87            | 529.90            |
| 11.500          | 529.94            | 529.98            | 530.03            | 530.09            | 530.18            |
| 11.750          | 530.31            | 530.48            | 530.70            | 531.00            | 531.25            |
| 12.000          | 531.38            | 531.40            | 531.33            | 531.24            | 531.18            |
| 12.250          | 531.13            | 531.10            | 531.09            | 531.07            | 531.06            |
| 12.500          | 531.05            | 531.04            | 531.04            | 531.03            | 531.03            |
| 12.750          | 531.03            | 531.03            | 531.02            | 531.02            | 531.02            |
| 13.000          | 531.02            | 531.02            | 531.02            | 531.02            | 531.01            |
| 13.250          | 531.01            | 531.01            | 531.01            | 531.01            | 531.01            |
| 13.500          | 531.01            | 531.01            | 531.01            | 531.01            | 531.01            |
| 13.750          | 531.01            | 531.01            | 531.00            | 531.00            | 531.00            |
| 14.000          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 14.250          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 14.500          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 14.750          | 531.00            | 531.00            | 531.00            | 531.00            | 531.00            |
| 15.000          | 530.99            | 530.99            | 530.99            | 530.99            | 530.99            |
| 15.250          | 530.99            | 530.99            | 530.98            | 530.98            | 530.98            |
| 15.500          | 530.98            | 530.98            | 530.97            | 530.97            | 530.97            |
| 15.750          | 530.97            | 530.96            | 530.96            | 530.96            | 530.95            |
| 16.000          | 530.95            | 530.95            | 530.94            | 530.94            | 530.94            |
| 16.250          | 530.93            | 530.93            | 530.93            | 530.92            | 530.92            |
| 16.500          | 530.92            | 530.91            | 530.91            | 530.91            | 530.90            |
| 16.750          | 530.90            | 530.90            | 530.89            | 530.89            | 530.88            |
| 17.000          | 530.88            | 530.88            | 530.87            | 530.87            | 530.86            |
| 17.250          | 530.86            | 530.86            | 530.85            | 530.85            | 530.84            |
| 17.500          | 530.84            | 530.84            | 530.83            | 530.83            | 530.82            |
| 17.750          | 530.82            | 530.82            | 530.81            | 530.81            | 530.80            |
| 18.000          | 530.80            | 530.79            | 530.79            | 530.79            | 530.78            |
| 18.250          | 530.78            | 530.77            | 530.77            | 530.76            | 530.76            |
| 18.500          | 530.75            | 530.75            | 530.74            | 530.74            | 530.74            |
| 18.750          | 530.73            | 530.73            | 530.72            | 530.72            | 530.71            |
| 19.000          | 530.71            | 530.70            | 530.70            | 530.69            | 530.69            |
| 19.250          | 530.68            | 530.68            | 530.67            | 530.67            | 530.66            |
| 19.500          | 530.66            | 530.65            | 530.65            | 530.64            | 530.64            |
| 19.750          | 530.63            | 530.63            | 530.62            | 530.62            | 530.61            |
| 20.000          | 530.61            | 530.60            | 530.60            | 530.59            | 530.58            |
| 20.250          | 530.58            | 530.57            | 530.57            | 530.56            | 530.56            |

## O'Day Park Detention Calculations

Subsection: Time vs. Elevation  
 Label: Pond7 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Elevation (ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) | Elevation<br>(ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 530.55            | 530.55            | 530.54            | 530.54            | 530.53            |
| 20.750          | 530.53            | 530.52            | 530.52            | 530.51            | 530.51            |
| 21.000          | 530.50            | 530.50            | 530.49            | 530.48            | 530.48            |
| 21.250          | 530.47            | 530.47            | 530.46            | 530.46            | 530.45            |
| 21.500          | 530.45            | 530.44            | 530.43            | 530.43            | 530.42            |
| 21.750          | 530.42            | 530.41            | 530.41            | 530.40            | 530.40            |
| 22.000          | 530.39            | 530.39            | 530.38            | 530.38            | 530.37            |
| 22.250          | 530.37            | 530.36            | 530.36            | 530.35            | 530.34            |
| 22.500          | 530.34            | 530.33            | 530.33            | 530.32            | 530.32            |
| 22.750          | 530.31            | 530.31            | 530.30            | 530.30            | 530.29            |
| 23.000          | 530.29            | 530.28            | 530.28            | 530.27            | 530.27            |
| 23.250          | 530.26            | 530.26            | 530.25            | 530.25            | 530.24            |
| 23.500          | 530.24            | 530.23            | 530.23            | 530.22            | 530.22            |
| 23.750          | 530.21            | 530.21            | 530.20            | 530.20            | 530.20            |
| 24.000          | 530.19            | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.001             |
| 4.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 4.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.005             |
| 5.250           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 5.500           | 0.006             | 0.007             | 0.007             | 0.007             | 0.008             |
| 5.750           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 6.000           | 0.010             | 0.010             | 0.010             | 0.011             | 0.011             |
| 6.250           | 0.012             | 0.012             | 0.013             | 0.013             | 0.013             |
| 6.500           | 0.014             | 0.014             | 0.015             | 0.015             | 0.016             |
| 6.750           | 0.016             | 0.017             | 0.017             | 0.018             | 0.019             |
| 7.000           | 0.019             | 0.020             | 0.020             | 0.021             | 0.021             |
| 7.250           | 0.022             | 0.023             | 0.023             | 0.024             | 0.024             |
| 7.500           | 0.025             | 0.026             | 0.026             | 0.027             | 0.028             |
| 7.750           | 0.028             | 0.029             | 0.030             | 0.031             | 0.031             |
| 8.000           | 0.032             | 0.033             | 0.034             | 0.034             | 0.035             |
| 8.250           | 0.036             | 0.037             | 0.037             | 0.038             | 0.039             |
| 8.500           | 0.040             | 0.041             | 0.042             | 0.043             | 0.044             |
| 8.750           | 0.045             | 0.046             | 0.047             | 0.048             | 0.049             |
| 9.000           | 0.050             | 0.051             | 0.052             | 0.054             | 0.055             |
| 9.250           | 0.056             | 0.057             | 0.059             | 0.060             | 0.061             |
| 9.500           | 0.063             | 0.064             | 0.065             | 0.067             | 0.068             |
| 9.750           | 0.070             | 0.071             | 0.072             | 0.074             | 0.075             |
| 10.000          | 0.077             | 0.079             | 0.080             | 0.082             | 0.084             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.085             | 0.087             | 0.089             | 0.091             | 0.093             |
| 10.500          | 0.095             | 0.097             | 0.099             | 0.101             | 0.104             |
| 10.750          | 0.106             | 0.109             | 0.111             | 0.114             | 0.117             |
| 11.000          | 0.119             | 0.122             | 0.125             | 0.129             | 0.132             |
| 11.250          | 0.135             | 0.139             | 0.143             | 0.147             | 0.151             |
| 11.500          | 0.156             | 0.160             | 0.166             | 0.171             | 0.178             |
| 11.750          | 0.187             | 0.198             | 0.212             | 0.231             | 0.256             |
| 12.000          | 0.281             | 0.293             | 0.296             | 0.297             | 0.297             |
| 12.250          | 0.296             | 0.294             | 0.292             | 0.289             | 0.287             |
| 12.500          | 0.285             | 0.283             | 0.282             | 0.281             | 0.280             |
| 12.750          | 0.279             | 0.278             | 0.277             | 0.276             | 0.275             |
| 13.000          | 0.275             | 0.274             | 0.274             | 0.273             | 0.273             |
| 13.250          | 0.273             | 0.273             | 0.272             | 0.272             | 0.272             |
| 13.500          | 0.272             | 0.272             | 0.272             | 0.272             | 0.271             |
| 13.750          | 0.271             | 0.271             | 0.271             | 0.271             | 0.271             |
| 14.000          | 0.271             | 0.271             | 0.271             | 0.271             | 0.271             |
| 14.250          | 0.271             | 0.271             | 0.271             | 0.271             | 0.270             |
| 14.500          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 14.750          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.000          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.250          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.500          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 15.750          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 16.000          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 16.250          | 0.270             | 0.270             | 0.270             | 0.270             | 0.270             |
| 16.500          | 0.270             | 0.270             | 0.270             | 0.269             | 0.269             |
| 16.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 17.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 18.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 19.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1A

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 20.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 21.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 22.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.000          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.250          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.500          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 23.750          | 0.269             | 0.269             | 0.269             | 0.269             | 0.269             |
| 24.000          | 0.269             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

# O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 100 years  
 Storm Event: 100-year

## Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 8.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 9.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.500          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 10.750          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.000          | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 11.250          | 0.000             | 0.000             | 0.001             | 0.001             | 0.001             |
| 11.500          | 0.001             | 0.001             | 0.002             | 0.003             | 0.005             |
| 11.750          | 0.009             | 0.014             | 0.021             | 0.031             | 0.043             |
| 12.000          | 0.061             | 0.093             | 0.136             | 0.181             | 0.225             |
| 12.250          | 0.268             | 0.307             | 0.341             | 0.371             | 0.396             |
| 12.500          | 0.416             | 0.432             | 0.443             | 0.449             | 0.452             |
| 12.750          | 0.453             | 0.453             | 0.452             | 0.450             | 0.449             |
| 13.000          | 0.447             | 0.445             | 0.443             | 0.441             | 0.440             |
| 13.250          | 0.439             | 0.437             | 0.436             | 0.435             | 0.433             |
| 13.500          | 0.432             | 0.431             | 0.430             | 0.429             | 0.428             |
| 13.750          | 0.427             | 0.426             | 0.425             | 0.424             | 0.424             |
| 14.000          | 0.423             | 0.422             | 0.422             | 0.421             | 0.420             |
| 14.250          | 0.420             | 0.419             | 0.419             | 0.418             | 0.418             |
| 14.500          | 0.417             | 0.417             | 0.416             | 0.415             | 0.415             |
| 14.750          | 0.414             | 0.413             | 0.412             | 0.412             | 0.411             |
| 15.000          | 0.410             | 0.409             | 0.408             | 0.407             | 0.406             |
| 15.250          | 0.405             | 0.404             | 0.403             | 0.402             | 0.401             |
| 15.500          | 0.400             | 0.399             | 0.398             | 0.396             | 0.395             |
| 15.750          | 0.394             | 0.393             | 0.391             | 0.390             | 0.389             |
| 16.000          | 0.387             | 0.386             | 0.385             | 0.383             | 0.382             |
| 16.250          | 0.380             | 0.379             | 0.377             | 0.376             | 0.374             |
| 16.500          | 0.373             | 0.371             | 0.370             | 0.368             | 0.367             |
| 16.750          | 0.365             | 0.363             | 0.362             | 0.360             | 0.359             |
| 17.000          | 0.357             | 0.355             | 0.354             | 0.352             | 0.351             |
| 17.250          | 0.349             | 0.347             | 0.346             | 0.344             | 0.342             |
| 17.500          | 0.341             | 0.339             | 0.337             | 0.336             | 0.334             |
| 17.750          | 0.332             | 0.331             | 0.329             | 0.327             | 0.326             |
| 18.000          | 0.324             | 0.322             | 0.320             | 0.319             | 0.317             |
| 18.250          | 0.315             | 0.313             | 0.312             | 0.310             | 0.308             |
| 18.500          | 0.306             | 0.305             | 0.303             | 0.301             | 0.299             |
| 18.750          | 0.298             | 0.296             | 0.294             | 0.292             | 0.290             |
| 19.000          | 0.289             | 0.287             | 0.285             | 0.283             | 0.281             |
| 19.250          | 0.279             | 0.278             | 0.276             | 0.274             | 0.272             |
| 19.500          | 0.270             | 0.268             | 0.267             | 0.265             | 0.263             |
| 19.750          | 0.261             | 0.259             | 0.257             | 0.255             | 0.253             |
| 20.000          | 0.251             | 0.250             | 0.248             | 0.246             | 0.244             |
| 20.250          | 0.242             | 0.240             | 0.238             | 0.236             | 0.234             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond1B

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.232             | 0.230             | 0.228             | 0.226             | 0.225             |
| 20.750          | 0.223             | 0.221             | 0.219             | 0.217             | 0.215             |
| 21.000          | 0.213             | 0.211             | 0.209             | 0.208             | 0.206             |
| 21.250          | 0.204             | 0.202             | 0.200             | 0.198             | 0.196             |
| 21.500          | 0.195             | 0.193             | 0.191             | 0.189             | 0.187             |
| 21.750          | 0.185             | 0.184             | 0.182             | 0.180             | 0.178             |
| 22.000          | 0.176             | 0.175             | 0.173             | 0.171             | 0.169             |
| 22.250          | 0.167             | 0.166             | 0.164             | 0.162             | 0.160             |
| 22.500          | 0.159             | 0.157             | 0.155             | 0.153             | 0.152             |
| 22.750          | 0.150             | 0.148             | 0.146             | 0.145             | 0.143             |
| 23.000          | 0.141             | 0.140             | 0.138             | 0.136             | 0.135             |
| 23.250          | 0.133             | 0.131             | 0.130             | 0.128             | 0.126             |
| 23.500          | 0.125             | 0.123             | 0.121             | 0.120             | 0.118             |
| 23.750          | 0.116             | 0.115             | 0.113             | 0.111             | 0.110             |
| 24.000          | 0.108             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 3.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.250           | 0.002             | 0.002             | 0.003             | 0.003             | 0.003             |
| 4.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 4.750           | 0.003             | 0.003             | 0.004             | 0.004             | 0.004             |
| 5.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 5.250           | 0.004             | 0.005             | 0.005             | 0.005             | 0.005             |
| 5.500           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 5.750           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 6.000           | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 6.250           | 0.007             | 0.008             | 0.008             | 0.008             | 0.008             |
| 6.500           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 6.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 7.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 7.250           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 7.500           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 7.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.250           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.500           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 8.750           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 9.000           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 9.250           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 9.500           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 9.750           | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.750          | 0.010             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.012             |
| 11.500          | 0.012             | 0.012             | 0.013             | 0.014             | 0.015             |
| 11.750          | 0.018             | 0.021             | 0.027             | 0.035             | 0.043             |
| 12.000          | 0.050             | 0.052             | 0.051             | 0.046             | 0.041             |
| 12.250          | 0.036             | 0.031             | 0.027             | 0.023             | 0.019             |
| 12.500          | 0.016             | 0.014             | 0.013             | 0.012             | 0.012             |
| 12.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 13.500          | 0.011             | 0.011             | 0.010             | 0.010             | 0.010             |
| 13.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 14.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 16.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 16.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 16.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 16.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 17.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 17.250          | 0.010             | 0.010             | 0.010             | 0.009             | 0.009             |
| 17.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 19.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond2

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 20.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 21.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 22.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 23.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 24.000          | 0.009             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.001             | 0.001             | 0.001             |
| 5.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 5.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 6.000           | 0.001             | 0.001             | 0.001             | 0.002             | 0.002             |
| 6.250           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 6.500           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 6.750           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 7.000           | 0.003             | 0.004             | 0.004             | 0.004             | 0.004             |
| 7.250           | 0.004             | 0.004             | 0.004             | 0.004             | 0.005             |
| 7.500           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 7.750           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 8.000           | 0.006             | 0.007             | 0.007             | 0.007             | 0.007             |
| 8.250           | 0.007             | 0.008             | 0.008             | 0.008             | 0.008             |
| 8.500           | 0.008             | 0.009             | 0.009             | 0.009             | 0.009             |
| 8.750           | 0.010             | 0.010             | 0.010             | 0.010             | 0.011             |
| 9.000           | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 9.250           | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 9.500           | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 9.750           | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 10.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 10.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 10.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.000          | 0.011             | 0.012             | 0.012             | 0.012             | 0.012             |
| 11.250          | 0.012             | 0.012             | 0.012             | 0.012             | 0.012             |
| 11.500          | 0.012             | 0.012             | 0.012             | 0.013             | 0.013             |
| 11.750          | 0.013             | 0.014             | 0.015             | 0.016             | 0.017             |
| 12.000          | 0.019             | 0.020             | 0.021             | 0.022             | 0.023             |
| 12.250          | 0.022             | 0.022             | 0.021             | 0.020             | 0.019             |
| 12.500          | 0.018             | 0.017             | 0.017             | 0.016             | 0.016             |
| 12.750          | 0.015             | 0.015             | 0.014             | 0.014             | 0.014             |
| 13.000          | 0.014             | 0.013             | 0.013             | 0.013             | 0.013             |
| 13.250          | 0.013             | 0.013             | 0.013             | 0.013             | 0.013             |
| 13.500          | 0.012             | 0.012             | 0.012             | 0.012             | 0.012             |
| 13.750          | 0.012             | 0.012             | 0.012             | 0.012             | 0.012             |
| 14.000          | 0.012             | 0.012             | 0.012             | 0.012             | 0.012             |
| 14.250          | 0.012             | 0.012             | 0.012             | 0.012             | 0.011             |
| 14.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 15.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 16.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 17.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 18.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 19.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 20.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 20.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond3

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 20.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 21.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 21.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 21.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 21.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 22.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 22.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 22.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 22.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 23.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 23.250          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 23.500          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 23.750          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 24.000          | 0.011             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 3.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.750           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 4.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.002             |
| 4.500           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.750           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 5.000           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 5.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.500           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 5.750           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 6.000           | 0.004             | 0.004             | 0.004             | 0.004             | 0.004             |
| 6.250           | 0.005             | 0.005             | 0.005             | 0.005             | 0.005             |
| 6.500           | 0.005             | 0.005             | 0.005             | 0.006             | 0.006             |
| 6.750           | 0.006             | 0.006             | 0.006             | 0.006             | 0.006             |
| 7.000           | 0.006             | 0.007             | 0.007             | 0.007             | 0.007             |
| 7.250           | 0.007             | 0.007             | 0.007             | 0.007             | 0.007             |
| 7.500           | 0.007             | 0.007             | 0.008             | 0.008             | 0.008             |
| 7.750           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 8.000           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 8.250           | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 8.500           | 0.008             | 0.008             | 0.008             | 0.008             | 0.009             |
| 8.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.000           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.250           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.500           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 9.750           | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 10.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.500          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 10.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.011             |
| 11.000          | 0.011             | 0.011             | 0.011             | 0.011             | 0.011             |
| 11.250          | 0.011             | 0.012             | 0.012             | 0.012             | 0.012             |
| 11.500          | 0.012             | 0.013             | 0.014             | 0.015             | 0.018             |
| 11.750          | 0.021             | 0.026             | 0.032             | 0.041             | 0.051             |
| 12.000          | 0.059             | 0.063             | 0.064             | 0.062             | 0.060             |
| 12.250          | 0.059             | 0.058             | 0.057             | 0.056             | 0.055             |
| 12.500          | 0.054             | 0.052             | 0.051             | 0.050             | 0.048             |
| 12.750          | 0.047             | 0.045             | 0.044             | 0.043             | 0.041             |
| 13.000          | 0.040             | 0.039             | 0.037             | 0.036             | 0.035             |
| 13.250          | 0.033             | 0.032             | 0.031             | 0.030             | 0.028             |
| 13.500          | 0.027             | 0.026             | 0.025             | 0.024             | 0.023             |
| 13.750          | 0.022             | 0.021             | 0.020             | 0.019             | 0.018             |
| 14.000          | 0.017             | 0.017             | 0.016             | 0.015             | 0.015             |
| 14.250          | 0.014             | 0.013             | 0.013             | 0.012             | 0.012             |
| 14.500          | 0.012             | 0.011             | 0.011             | 0.011             | 0.011             |
| 14.750          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.000          | 0.010             | 0.010             | 0.010             | 0.010             | 0.010             |
| 15.250          | 0.010             | 0.010             | 0.010             | 0.009             | 0.009             |
| 15.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 15.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 16.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.250          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.500          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 17.750          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.009             |
| 18.250          | 0.009             | 0.009             | 0.008             | 0.008             | 0.008             |
| 18.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 18.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 19.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond4

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 20.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 21.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 22.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.000          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.250          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.500          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 23.750          | 0.008             | 0.008             | 0.008             | 0.008             | 0.008             |
| 24.000          | 0.008             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.001             | 0.001             |
| 3.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.500           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 3.750           | 0.001             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.000           | 0.002             | 0.002             | 0.002             | 0.002             | 0.002             |
| 4.250           | 0.003             | 0.003             | 0.003             | 0.003             | 0.003             |
| 4.500           | 0.003             | 0.003             | 0.004             | 0.004             | 0.004             |
| 4.750           | 0.004             | 0.004             | 0.004             | 0.005             | 0.005             |
| 5.000           | 0.005             | 0.005             | 0.005             | 0.005             | 0.006             |
| 5.250           | 0.006             | 0.006             | 0.006             | 0.006             | 0.007             |
| 5.500           | 0.007             | 0.007             | 0.007             | 0.008             | 0.008             |
| 5.750           | 0.008             | 0.008             | 0.009             | 0.009             | 0.009             |
| 6.000           | 0.009             | 0.010             | 0.010             | 0.010             | 0.010             |
| 6.250           | 0.011             | 0.011             | 0.011             | 0.011             | 0.012             |
| 6.500           | 0.012             | 0.012             | 0.013             | 0.013             | 0.013             |
| 6.750           | 0.014             | 0.014             | 0.014             | 0.015             | 0.015             |
| 7.000           | 0.015             | 0.016             | 0.016             | 0.016             | 0.017             |
| 7.250           | 0.017             | 0.017             | 0.018             | 0.018             | 0.018             |
| 7.500           | 0.019             | 0.019             | 0.019             | 0.020             | 0.020             |
| 7.750           | 0.021             | 0.021             | 0.021             | 0.022             | 0.022             |
| 8.000           | 0.023             | 0.023             | 0.023             | 0.024             | 0.024             |
| 8.250           | 0.025             | 0.025             | 0.026             | 0.026             | 0.026             |
| 8.500           | 0.026             | 0.026             | 0.027             | 0.027             | 0.027             |
| 8.750           | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 9.000           | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 9.250           | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 9.500           | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 9.750           | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 10.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 10.500          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 10.750          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 11.000          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 11.250          | 0.029             | 0.029             | 0.029             | 0.029             | 0.029             |
| 11.500          | 0.029             | 0.029             | 0.030             | 0.032             | 0.034             |
| 11.750          | 0.036             | 0.038             | 0.041             | 0.045             | 0.047             |
| 12.000          | 0.045             | 0.042             | 0.037             | 0.033             | 0.032             |
| 12.250          | 0.031             | 0.030             | 0.030             | 0.030             | 0.030             |
| 12.500          | 0.029             | 0.029             | 0.029             | 0.029             | 0.029             |
| 12.750          | 0.029             | 0.029             | 0.029             | 0.028             | 0.028             |
| 13.000          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.250          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.500          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 13.750          | 0.028             | 0.028             | 0.028             | 0.028             | 0.028             |
| 14.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 14.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 15.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 16.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 16.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 16.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 16.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 17.000          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 17.250          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 17.500          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 17.750          | 0.027             | 0.027             | 0.027             | 0.027             | 0.027             |
| 18.000          | 0.027             | 0.027             | 0.027             | 0.026             | 0.026             |
| 18.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 18.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 19.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |



## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond5

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**

**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 20.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 21.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 22.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.000          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.250          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.500          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 23.750          | 0.026             | 0.026             | 0.026             | 0.026             | 0.026             |
| 24.000          | 0.026             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 0.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 0.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 1.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 2.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 3.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 4.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 5.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 6.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.000           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.250           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.500           | 0.000             | 0.000             | 0.000             | 0.000             | 0.000             |
| 7.750           | 0.000             | 0.000             | 0.000             | 0.000             | 0.001             |
| 8.000           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 8.250           | 0.001             | 0.001             | 0.001             | 0.001             | 0.001             |
| 8.500           | 0.001             | 0.001             | 0.001             | 0.002             | 0.002             |
| 8.750           | 0.002             | 0.002             | 0.002             | 0.003             | 0.003             |
| 9.000           | 0.003             | 0.003             | 0.004             | 0.004             | 0.004             |
| 9.250           | 0.005             | 0.005             | 0.005             | 0.005             | 0.006             |
| 9.500           | 0.006             | 0.006             | 0.007             | 0.007             | 0.008             |
| 9.750           | 0.008             | 0.008             | 0.008             | 0.008             | 0.009             |
| 10.000          | 0.009             | 0.009             | 0.009             | 0.009             | 0.010             |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time (hours) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) | Volume (ac-ft) |
|--------------|----------------|----------------|----------------|----------------|----------------|
| 10.250       | 0.010          | 0.010          | 0.011          | 0.011          | 0.011          |
| 10.500       | 0.012          | 0.012          | 0.013          | 0.014          | 0.014          |
| 10.750       | 0.015          | 0.016          | 0.017          | 0.018          | 0.020          |
| 11.000       | 0.021          | 0.023          | 0.024          | 0.026          | 0.029          |
| 11.250       | 0.032          | 0.035          | 0.038          | 0.043          | 0.048          |
| 11.500       | 0.053          | 0.062          | 0.071          | 0.083          | 0.101          |
| 11.750       | 0.126          | 0.162          | 0.208          | 0.275          | 0.333          |
| 12.000       | 0.363          | 0.368          | 0.353          | 0.331          | 0.316          |
| 12.250       | 0.306          | 0.299          | 0.294          | 0.291          | 0.289          |
| 12.500       | 0.287          | 0.285          | 0.284          | 0.283          | 0.282          |
| 12.750       | 0.281          | 0.281          | 0.280          | 0.280          | 0.280          |
| 13.000       | 0.279          | 0.279          | 0.279          | 0.278          | 0.278          |
| 13.250       | 0.278          | 0.278          | 0.278          | 0.277          | 0.277          |
| 13.500       | 0.277          | 0.277          | 0.277          | 0.277          | 0.276          |
| 13.750       | 0.276          | 0.276          | 0.276          | 0.276          | 0.276          |
| 14.000       | 0.276          | 0.276          | 0.275          | 0.275          | 0.275          |
| 14.250       | 0.275          | 0.275          | 0.275          | 0.275          | 0.275          |
| 14.500       | 0.275          | 0.275          | 0.275          | 0.275          | 0.275          |
| 14.750       | 0.275          | 0.274          | 0.274          | 0.274          | 0.274          |
| 15.000       | 0.274          | 0.273          | 0.273          | 0.273          | 0.272          |
| 15.250       | 0.272          | 0.272          | 0.271          | 0.271          | 0.270          |
| 15.500       | 0.270          | 0.269          | 0.269          | 0.268          | 0.268          |
| 15.750       | 0.267          | 0.267          | 0.266          | 0.265          | 0.265          |
| 16.000       | 0.264          | 0.263          | 0.262          | 0.262          | 0.261          |
| 16.250       | 0.260          | 0.259          | 0.259          | 0.258          | 0.257          |
| 16.500       | 0.256          | 0.255          | 0.255          | 0.254          | 0.253          |
| 16.750       | 0.252          | 0.251          | 0.251          | 0.250          | 0.249          |
| 17.000       | 0.248          | 0.247          | 0.246          | 0.245          | 0.245          |
| 17.250       | 0.244          | 0.243          | 0.242          | 0.241          | 0.240          |
| 17.500       | 0.239          | 0.238          | 0.237          | 0.237          | 0.236          |
| 17.750       | 0.235          | 0.234          | 0.233          | 0.232          | 0.231          |
| 18.000       | 0.230          | 0.229          | 0.228          | 0.227          | 0.226          |
| 18.250       | 0.225          | 0.224          | 0.223          | 0.222          | 0.221          |
| 18.500       | 0.220          | 0.219          | 0.218          | 0.217          | 0.216          |
| 18.750       | 0.215          | 0.214          | 0.213          | 0.212          | 0.211          |
| 19.000       | 0.210          | 0.209          | 0.208          | 0.207          | 0.206          |
| 19.250       | 0.205          | 0.204          | 0.202          | 0.201          | 0.200          |
| 19.500       | 0.199          | 0.198          | 0.197          | 0.196          | 0.195          |
| 19.750       | 0.194          | 0.193          | 0.191          | 0.190          | 0.189          |
| 20.000       | 0.188          | 0.187          | 0.186          | 0.185          | 0.184          |
| 20.250       | 0.182          | 0.181          | 0.180          | 0.179          | 0.178          |

## O'Day Park Detention Calculations

Subsection: Time vs. Volume  
 Label: Pond7

Return Event: 100 years  
 Storm Event: 100-year

### Time vs. Volume (ac-ft)

**Output Time increment = 0.050 hours**  
**Time on left represents time for first value in each row.**

| Time<br>(hours) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) | Volume<br>(ac-ft) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 20.500          | 0.177             | 0.176             | 0.175             | 0.174             | 0.172             |
| 20.750          | 0.171             | 0.170             | 0.169             | 0.168             | 0.167             |
| 21.000          | 0.166             | 0.165             | 0.164             | 0.162             | 0.161             |
| 21.250          | 0.160             | 0.159             | 0.158             | 0.157             | 0.155             |
| 21.500          | 0.154             | 0.153             | 0.152             | 0.151             | 0.150             |
| 21.750          | 0.149             | 0.148             | 0.146             | 0.145             | 0.144             |
| 22.000          | 0.143             | 0.142             | 0.141             | 0.140             | 0.139             |
| 22.250          | 0.138             | 0.137             | 0.136             | 0.135             | 0.133             |
| 22.500          | 0.132             | 0.131             | 0.130             | 0.129             | 0.128             |
| 22.750          | 0.127             | 0.126             | 0.125             | 0.124             | 0.123             |
| 23.000          | 0.122             | 0.121             | 0.120             | 0.119             | 0.118             |
| 23.250          | 0.117             | 0.116             | 0.115             | 0.114             | 0.113             |
| 23.500          | 0.112             | 0.111             | 0.110             | 0.109             | 0.108             |
| 23.750          | 0.107             | 0.106             | 0.105             | 0.104             | 0.103             |
| 24.000          | 0.102             | (N/A)             | (N/A)             | (N/A)             | (N/A)             |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond1A

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 533.00            | 0.0                              | 0.064           | 0.000                          | 0.000             | 0.000                     |
| 534.00            | 0.0                              | 0.080           | 0.216                          | 0.072             | 0.072                     |
| 535.00            | 0.0                              | 0.098           | 0.267                          | 0.089             | 0.161                     |
| 536.00            | 0.0                              | 0.117           | 0.322                          | 0.107             | 0.268                     |
| 537.00            | 0.0                              | 0.138           | 0.382                          | 0.127             | 0.395                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond1B

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sqr<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|---------------------------------|-------------------|---------------------------|
| 530.00            | 0.0                              | 0.000           | 0.000                           | 0.000             | 0.000                     |
| 531.00            | 0.0                              | 0.031           | 0.031                           | 0.010             | 0.010                     |
| 532.00            | 0.0                              | 0.125           | 0.125                           | 0.083             | 0.083                     |
| 533.00            | 0.0                              | 0.174           | 0.446                           | 0.149             | 0.232                     |
| 534.00            | 0.0                              | 0.200           | 0.561                           | 0.187             | 0.419                     |
| 535.00            | 0.0                              | 0.228           | 0.642                           | 0.214             | 0.633                     |
| 536.00            | 0.0                              | 0.257           | 0.727                           | 0.242             | 0.875                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond2

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 553.00            | 0.0                              | 0.015           | 0.000                          | 0.000             | 0.000                     |
| 554.00            | 0.0                              | 0.027           | 0.062                          | 0.021             | 0.021                     |
| 555.00            | 0.0                              | 0.041           | 0.101                          | 0.034             | 0.054                     |
| 556.00            | 0.0                              | 0.056           | 0.145                          | 0.048             | 0.102                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond3

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 554.00            | 0.0                              | 0.016           | 0.000                          | 0.000             | 0.000                     |
| 555.00            | 0.0                              | 0.036           | 0.076                          | 0.025             | 0.025                     |
| 556.00            | 0.0                              | 0.058           | 0.140                          | 0.047             | 0.072                     |



## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond4

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 545.00            | 0.0                              | 0.010           | 0.000                          | 0.000             | 0.000                     |
| 546.00            | 0.0                              | 0.020           | 0.044                          | 0.015             | 0.015                     |
| 547.00            | 0.0                              | 0.032           | 0.077                          | 0.026             | 0.041                     |
| 548.00            | 0.0                              | 0.046           | 0.116                          | 0.039             | 0.079                     |
| 549.00            | 0.0                              | 0.057           | 0.154                          | 0.051             | 0.131                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond5

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 563.00            | 0.0                              | 0.023           | 0.000                          | 0.000             | 0.000                     |
| 564.00            | 0.0                              | 0.056           | 0.116                          | 0.039             | 0.039                     |
| 565.00            | 0.0                              | 0.096           | 0.226                          | 0.075             | 0.114                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Area Volume Curve

Return Event: 100 years

Label: Pond7

Storm Event: 100-year

| Elevation<br>(ft) | Planimeter<br>(ft <sup>2</sup> ) | Area<br>(acres) | A1+A2+sq<br>(A1*A2)<br>(acres) | Volume<br>(ac-ft) | Volume (Total)<br>(ac-ft) |
|-------------------|----------------------------------|-----------------|--------------------------------|-------------------|---------------------------|
| 529.00            | 0.0                              | 0.000           | 0.000                          | 0.000             | 0.000                     |
| 530.00            | 0.0                              | 0.194           | 0.194                          | 0.065             | 0.065                     |
| 531.00            | 0.0                              | 0.227           | 0.631                          | 0.210             | 0.275                     |
| 532.00            | 0.0                              | 0.261           | 0.731                          | 0.244             | 0.519                     |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 533.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 537.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 536.00     | 537.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1A

Return Event: 100 years  
 Storm Event: 100-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 536.00 ft                   |
| Weir Length                                 | 30.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.10                             | 2.85                         | (N/A)                       | 0.00                      |
| 536.20                             | 8.05                         | (N/A)                       | 0.00                      |
| 536.30                             | 14.79                        | (N/A)                       | 0.00                      |
| 536.40                             | 22.77                        | (N/A)                       | 0.00                      |
| 536.50                             | 31.82                        | (N/A)                       | 0.00                      |
| 536.60                             | 41.83                        | (N/A)                       | 0.00                      |
| 536.70                             | 52.71                        | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1A

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 536.80                       | 64.40                     | (N/A)                    | 0.00                   |
| 536.90                       | 76.84                     | (N/A)                    | 0.00                   |
| 537.00                       | 90.00                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
HW & TW below Inv.El.=536.000
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=2.85;
H=.20; Htw=.00; Qfree=8.05;
H=.30; Htw=.00; Qfree=14.79;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1A

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.40; Htw=.00; Qfree=22.77;  |
| H=.50; Htw=.00; Qfree=31.82;  |
| H=.60; Htw=.00; Qfree=41.83;  |
| H=.70; Htw=.00; Qfree=52.71;  |
| H=.80; Htw=.00; Qfree=64.40;  |
| H=.90; Htw=.00; Qfree=76.84;  |
| H=1.00; Htw=.00; Qfree=90.00; |



## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1A

Return Event: 100 years  
 Storm Event: 100-year

### Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 536.10                             | 2.85                         | (N/A)                       | 0.00                      |
| 536.20                             | 8.05                         | (N/A)                       | 0.00                      |
| 536.30                             | 14.79                        | (N/A)                       | 0.00                      |
| 536.40                             | 22.77                        | (N/A)                       | 0.00                      |
| 536.50                             | 31.82                        | (N/A)                       | 0.00                      |
| 536.60                             | 41.83                        | (N/A)                       | 0.00                      |
| 536.70                             | 52.71                        | (N/A)                       | 0.00                      |
| 536.80                             | 64.40                        | (N/A)                       | 0.00                      |
| 536.90                             | 76.84                        | (N/A)                       | 0.00                      |
| 537.00                             | 90.00                        | (N/A)                       | 0.00                      |

#### Contributing Structures

None Contributing



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 530.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 536.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 530.00     | 536.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 534.00     | 536.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

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|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>           |                             |
| <b>Structure Type: Rectangular Weir</b> |                             |
| Number of Openings                      | 1                           |
| Elevation                               | 534.00 ft                   |
| Weir Length                             | 9.00 ft                     |
| Weir Coefficient                        | 3.00 (ft <sup>0.5</sup> )/s |

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|   |           |
|---|-----------|
| <b>Structure ID: Orifice - 1</b>        |           |
| <b>Structure Type: Orifice-Circular</b> |           |
| Number of Openings                      | 1         |
| Elevation                               | 530.00 ft |
| Orifice Diameter                        | 4.0 in    |
| Orifice Coefficient                     | 0.600     |

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|   |              |
|---|--------------|
| <b>Structure ID: TW</b>                     |              |
| <b>Structure Type: TW Setup, DS Channel</b> |              |
| Tailwater Type                              | Free Outfall |

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|                               |                           |
|-------------------------------|---------------------------|
| <b>Convergence Tolerances</b> |                           |
| Maximum Iterations            | 30                        |
| Tailwater Tolerance (Minimum) | 0.01 ft                   |
| Tailwater Tolerance (Maximum) | 0.50 ft                   |
| Headwater Tolerance (Minimum) | 0.01 ft                   |
| Headwater Tolerance (Maximum) | 0.50 ft                   |
| Flow Tolerance (Minimum)      | 0.001 ft <sup>3</sup> /s  |
| Flow Tolerance (Maximum)      | 10.000 ft <sup>3</sup> /s |

---

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.00                         | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 533.80                       | 0.00                      | (N/A)                    | 0.00                   |
| 533.90                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 534.10                       | 0.85                      | (N/A)                    | 0.00                   |
| 534.20                       | 2.41                      | (N/A)                    | 0.00                   |
| 534.30                       | 4.44                      | (N/A)                    | 0.00                   |
| 534.40                       | 6.83                      | (N/A)                    | 0.00                   |
| 534.50                       | 9.55                      | (N/A)                    | 0.00                   |
| 534.60                       | 12.55                     | (N/A)                    | 0.00                   |
| 534.70                       | 15.81                     | (N/A)                    | 0.00                   |
| 534.80                       | 19.32                     | (N/A)                    | 0.00                   |
| 534.90                       | 23.05                     | (N/A)                    | 0.00                   |
| 535.00                       | 27.00                     | (N/A)                    | 0.00                   |
| 535.10                       | 31.15                     | (N/A)                    | 0.00                   |
| 535.20                       | 35.49                     | (N/A)                    | 0.00                   |
| 535.30                       | 40.02                     | (N/A)                    | 0.00                   |
| 535.40                       | 44.73                     | (N/A)                    | 0.00                   |
| 535.50                       | 49.60                     | (N/A)                    | 0.00                   |
| 535.60                       | 54.64                     | (N/A)                    | 0.00                   |
| 535.70                       | 59.85                     | (N/A)                    | 0.00                   |
| 535.80                       | 65.20                     | (N/A)                    | 0.00                   |
| 535.90                       | 70.71                     | (N/A)                    | 0.00                   |
| 536.00                       | 76.37                     | (N/A)                    | 0.00                   |

Computation Messages

HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000  
 HW & TW below Inv.El.=534.000



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=1.40; Htw=.00; Qfree=44.73; |
| H=1.50; Htw=.00; Qfree=49.60; |
| H=1.60; Htw=.00; Qfree=54.64; |
| H=1.70; Htw=.00; Qfree=59.85; |
| H=1.80; Htw=.00; Qfree=65.20; |
| H=1.90; Htw=.00; Qfree=70.71; |
| H=2.00; Htw=.00; Qfree=76.37; |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.02                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.07                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.14                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.20                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.24                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.28                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.31                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.33                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.36                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.38                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.41                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.43                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.45                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.47                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.48                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.50                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.52                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.54                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.55                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.57                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.58                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.60                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.61                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.63                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.64                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.66                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.67                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.68                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.69                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.71                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.72                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.73                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.74                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.76                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.77                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.78                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.79                         | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 533.80                             | 0.80                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.81                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.82                         | (N/A)                       | 0.00                      |
| 534.10                             | 0.83                         | (N/A)                       | 0.00                      |
| 534.20                             | 0.84                         | (N/A)                       | 0.00                      |
| 534.30                             | 0.85                         | (N/A)                       | 0.00                      |
| 534.40                             | 0.86                         | (N/A)                       | 0.00                      |
| 534.50                             | 0.87                         | (N/A)                       | 0.00                      |
| 534.60                             | 0.88                         | (N/A)                       | 0.00                      |
| 534.70                             | 0.89                         | (N/A)                       | 0.00                      |
| 534.80                             | 0.90                         | (N/A)                       | 0.00                      |
| 534.90                             | 0.91                         | (N/A)                       | 0.00                      |
| 535.00                             | 0.92                         | (N/A)                       | 0.00                      |
| 535.10                             | 0.93                         | (N/A)                       | 0.00                      |
| 535.20                             | 0.94                         | (N/A)                       | 0.00                      |
| 535.30                             | 0.95                         | (N/A)                       | 0.00                      |
| 535.40                             | 0.96                         | (N/A)                       | 0.00                      |
| 535.50                             | 0.97                         | (N/A)                       | 0.00                      |
| 535.60                             | 0.98                         | (N/A)                       | 0.00                      |
| 535.70                             | 0.99                         | (N/A)                       | 0.00                      |
| 535.80                             | 1.00                         | (N/A)                       | 0.00                      |
| 535.90                             | 1.01                         | (N/A)                       | 0.00                      |
| 536.00                             | 1.01                         | (N/A)                       | 0.00                      |

Computation Messages

Upstream HW & DNstream TW < Inv.El  
 CRIT.DEPTH CONTROL Vh= .027ft  
 Dcr= .073ft CRIT.DEPTH Hev= .00ft  
 CRIT.DEPTH CONTROL Vh= .054ft  
 Dcr= .146ft CRIT.DEPTH Hev= .00ft  
 CRIT.DEPTH CONTROL Vh= .090ft  
 Dcr= .210ft CRIT.DEPTH Hev= .00ft  
 H =.23  
 H =.33  
 H =.43  
 H =.53  
 H =.63  
 H =.73  
 H =.83

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H = .93              |
| H = 1.03             |
| H = 1.13             |
| H = 1.23             |
| H = 1.33             |
| H = 1.43             |
| H = 1.53             |
| H = 1.63             |
| H = 1.73             |
| H = 1.83             |
| H = 1.93             |
| H = 2.03             |
| H = 2.13             |
| H = 2.23             |
| H = 2.33             |
| H = 2.43             |
| H = 2.53             |
| H = 2.63             |
| H = 2.73             |
| H = 2.83             |
| H = 2.93             |
| H = 3.03             |
| H = 3.13             |
| H = 3.23             |
| H = 3.33             |
| H = 3.43             |
| H = 3.53             |
| H = 3.63             |
| H = 3.73             |
| H = 3.83             |
| H = 3.93             |
| H = 4.03             |
| H = 4.13             |
| H = 4.23             |
| H = 4.33             |
| H = 4.43             |
| H = 4.53             |
| H = 4.63             |
| H = 4.73             |
| H = 4.83             |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 1B

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =4.93              |
| H =5.03              |
| H =5.13              |
| H =5.23              |
| H =5.33              |
| H =5.43              |
| H =5.53              |
| H =5.63              |
| H =5.73              |
| H =5.83              |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 1B

Return Event: 100 years  
 Storm Event: 100-year

## Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 530.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 530.10                             | 0.02                         | (N/A)                       | 0.00                      |
| 530.20                             | 0.07                         | (N/A)                       | 0.00                      |
| 530.30                             | 0.14                         | (N/A)                       | 0.00                      |
| 530.40                             | 0.20                         | (N/A)                       | 0.00                      |
| 530.50                             | 0.24                         | (N/A)                       | 0.00                      |
| 530.60                             | 0.28                         | (N/A)                       | 0.00                      |
| 530.70                             | 0.31                         | (N/A)                       | 0.00                      |
| 530.80                             | 0.33                         | (N/A)                       | 0.00                      |
| 530.90                             | 0.36                         | (N/A)                       | 0.00                      |
| 531.00                             | 0.38                         | (N/A)                       | 0.00                      |
| 531.10                             | 0.41                         | (N/A)                       | 0.00                      |
| 531.20                             | 0.43                         | (N/A)                       | 0.00                      |
| 531.30                             | 0.45                         | (N/A)                       | 0.00                      |
| 531.40                             | 0.47                         | (N/A)                       | 0.00                      |
| 531.50                             | 0.48                         | (N/A)                       | 0.00                      |
| 531.60                             | 0.50                         | (N/A)                       | 0.00                      |
| 531.70                             | 0.52                         | (N/A)                       | 0.00                      |
| 531.80                             | 0.54                         | (N/A)                       | 0.00                      |
| 531.90                             | 0.55                         | (N/A)                       | 0.00                      |
| 532.00                             | 0.57                         | (N/A)                       | 0.00                      |
| 532.10                             | 0.58                         | (N/A)                       | 0.00                      |
| 532.20                             | 0.60                         | (N/A)                       | 0.00                      |
| 532.30                             | 0.61                         | (N/A)                       | 0.00                      |
| 532.40                             | 0.63                         | (N/A)                       | 0.00                      |
| 532.50                             | 0.64                         | (N/A)                       | 0.00                      |
| 532.60                             | 0.66                         | (N/A)                       | 0.00                      |
| 532.70                             | 0.67                         | (N/A)                       | 0.00                      |
| 532.80                             | 0.68                         | (N/A)                       | 0.00                      |
| 532.90                             | 0.69                         | (N/A)                       | 0.00                      |
| 533.00                             | 0.71                         | (N/A)                       | 0.00                      |
| 533.10                             | 0.72                         | (N/A)                       | 0.00                      |
| 533.20                             | 0.73                         | (N/A)                       | 0.00                      |
| 533.30                             | 0.74                         | (N/A)                       | 0.00                      |
| 533.40                             | 0.76                         | (N/A)                       | 0.00                      |
| 533.50                             | 0.77                         | (N/A)                       | 0.00                      |
| 533.60                             | 0.78                         | (N/A)                       | 0.00                      |
| 533.70                             | 0.79                         | (N/A)                       | 0.00                      |
| 533.80                             | 0.80                         | (N/A)                       | 0.00                      |
| 533.90                             | 0.81                         | (N/A)                       | 0.00                      |
| 534.00                             | 0.82                         | (N/A)                       | 0.00                      |
| 534.10                             | 1.69                         | (N/A)                       | 0.00                      |
| 534.20                             | 3.26                         | (N/A)                       | 0.00                      |





## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 553.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 553.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 2

Return Event: 100 years  
 Storm Event: 100-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 553.50 ft                   |
| Diameter                                    | 8.0 in                      |
| Orifice Area                                | 0.3 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 2.09 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 2

Return Event: 100 years  
 Storm Event: 100-year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 553.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.60                             | 0.20                         | (N/A)                       | 0.00                      |
| 553.70                             | 0.56                         | (N/A)                       | 0.00                      |
| 553.80                             | 0.92                         | (N/A)                       | 0.00                      |
| 553.90                             | 1.06                         | (N/A)                       | 0.00                      |
| 554.00                             | 1.19                         | (N/A)                       | 0.00                      |
| 554.10                             | 1.30                         | (N/A)                       | 0.00                      |
| 554.20                             | 1.41                         | (N/A)                       | 0.00                      |
| 554.30                             | 1.50                         | (N/A)                       | 0.00                      |
| 554.40                             | 1.59                         | (N/A)                       | 0.00                      |
| 554.50                             | 1.68                         | (N/A)                       | 0.00                      |
| 554.60                             | 1.76                         | (N/A)                       | 0.00                      |
| 554.70                             | 1.84                         | (N/A)                       | 0.00                      |
| 554.80                             | 1.92                         | (N/A)                       | 0.00                      |
| 554.90                             | 1.99                         | (N/A)                       | 0.00                      |
| 555.00                             | 2.06                         | (N/A)                       | 0.00                      |
| 555.10                             | 2.13                         | (N/A)                       | 0.00                      |
| 555.20                             | 2.19                         | (N/A)                       | 0.00                      |
| 555.30                             | 2.25                         | (N/A)                       | 0.00                      |
| 555.40                             | 2.32                         | (N/A)                       | 0.00                      |
| 555.50                             | 2.38                         | (N/A)                       | 0.00                      |
| 555.60                             | 2.43                         | (N/A)                       | 0.00                      |
| 555.70                             | 2.49                         | (N/A)                       | 0.00                      |
| 555.80                             | 2.55                         | (N/A)                       | 0.00                      |
| 555.90                             | 2.60                         | (N/A)                       | 0.00                      |
| 556.00                             | 2.66                         | (N/A)                       | 0.00                      |

Computation Messages

HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 HW & TW < Inv.El.=553.500  
 Weir: H =0ft

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                  |
|---|
| Weir: H =0.1ft  |
| Weir: H =0.2ft  |
| Orifice: H =.30; Riser orifice equation controlling.  |
| Orifice: H =.40; Riser orifice equation controlling.  |
| Orifice: H =.50; Riser orifice equation controlling.  |
| Orifice: H =.60; Riser orifice equation controlling.  |
| Orifice: H =.70; Riser orifice equation controlling.  |
| Orifice: H =.80; Riser orifice equation controlling.  |
| Orifice: H =.90; Riser orifice equation controlling.  |
| Orifice: H =1.00; Riser orifice equation controlling. |
| Orifice: H =1.10; Riser orifice equation controlling. |
| Orifice: H =1.20; Riser orifice equation controlling. |
| Orifice: H =1.30; Riser orifice equation controlling. |
| Orifice: H =1.40; Riser orifice equation controlling. |
| Orifice: H =1.50; Riser orifice equation controlling. |
| Orifice: H =1.60; Riser orifice equation controlling. |
| Orifice: H =1.70; Riser orifice equation controlling. |
| Orifice: H =1.80; Riser orifice equation controlling. |
| Orifice: H =1.90; Riser orifice equation controlling. |
| Orifice: H =2.00; Riser orifice equation controlling. |
| Orifice: H =2.10; Riser orifice equation controlling. |
| Orifice: H =2.20; Riser orifice equation controlling. |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 2

Return Event: 100 years  
Storm Event: 100-year

## RATING TABLE FOR ONE OUTLET TYPE

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

### Computation Messages

Orifice: H =2.30; Riser orifice equation controlling.

Orifice: H =2.40; Riser orifice equation controlling.

Orifice: H =2.50; Riser orifice equation controlling.

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 2

Return Event: 100 years  
 Storm Event: 100-year

### Composite Outflow Summary

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 553.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 553.60                             | 0.20                         | (N/A)                       | 0.00                      |
| 553.70                             | 0.56                         | (N/A)                       | 0.00                      |
| 553.80                             | 0.92                         | (N/A)                       | 0.00                      |
| 553.90                             | 1.06                         | (N/A)                       | 0.00                      |
| 554.00                             | 1.19                         | (N/A)                       | 0.00                      |
| 554.10                             | 1.30                         | (N/A)                       | 0.00                      |
| 554.20                             | 1.41                         | (N/A)                       | 0.00                      |
| 554.30                             | 1.50                         | (N/A)                       | 0.00                      |
| 554.40                             | 1.59                         | (N/A)                       | 0.00                      |
| 554.50                             | 1.68                         | (N/A)                       | 0.00                      |
| 554.60                             | 1.76                         | (N/A)                       | 0.00                      |
| 554.70                             | 1.84                         | (N/A)                       | 0.00                      |
| 554.80                             | 1.92                         | (N/A)                       | 0.00                      |
| 554.90                             | 1.99                         | (N/A)                       | 0.00                      |
| 555.00                             | 2.06                         | (N/A)                       | 0.00                      |
| 555.10                             | 2.13                         | (N/A)                       | 0.00                      |
| 555.20                             | 2.19                         | (N/A)                       | 0.00                      |
| 555.30                             | 2.25                         | (N/A)                       | 0.00                      |
| 555.40                             | 2.32                         | (N/A)                       | 0.00                      |
| 555.50                             | 2.38                         | (N/A)                       | 0.00                      |
| 555.60                             | 2.43                         | (N/A)                       | 0.00                      |
| 555.70                             | 2.49                         | (N/A)                       | 0.00                      |
| 555.80                             | 2.55                         | (N/A)                       | 0.00                      |
| 555.90                             | 2.60                         | (N/A)                       | 0.00                      |
| 556.00                             | 2.66                         | (N/A)                       | 0.00                      |

#### Contributing Structures

|                   |
|-------------------|
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| None Contributing |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |
| Riser - 1         |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 2

Return Event: 100 years  
Storm Event: 100-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |
| Riser - 1               |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 554.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 556.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Stand Pipe         | Riser - 1 | Forward   | TW      | 554.50     | 556.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 3

Return Event: 100 years  
 Storm Event: 100-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Riser - 1</b>              |                             |
| <b>Structure Type: Stand Pipe</b>           |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 554.50 ft                   |
| Diameter                                    | 15.0 in                     |
| Orifice Area                                | 1.2 ft <sup>2</sup>         |
| Orifice Coefficient                         | 0.600                       |
| Weir Length                                 | 3.93 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| K Reverse                                   | 1.000                       |
| Manning's n                                 | 0.000                       |
| Kev, Charged Riser                          | 0.000                       |
| Weir Submergence                            | False                       |
| Orifice H to crest                          | True                        |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 3

Return Event: 100 years  
 Storm Event: 100-year

**RATING TABLE FOR ONE OUTLET TYPE**

Structure ID = Riser - 1 (Stand Pipe)

-----

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 554.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 554.60                       | 0.37                      | (N/A)                    | 0.00                   |
| 554.70                       | 1.05                      | (N/A)                    | 0.00                   |
| 554.80                       | 1.94                      | (N/A)                    | 0.00                   |
| 554.90                       | 2.98                      | (N/A)                    | 0.00                   |
| 555.00                       | 4.17                      | (N/A)                    | 0.00                   |
| 555.10                       | 4.58                      | (N/A)                    | 0.00                   |
| 555.20                       | 4.94                      | (N/A)                    | 0.00                   |
| 555.30                       | 5.28                      | (N/A)                    | 0.00                   |
| 555.40                       | 5.60                      | (N/A)                    | 0.00                   |
| 555.50                       | 5.91                      | (N/A)                    | 0.00                   |
| 555.60                       | 6.19                      | (N/A)                    | 0.00                   |
| 555.70                       | 6.47                      | (N/A)                    | 0.00                   |
| 555.80                       | 6.73                      | (N/A)                    | 0.00                   |
| 555.90                       | 6.99                      | (N/A)                    | 0.00                   |
| 556.00                       | 7.23                      | (N/A)                    | 0.00                   |

Computation Messages

HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 HW & TW < Inv.El.=554.500  
 Weir: H =0ft  
 Weir: H =0.1ft  
 Weir: H =0.2ft  
 Weir: H =0.3ft  
 Weir: H =0.4ft  
 Weir: H =0.5ft  
 Orifice: H =.60; Riser orifice equation controlling.  
 Orifice: H =.70; Riser orifice equation controlling.

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 3

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Riser - 1 (Stand Pipe)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages                                   |
|--|
| Orifice: H = .80; Riser orifice equation controlling.  |
| Orifice: H = .90; Riser orifice equation controlling.  |
| Orifice: H = 1.00; Riser orifice equation controlling. |
| Orifice: H = 1.10; Riser orifice equation controlling. |
| Orifice: H = 1.20; Riser orifice equation controlling. |
| Orifice: H = 1.30; Riser orifice equation controlling. |
| Orifice: H = 1.40; Riser orifice equation controlling. |
| Orifice: H = 1.50; Riser orifice equation controlling. |



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 545.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 549.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 545.50     | 549.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 547.50     | 549.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 545.50 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 547.50 ft                   |
| Weir Length                                 | 3.50 ft                     |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.02                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.07                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.14                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.20                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.24                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.28                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.31                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.33                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.36                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.38                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.41                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.43                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.45                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.47                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.48                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.50                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.52                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.54                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.55                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.57                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.58                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.60                         | (N/A)                       | 0.00                      |
| 547.80                             | 0.61                         | (N/A)                       | 0.00                      |
| 547.90                             | 0.63                         | (N/A)                       | 0.00                      |
| 548.00                             | 0.64                         | (N/A)                       | 0.00                      |
| 548.10                             | 0.66                         | (N/A)                       | 0.00                      |
| 548.20                             | 0.67                         | (N/A)                       | 0.00                      |
| 548.30                             | 0.68                         | (N/A)                       | 0.00                      |
| 548.40                             | 0.69                         | (N/A)                       | 0.00                      |
| 548.50                             | 0.71                         | (N/A)                       | 0.00                      |
| 548.60                             | 0.72                         | (N/A)                       | 0.00                      |
| 548.70                             | 0.73                         | (N/A)                       | 0.00                      |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 0.74                      | (N/A)                    | 0.00                   |
| 548.90                       | 0.76                      | (N/A)                    | 0.00                   |
| 549.00                       | 0.77                      | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
HW & TW below invert
Upstream HW & DNstream TW < Inv.El
CRIT.DEPTH CONTROL Vh= .027ft
Dcr= .073ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .054ft
Dcr= .146ft CRIT.DEPTH Hev= .00ft
CRIT.DEPTH CONTROL Vh= .090ft
Dcr= .210ft CRIT.DEPTH Hev= .00ft
H =.23
H =.33
H =.43
H =.53
H =.63
H =.73
H =.83
H =.93
H =1.03
H =1.13
H =1.23
H =1.33
H =1.43
H =1.53
H =1.63
H =1.73
H =1.83
H =1.93
H =2.03
H =2.13
H =2.23
H =2.33
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Orifice - 1 (Orifice-Circular)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages |
|----------------------|
| H =2.43              |
| H =2.53              |
| H =2.63              |
| H =2.73              |
| H =2.83              |
| H =2.93              |
| H =3.03              |
| H =3.13              |
| H =3.23              |
| H =3.33              |



## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 545.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 545.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.80                             | 0.00                         | (N/A)                       | 0.00                      |
| 546.90                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 547.60                             | 0.33                         | (N/A)                       | 0.00                      |
| 547.70                             | 0.94                         | (N/A)                       | 0.00                      |
| 547.80                             | 1.73                         | (N/A)                       | 0.00                      |
| 547.90                             | 2.66                         | (N/A)                       | 0.00                      |
| 548.00                             | 3.71                         | (N/A)                       | 0.00                      |
| 548.10                             | 4.88                         | (N/A)                       | 0.00                      |
| 548.20                             | 6.15                         | (N/A)                       | 0.00                      |
| 548.30                             | 7.51                         | (N/A)                       | 0.00                      |
| 548.40                             | 8.97                         | (N/A)                       | 0.00                      |
| 548.50                             | 10.50                        | (N/A)                       | 0.00                      |
| 548.60                             | 12.11                        | (N/A)                       | 0.00                      |
| 548.70                             | 13.80                        | (N/A)                       | 0.00                      |

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 548.80                       | 15.56                     | (N/A)                    | 0.00                   |
| 548.90                       | 17.39                     | (N/A)                    | 0.00                   |
| 549.00                       | 19.29                     | (N/A)                    | 0.00                   |

Computation Messages

```

HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
HW & TW below Inv.El.=547.500
H=.00; Htw=.00; Qfree=.00;
H=.10; Htw=.00; Qfree=.33;
H=.20; Htw=.00; Qfree=.94;
H=.30; Htw=.00; Qfree=1.73;
H=.40; Htw=.00; Qfree=2.66;
H=.50; Htw=.00; Qfree=3.71;
H=.60; Htw=.00; Qfree=4.88;
H=.70; Htw=.00; Qfree=6.15;
H=.80; Htw=.00; Qfree=7.51;
    
```

# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 4

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)

-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.90; Htw=.00; Qfree=8.97;   |
| H=1.00; Htw=.00; Qfree=10.50; |
| H=1.10; Htw=.00; Qfree=12.11; |
| H=1.20; Htw=.00; Qfree=13.80; |
| H=1.30; Htw=.00; Qfree=15.56; |
| H=1.40; Htw=.00; Qfree=17.39; |
| H=1.50; Htw=.00; Qfree=19.29; |

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 4

Return Event: 100 years  
 Storm Event: 100-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 545.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 545.60                       | 0.02                      | (N/A)                    | 0.00                   |
| 545.70                       | 0.07                      | (N/A)                    | 0.00                   |
| 545.80                       | 0.14                      | (N/A)                    | 0.00                   |
| 545.90                       | 0.20                      | (N/A)                    | 0.00                   |
| 546.00                       | 0.24                      | (N/A)                    | 0.00                   |
| 546.10                       | 0.28                      | (N/A)                    | 0.00                   |
| 546.20                       | 0.31                      | (N/A)                    | 0.00                   |
| 546.30                       | 0.33                      | (N/A)                    | 0.00                   |
| 546.40                       | 0.36                      | (N/A)                    | 0.00                   |
| 546.50                       | 0.38                      | (N/A)                    | 0.00                   |
| 546.60                       | 0.41                      | (N/A)                    | 0.00                   |
| 546.70                       | 0.43                      | (N/A)                    | 0.00                   |
| 546.80                       | 0.45                      | (N/A)                    | 0.00                   |
| 546.90                       | 0.47                      | (N/A)                    | 0.00                   |
| 547.00                       | 0.48                      | (N/A)                    | 0.00                   |
| 547.10                       | 0.50                      | (N/A)                    | 0.00                   |
| 547.20                       | 0.52                      | (N/A)                    | 0.00                   |
| 547.30                       | 0.54                      | (N/A)                    | 0.00                   |
| 547.40                       | 0.55                      | (N/A)                    | 0.00                   |
| 547.50                       | 0.57                      | (N/A)                    | 0.00                   |
| 547.60                       | 0.92                      | (N/A)                    | 0.00                   |
| 547.70                       | 1.54                      | (N/A)                    | 0.00                   |
| 547.80                       | 2.34                      | (N/A)                    | 0.00                   |
| 547.90                       | 3.28                      | (N/A)                    | 0.00                   |
| 548.00                       | 4.35                      | (N/A)                    | 0.00                   |
| 548.10                       | 5.54                      | (N/A)                    | 0.00                   |
| 548.20                       | 6.82                      | (N/A)                    | 0.00                   |
| 548.30                       | 8.19                      | (N/A)                    | 0.00                   |
| 548.40                       | 9.66                      | (N/A)                    | 0.00                   |
| 548.50                       | 11.21                     | (N/A)                    | 0.00                   |
| 548.60                       | 12.83                     | (N/A)                    | 0.00                   |
| 548.70                       | 14.53                     | (N/A)                    | 0.00                   |
| 548.80                       | 16.31                     | (N/A)                    | 0.00                   |
| 548.90                       | 18.15                     | (N/A)                    | 0.00                   |
| 549.00                       | 20.06                     | (N/A)                    | 0.00                   |

#### Contributing Structures

None Contributing



## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 563.00 ft |
| Increment (Headwater)                   | 0.10 ft   |
| Maximum (Headwater)                     | 565.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-----------|-----------|---------|------------|------------|
| Rectangular Weir   | Weir - 1  | Forward   | TW      | 563.75     | 565.00     |
| Tailwater Settings | Tailwater |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 5

Return Event: 100 years  
 Storm Event: 100-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 563.75 ft                   |
| Weir Length                                 | 10.50 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 5

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface<br>Elevation<br>(ft) | Flow<br>(ft <sup>3</sup> /s) | Tailwater Elevation<br>(ft) | Convergence Error<br>(ft) |
|------------------------------------|------------------------------|-----------------------------|---------------------------|
| 563.00                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.10                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.20                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.30                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.40                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.50                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.60                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.70                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.75                             | 0.00                         | (N/A)                       | 0.00                      |
| 563.80                             | 0.35                         | (N/A)                       | 0.00                      |
| 563.90                             | 1.83                         | (N/A)                       | 0.00                      |
| 564.00                             | 3.94                         | (N/A)                       | 0.00                      |
| 564.10                             | 6.52                         | (N/A)                       | 0.00                      |
| 564.20                             | 9.51                         | (N/A)                       | 0.00                      |
| 564.30                             | 12.85                        | (N/A)                       | 0.00                      |
| 564.40                             | 16.51                        | (N/A)                       | 0.00                      |
| 564.50                             | 20.46                        | (N/A)                       | 0.00                      |
| 564.60                             | 24.69                        | (N/A)                       | 0.00                      |
| 564.70                             | 29.17                        | (N/A)                       | 0.00                      |
| 564.80                             | 33.89                        | (N/A)                       | 0.00                      |
| 564.90                             | 38.85                        | (N/A)                       | 0.00                      |
| 565.00                             | 44.02                        | (N/A)                       | 0.00                      |

Computation Messages

```

HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
HW & TW below Inv.El.=563.750
H=.00; Htw=.00; Qfree=.00;
H=.05; Htw=.00; Qfree=.35;
H=.15; Htw=.00; Qfree=1.83;
H=.25; Htw=.00; Qfree=3.94;
H=.35; Htw=.00; Qfree=6.52;
H=.45; Htw=.00; Qfree=9.51;
H=.55; Htw=.00; Qfree=12.85;
    
```



# O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
Label: Composite Outlet Structure - 5

Return Event: 100 years  
Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
Structure ID = Weir - 1 (Rectangular Weir)  
-----  
Upstream ID = (Pond Water Surface)  
Downstream ID = Tailwater (Pond Outfall)

| Computation Messages          |
|-------------------------------|
| H=.65; Htw=.00; Qfree=16.51;  |
| H=.75; Htw=.00; Qfree=20.46;  |
| H=.85; Htw=.00; Qfree=24.69;  |
| H=.95; Htw=.00; Qfree=29.17;  |
| H=1.05; Htw=.00; Qfree=33.89; |
| H=1.15; Htw=.00; Qfree=38.85; |
| H=1.25; Htw=.00; Qfree=44.02; |

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 5

Return Event: 100 years  
 Storm Event: 100-year

## Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 563.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.10                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.20                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.30                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.40                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.60                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.70                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.75                       | 0.00                      | (N/A)                    | 0.00                   |
| 563.80                       | 0.35                      | (N/A)                    | 0.00                   |
| 563.90                       | 1.83                      | (N/A)                    | 0.00                   |
| 564.00                       | 3.94                      | (N/A)                    | 0.00                   |
| 564.10                       | 6.52                      | (N/A)                    | 0.00                   |
| 564.20                       | 9.51                      | (N/A)                    | 0.00                   |
| 564.30                       | 12.85                     | (N/A)                    | 0.00                   |
| 564.40                       | 16.51                     | (N/A)                    | 0.00                   |
| 564.50                       | 20.46                     | (N/A)                    | 0.00                   |
| 564.60                       | 24.69                     | (N/A)                    | 0.00                   |
| 564.70                       | 29.17                     | (N/A)                    | 0.00                   |
| 564.80                       | 33.89                     | (N/A)                    | 0.00                   |
| 564.90                       | 38.85                     | (N/A)                    | 0.00                   |
| 565.00                       | 44.02                     | (N/A)                    | 0.00                   |

### Contributing Structures

- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- None Contributing
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1
- Weir - 1

# O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
Label: Composite Outlet Structure - 5

Return Event: 100 years  
Storm Event: 100-year

## Composite Outflow Summary

| Contributing Structures |
|-------------------------|
| Weir - 1                |
| Weir - 1                |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data  
 Label: Composite Outlet Structure - 7

Return Event: 100 years  
 Storm Event: 100-year

| Requested Pond Water Surface Elevations |           |
|---|-----------|
| Minimum (Headwater)                     | 529.00 ft |
| Increment (Headwater)                   | 0.50 ft   |
| Maximum (Headwater)                     | 532.00 ft |

### Outlet Connectivity

| Structure Type     | Outlet ID   | Direction | Outfall | E1<br>(ft) | E2<br>(ft) |
|--------------------|-------------|-----------|---------|------------|------------|
| Orifice-Circular   | Orifice - 1 | Forward   | TW      | 529.00     | 532.00     |
| Rectangular Weir   | Weir - 1    | Forward   | TW      | 531.00     | 532.00     |
| Tailwater Settings | Tailwater   |           |         | (N/A)      | (N/A)      |

## O'Day Park Detention Calculations

Subsection: Outlet Input Data

Return Event: 100 years

Label: Composite Outlet Structure - 7

Storm Event: 100-year

|   |                             |
|---|-----------------------------|
| <b>Structure ID: Orifice - 1</b>            |                             |
| <b>Structure Type: Orifice-Circular</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 529.00 ft                   |
| Orifice Diameter                            | 4.0 in                      |
| Orifice Coefficient                         | 0.600                       |
| <b>Structure ID: Weir - 1</b>               |                             |
| <b>Structure Type: Rectangular Weir</b>     |                             |
| Number of Openings                          | 1                           |
| Elevation                                   | 531.00 ft                   |
| Weir Length                                 | 14.00 ft                    |
| Weir Coefficient                            | 3.00 (ft <sup>0.5</sup> )/s |
| <b>Structure ID: TW</b>                     |                             |
| <b>Structure Type: TW Setup, DS Channel</b> |                             |
| Tailwater Type                              | Free Outfall                |
| <b>Convergence Tolerances</b>               |                             |
| Maximum Iterations                          | 30                          |
| Tailwater Tolerance (Minimum)               | 0.01 ft                     |
| Tailwater Tolerance (Maximum)               | 0.50 ft                     |
| Headwater Tolerance (Minimum)               | 0.01 ft                     |
| Headwater Tolerance (Maximum)               | 0.50 ft                     |
| Flow Tolerance (Minimum)                    | 0.001 ft <sup>3</sup> /s    |
| Flow Tolerance (Maximum)                    | 10.000 ft <sup>3</sup> /s   |

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Orifice - 1 (Orifice-Circular)  
 -----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 0.64                      | (N/A)                    | 0.00                   |
| 532.00                       | 0.71                      | (N/A)                    | 0.00                   |

Computation Messages

Upstream HW & DNstream TW < Inv.El  
 H = .33  
 H = .83  
 H = 1.33  
 H = 1.83  
 H = 2.33  
 H = 2.83

## O'Day Park Detention Calculations

Subsection: Individual Outlet Curves  
 Label: Composite Outlet Structure - 7

Return Event: 100 years  
 Storm Event: 100-year

RATING TABLE FOR ONE OUTLET TYPE  
 Structure ID = Weir - 1 (Rectangular Weir)

-----  
 Upstream ID = (Pond Water Surface)  
 Downstream ID = Tailwater (Pond Outfall)

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 531.50                       | 14.85                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.00                     | (N/A)                    | 0.00                   |

Computation Messages

HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 HW & TW below Inv.El.=531.000  
 H=.00; Htw=.00; Qfree=.00;  
 H=.50; Htw=.00; Qfree=14.85;  
 H=1.00; Htw=.00; Qfree=42.00;

## O'Day Park Detention Calculations

Subsection: Composite Rating Curve  
 Label: Composite Outlet Structure - 7

Return Event: 100 years  
 Storm Event: 100-year

### Composite Outflow Summary

| Water Surface Elevation (ft) | Flow (ft <sup>3</sup> /s) | Tailwater Elevation (ft) | Convergence Error (ft) |
|------------------------------|---------------------------|--------------------------|------------------------|
| 529.00                       | 0.00                      | (N/A)                    | 0.00                   |
| 529.50                       | 0.24                      | (N/A)                    | 0.00                   |
| 530.00                       | 0.38                      | (N/A)                    | 0.00                   |
| 530.50                       | 0.48                      | (N/A)                    | 0.00                   |
| 531.00                       | 0.57                      | (N/A)                    | 0.00                   |
| 531.50                       | 15.49                     | (N/A)                    | 0.00                   |
| 532.00                       | 42.71                     | (N/A)                    | 0.00                   |

#### Contributing Structures

|                        |
|------------------------|
| None Contributing      |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1            |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |
| Orifice - 1 + Weir - 1 |



## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 100 years  
 Storm Event: 100-year

|                   |                          |
|-------------------|--------------------------|
| Peak Discharge    | 10.93 ft <sup>3</sup> /s |
| Time to Peak      | 12.150 hours             |
| Hydrograph Volume | 0.808 ac-ft              |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.950          | 0.00                         | 3.16                         | 8.85                         | 10.40                        | 10.93                        |
| 12.200          | 10.86                        | 10.25                        | 9.25                         | 8.05                         | 6.99                         |
| 12.450          | 5.94                         | 5.05                         | 4.33                         | 3.74                         | 3.26                         |
| 12.700          | 2.86                         | 2.62                         | 2.36                         | 2.12                         | 1.92                         |
| 12.950          | 1.75                         | 1.61                         | 1.49                         | 1.39                         | 1.31                         |
| 13.200          | 1.23                         | 1.17                         | 1.11                         | 1.06                         | 1.01                         |
| 13.450          | 0.97                         | 0.94                         | 0.91                         | 0.88                         | 0.85                         |
| 13.700          | 0.83                         | 0.81                         | 0.78                         | 0.76                         | 0.74                         |
| 13.950          | 0.73                         | 0.71                         | 0.69                         | 0.67                         | 0.66                         |
| 14.200          | 0.64                         | 0.63                         | 0.62                         | 0.60                         | 0.59                         |
| 14.450          | 0.58                         | 0.57                         | 0.57                         | 0.56                         | 0.55                         |
| 14.700          | 0.55                         | 0.54                         | 0.53                         | 0.53                         | 0.52                         |
| 14.950          | 0.52                         | 0.51                         | 0.50                         | 0.50                         | 0.49                         |
| 15.200          | 0.49                         | 0.48                         | 0.48                         | 0.47                         | 0.47                         |
| 15.450          | 0.46                         | 0.46                         | 0.45                         | 0.45                         | 0.44                         |
| 15.700          | 0.43                         | 0.43                         | 0.42                         | 0.42                         | 0.41                         |
| 15.950          | 0.41                         | 0.40                         | 0.40                         | 0.39                         | 0.39                         |
| 16.200          | 0.38                         | 0.38                         | 0.37                         | 0.37                         | 0.36                         |
| 16.450          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.35                         |
| 16.700          | 0.35                         | 0.35                         | 0.34                         | 0.34                         | 0.34                         |
| 16.950          | 0.34                         | 0.33                         | 0.33                         | 0.33                         | 0.33                         |
| 17.200          | 0.33                         | 0.32                         | 0.32                         | 0.32                         | 0.32                         |
| 17.450          | 0.32                         | 0.32                         | 0.31                         | 0.31                         | 0.31                         |
| 17.700          | 0.31                         | 0.31                         | 0.30                         | 0.30                         | 0.30                         |
| 17.950          | 0.30                         | 0.30                         | 0.29                         | 0.29                         | 0.29                         |
| 18.200          | 0.29                         | 0.29                         | 0.28                         | 0.28                         | 0.28                         |
| 18.450          | 0.28                         | 0.28                         | 0.27                         | 0.27                         | 0.27                         |
| 18.700          | 0.27                         | 0.27                         | 0.27                         | 0.26                         | 0.26                         |
| 18.950          | 0.26                         | 0.26                         | 0.26                         | 0.25                         | 0.25                         |
| 19.200          | 0.25                         | 0.25                         | 0.25                         | 0.24                         | 0.24                         |
| 19.450          | 0.24                         | 0.24                         | 0.24                         | 0.23                         | 0.23                         |
| 19.700          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 19.950          | 0.22                         | 0.22                         | 0.22                         | 0.21                         | 0.21                         |
| 20.200          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 20.450          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 20.700          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 20.950          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 21.200          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.19                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1A

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.450          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 21.700          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 21.950          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 22.200          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 22.450          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 22.700          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 22.950          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.200          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.450          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.700          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.950          | 0.18                         | 0.17                         | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.78 ft <sup>3</sup> /s |
| Time to Peak      | 12.750 hours            |
| Hydrograph Volume | 0.891 ac-ft             |

## HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 6.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.650           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.900           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.150           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.400           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 8.650           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.900           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 9.150           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.650           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 9.900           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 10.150          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.400          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 10.650          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.11                         |
| 10.900          | 0.11                         | 0.12                         | 0.12                         | 0.13                         | 0.14                         |
| 11.150          | 0.14                         | 0.15                         | 0.16                         | 0.17                         | 0.18                         |
| 11.400          | 0.19                         | 0.20                         | 0.21                         | 0.23                         | 0.26                         |
| 11.650          | 0.29                         | 0.33                         | 0.37                         | 0.40                         | 0.44                         |
| 11.900          | 0.47                         | 0.50                         | 0.54                         | 0.58                         | 0.63                         |
| 12.150          | 0.67                         | 0.70                         | 0.73                         | 0.76                         | 0.78                         |
| 12.400          | 0.80                         | 0.81                         | 0.82                         | 1.40                         | 2.00                         |
| 12.650          | 2.48                         | 2.71                         | 2.78                         | 2.77                         | 2.68                         |
| 12.900          | 2.56                         | 2.42                         | 2.27                         | 2.13                         | 1.99                         |
| 13.150          | 1.86                         | 1.75                         | 1.66                         | 1.60                         | 1.55                         |
| 13.400          | 1.49                         | 1.43                         | 1.38                         | 1.33                         | 1.28                         |
| 13.650          | 1.24                         | 1.19                         | 1.15                         | 1.12                         | 1.08                         |
| 13.900          | 1.05                         | 1.02                         | 0.99                         | 0.96                         | 0.93                         |
| 14.150          | 0.91                         | 0.88                         | 0.86                         | 0.84                         | 0.82                         |
| 14.400          | 0.82                         | 0.82                         | 0.82                         | 0.82                         | 0.82                         |
| 14.650          | 0.82                         | 0.82                         | 0.82                         | 0.82                         | 0.82                         |
| 14.900          | 0.82                         | 0.82                         | 0.82                         | 0.82                         | 0.82                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet1B

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 15.150          | 0.82                         | 0.82                         | 0.81                         | 0.81                         | 0.81                         |
| 15.400          | 0.81                         | 0.81                         | 0.81                         | 0.81                         | 0.81                         |
| 15.650          | 0.81                         | 0.81                         | 0.81                         | 0.81                         | 0.81                         |
| 15.900          | 0.81                         | 0.81                         | 0.81                         | 0.80                         | 0.80                         |
| 16.150          | 0.80                         | 0.80                         | 0.80                         | 0.80                         | 0.80                         |
| 16.400          | 0.80                         | 0.80                         | 0.80                         | 0.80                         | 0.79                         |
| 16.650          | 0.79                         | 0.79                         | 0.79                         | 0.79                         | 0.79                         |
| 16.900          | 0.79                         | 0.79                         | 0.79                         | 0.79                         | 0.79                         |
| 17.150          | 0.78                         | 0.78                         | 0.78                         | 0.78                         | 0.78                         |
| 17.400          | 0.78                         | 0.78                         | 0.78                         | 0.78                         | 0.78                         |
| 17.650          | 0.78                         | 0.77                         | 0.77                         | 0.77                         | 0.77                         |
| 17.900          | 0.77                         | 0.77                         | 0.77                         | 0.77                         | 0.77                         |
| 18.150          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.76                         |
| 18.400          | 0.76                         | 0.76                         | 0.76                         | 0.76                         | 0.75                         |
| 18.650          | 0.75                         | 0.75                         | 0.75                         | 0.75                         | 0.75                         |
| 18.900          | 0.75                         | 0.75                         | 0.75                         | 0.74                         | 0.74                         |
| 19.150          | 0.74                         | 0.74                         | 0.74                         | 0.74                         | 0.74                         |
| 19.400          | 0.74                         | 0.73                         | 0.73                         | 0.73                         | 0.73                         |
| 19.650          | 0.73                         | 0.73                         | 0.73                         | 0.73                         | 0.72                         |
| 19.900          | 0.72                         | 0.72                         | 0.72                         | 0.72                         | 0.72                         |
| 20.150          | 0.72                         | 0.72                         | 0.71                         | 0.71                         | 0.71                         |
| 20.400          | 0.71                         | 0.71                         | 0.71                         | 0.71                         | 0.70                         |
| 20.650          | 0.70                         | 0.70                         | 0.70                         | 0.70                         | 0.70                         |
| 20.900          | 0.70                         | 0.69                         | 0.69                         | 0.69                         | 0.69                         |
| 21.150          | 0.69                         | 0.69                         | 0.69                         | 0.68                         | 0.68                         |
| 21.400          | 0.68                         | 0.68                         | 0.68                         | 0.68                         | 0.68                         |
| 21.650          | 0.67                         | 0.67                         | 0.67                         | 0.67                         | 0.67                         |
| 21.900          | 0.67                         | 0.67                         | 0.66                         | 0.66                         | 0.66                         |
| 22.150          | 0.66                         | 0.66                         | 0.66                         | 0.65                         | 0.65                         |
| 22.400          | 0.65                         | 0.65                         | 0.65                         | 0.65                         | 0.64                         |
| 22.650          | 0.64                         | 0.64                         | 0.64                         | 0.64                         | 0.64                         |
| 22.900          | 0.64                         | 0.63                         | 0.63                         | 0.63                         | 0.63                         |
| 23.150          | 0.63                         | 0.63                         | 0.62                         | 0.62                         | 0.62                         |
| 23.400          | 0.62                         | 0.62                         | 0.62                         | 0.61                         | 0.61                         |
| 23.650          | 0.61                         | 0.61                         | 0.61                         | 0.60                         | 0.60                         |
| 23.900          | 0.60                         | 0.60                         | 0.60                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.03 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours            |
| Hydrograph Volume | 0.228 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.650           | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.03                         |
| 6.900           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.150           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.400           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.650           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.900           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.150           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 8.400           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.650           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 8.900           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 9.150           | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 9.400           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.650           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 9.900           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 10.150          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.12                         |
| 10.400          | 0.13                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 10.650          | 0.15                         | 0.15                         | 0.16                         | 0.16                         | 0.17                         |
| 10.900          | 0.17                         | 0.18                         | 0.19                         | 0.19                         | 0.20                         |
| 11.150          | 0.22                         | 0.23                         | 0.24                         | 0.26                         | 0.27                         |
| 11.400          | 0.29                         | 0.30                         | 0.32                         | 0.36                         | 0.47                         |
| 11.650          | 0.64                         | 0.89                         | 1.04                         | 1.21                         | 1.42                         |
| 11.900          | 1.66                         | 1.86                         | 1.98                         | 2.03                         | 1.99                         |
| 12.150          | 1.91                         | 1.80                         | 1.68                         | 1.55                         | 1.42                         |
| 12.400          | 1.28                         | 1.13                         | 0.97                         | 0.72                         | 0.51                         |
| 12.650          | 0.39                         | 0.32                         | 0.29                         | 0.26                         | 0.25                         |
| 12.900          | 0.24                         | 0.23                         | 0.22                         | 0.21                         | 0.20                         |
| 13.150          | 0.20                         | 0.19                         | 0.19                         | 0.18                         | 0.18                         |
| 13.400          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 13.650          | 0.15                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 13.900          | 0.14                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 14.150          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 14.400          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 14.650          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.900          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 15.150          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.400          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.650          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.900          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet2

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 16.150          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.400          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.650          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.900          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 17.150          | 0.07                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.400          | 0.06                         | 0.06                         | 0.05                         | 0.05                         | 0.05                         |
| 18.650          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.900          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.150          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.400          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.650          | 0.05                         | 0.05                         | 0.04                         | 0.04                         | 0.04                         |
| 19.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.900          | 0.04                         | 0.04                         | 0.04                         | (N/A)                        | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 3.25 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.321 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.800           | 0.00                         | 0.01                         | 0.04                         | 0.05                         | 0.06                         |
| 9.050           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 9.300           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 9.550           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.800           | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 10.050          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 10.300          | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 10.550          | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 10.800          | 0.16                         | 0.17                         | 0.17                         | 0.18                         | 0.19                         |
| 11.050          | 0.19                         | 0.20                         | 0.21                         | 0.22                         | 0.23                         |
| 11.300          | 0.24                         | 0.25                         | 0.26                         | 0.28                         | 0.29                         |
| 11.550          | 0.31                         | 0.33                         | 0.36                         | 0.43                         | 0.53                         |
| 11.800          | 0.66                         | 0.86                         | 1.14                         | 1.52                         | 1.94                         |
| 12.050          | 2.41                         | 2.81                         | 3.11                         | 3.25                         | 3.19                         |
| 12.300          | 3.01                         | 2.75                         | 2.43                         | 2.11                         | 1.82                         |
| 12.550          | 1.58                         | 1.37                         | 1.20                         | 1.05                         | 0.94                         |
| 12.800          | 0.84                         | 0.75                         | 0.68                         | 0.62                         | 0.56                         |
| 13.050          | 0.52                         | 0.48                         | 0.45                         | 0.42                         | 0.40                         |
| 13.300          | 0.38                         | 0.36                         | 0.35                         | 0.34                         | 0.32                         |
| 13.550          | 0.31                         | 0.30                         | 0.29                         | 0.28                         | 0.27                         |
| 13.800          | 0.26                         | 0.26                         | 0.25                         | 0.24                         | 0.24                         |
| 14.050          | 0.23                         | 0.22                         | 0.22                         | 0.21                         | 0.21                         |
| 14.300          | 0.20                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 14.550          | 0.19                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 14.800          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 15.050          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 15.300          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 15.550          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 15.800          | 0.14                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 16.050          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 16.300          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.550          | 0.12                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.800          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 17.050          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 17.300          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.550          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.800          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 18.050          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet3

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 18.300          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.550          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.800          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 19.050          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 19.300          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 19.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.07                         |
| 19.800          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.050          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.300          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.550          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 20.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |



## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.14 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.167 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 7.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.400           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.650           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.900           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.150           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 8.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.650           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 8.900           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.150           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 9.400           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.650           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.900           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.150          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.400          | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 10.650          | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 10.900          | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 11.150          | 0.14                         | 0.14                         | 0.15                         | 0.16                         | 0.16                         |
| 11.400          | 0.17                         | 0.18                         | 0.19                         | 0.20                         | 0.22                         |
| 11.650          | 0.25                         | 0.29                         | 0.33                         | 0.38                         | 0.43                         |
| 11.900          | 0.49                         | 0.54                         | 0.63                         | 1.12                         | 1.14                         |
| 12.150          | 0.89                         | 0.76                         | 0.64                         | 0.57                         | 0.56                         |
| 12.400          | 0.56                         | 0.55                         | 0.55                         | 0.54                         | 0.54                         |
| 12.650          | 0.53                         | 0.52                         | 0.52                         | 0.51                         | 0.50                         |
| 12.900          | 0.50                         | 0.49                         | 0.48                         | 0.47                         | 0.47                         |
| 13.150          | 0.46                         | 0.45                         | 0.44                         | 0.43                         | 0.42                         |
| 13.400          | 0.41                         | 0.40                         | 0.39                         | 0.38                         | 0.37                         |
| 13.650          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 13.900          | 0.31                         | 0.30                         | 0.28                         | 0.27                         | 0.26                         |
| 14.150          | 0.25                         | 0.24                         | 0.23                         | 0.21                         | 0.20                         |
| 14.400          | 0.19                         | 0.17                         | 0.16                         | 0.15                         | 0.14                         |
| 14.650          | 0.13                         | 0.12                         | 0.12                         | 0.11                         | 0.10                         |
| 14.900          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 15.150          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.400          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.650          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 15.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet4

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.05                      |
| 16.650       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.900       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.150       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.400       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.650       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.900       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.04                      |
| 18.150       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.400       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.650       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.900       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.150       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.400       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.650       | 0.04                      | 0.04                      | 0.04                      | 0.03                      | 0.03                      |
| 19.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.900       | 0.03                      | 0.03                      | 0.03                      | (N/A)                     | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 7.83 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.448 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.350           | 0.00                         | 0.05                         | 0.08                         | 0.10                         | 0.11                         |
| 8.600           | 0.12                         | 0.13                         | 0.13                         | 0.13                         | 0.14                         |
| 8.850           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.15                         |
| 9.100           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 9.350           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 9.600           | 0.17                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 9.850           | 0.19                         | 0.19                         | 0.19                         | 0.20                         | 0.20                         |
| 10.100          | 0.21                         | 0.22                         | 0.22                         | 0.23                         | 0.24                         |
| 10.350          | 0.24                         | 0.25                         | 0.26                         | 0.27                         | 0.27                         |
| 10.600          | 0.28                         | 0.29                         | 0.30                         | 0.31                         | 0.33                         |
| 10.850          | 0.34                         | 0.35                         | 0.37                         | 0.38                         | 0.40                         |
| 11.100          | 0.42                         | 0.44                         | 0.47                         | 0.50                         | 0.53                         |
| 11.350          | 0.56                         | 0.59                         | 0.62                         | 0.65                         | 0.77                         |
| 11.600          | 1.05                         | 1.48                         | 2.15                         | 2.99                         | 3.88                         |
| 11.850          | 5.23                         | 7.05                         | 7.83                         | 7.03                         | 5.46                         |
| 12.100          | 3.31                         | 1.84                         | 1.38                         | 1.15                         | 1.03                         |
| 12.350          | 0.94                         | 0.87                         | 0.79                         | 0.72                         | 0.65                         |
| 12.600          | 0.60                         | 0.56                         | 0.54                         | 0.52                         | 0.50                         |
| 12.850          | 0.48                         | 0.46                         | 0.45                         | 0.43                         | 0.42                         |
| 13.100          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.350          | 0.35                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 13.600          | 0.31                         | 0.31                         | 0.30                         | 0.29                         | 0.29                         |
| 13.850          | 0.28                         | 0.27                         | 0.27                         | 0.26                         | 0.25                         |
| 14.100          | 0.25                         | 0.24                         | 0.24                         | 0.24                         | 0.23                         |
| 14.350          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 14.600          | 0.22                         | 0.22                         | 0.22                         | 0.21                         | 0.21                         |
| 14.850          | 0.21                         | 0.21                         | 0.20                         | 0.20                         | 0.20                         |
| 15.100          | 0.20                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 15.350          | 0.19                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 15.600          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 15.850          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.15                         |
| 16.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 16.350          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 16.600          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 16.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.13                         |
| 17.100          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 17.350          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 17.600          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet5

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 17.850          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 18.100          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 18.350          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 18.600          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 18.850          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 19.100          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 19.350          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.09                         |
| 19.600          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 19.850          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 20.100          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 20.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 20.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 20.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 21.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 21.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 21.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 21.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.100          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.350          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.600          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 22.850          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 23.100          | 0.08                         | 0.08                         | 0.07                         | 0.07                         | 0.07                         |
| 23.350          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 23.600          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 23.850          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | (N/A)                        |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 100 years  
 Storm Event: 100-year

|                   |                          |
|-------------------|--------------------------|
| Peak Discharge    | 12.44 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours             |
| Hydrograph Volume | 0.955 ac-ft              |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.350           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.02                         |
| 5.850           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.350           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.600           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 6.850           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 7.100           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 7.350           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 7.600           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 7.850           | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 8.100           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 8.350           | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 8.600           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.15                         |
| 8.850           | 0.16                         | 0.16                         | 0.17                         | 0.18                         | 0.18                         |
| 9.100           | 0.19                         | 0.19                         | 0.20                         | 0.20                         | 0.20                         |
| 9.350           | 0.21                         | 0.21                         | 0.22                         | 0.22                         | 0.22                         |
| 9.600           | 0.23                         | 0.23                         | 0.24                         | 0.24                         | 0.24                         |
| 9.850           | 0.24                         | 0.24                         | 0.25                         | 0.25                         | 0.25                         |
| 10.100          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 10.350          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 10.600          | 0.27                         | 0.27                         | 0.27                         | 0.28                         | 0.28                         |
| 10.850          | 0.28                         | 0.29                         | 0.29                         | 0.30                         | 0.30                         |
| 11.100          | 0.31                         | 0.31                         | 0.32                         | 0.32                         | 0.33                         |
| 11.350          | 0.34                         | 0.35                         | 0.36                         | 0.37                         | 0.38                         |
| 11.600          | 0.39                         | 0.40                         | 0.42                         | 0.45                         | 0.48                         |
| 11.850          | 0.52                         | 0.63                         | 8.11                         | 11.82                        | 12.44                        |
| 12.100          | 10.53                        | 7.87                         | 5.88                         | 4.56                         | 3.70                         |
| 12.350          | 3.12                         | 2.70                         | 2.39                         | 2.12                         | 1.91                         |
| 12.600          | 1.73                         | 1.58                         | 1.48                         | 1.40                         | 1.34                         |
| 12.850          | 1.28                         | 1.23                         | 1.19                         | 1.14                         | 1.10                         |
| 13.100          | 1.06                         | 1.03                         | 1.00                         | 0.97                         | 0.94                         |
| 13.350          | 0.92                         | 0.90                         | 0.87                         | 0.85                         | 0.83                         |
| 13.600          | 0.81                         | 0.79                         | 0.77                         | 0.75                         | 0.73                         |
| 13.850          | 0.72                         | 0.70                         | 0.68                         | 0.67                         | 0.65                         |
| 14.100          | 0.64                         | 0.63                         | 0.62                         | 0.61                         | 0.60                         |
| 14.350          | 0.59                         | 0.59                         | 0.58                         | 0.58                         | 0.57                         |

## O'Day Park Detention Calculations

Subsection: Diverted Hydrograph  
 Label: Outlet7

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.600       | 0.57                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 14.850       | 0.57                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 15.100       | 0.57                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 15.350       | 0.57                      | 0.57                      | 0.57                      | 0.56                      | 0.56                      |
| 15.600       | 0.56                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 15.850       | 0.56                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 16.100       | 0.56                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 16.350       | 0.56                      | 0.56                      | 0.56                      | 0.55                      | 0.55                      |
| 16.600       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 16.850       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 17.100       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.54                      |
| 17.350       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 17.600       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 17.850       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.53                      |
| 18.100       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 18.350       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 18.600       | 0.53                      | 0.53                      | 0.52                      | 0.52                      | 0.52                      |
| 18.850       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 19.100       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.51                      |
| 19.350       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 19.600       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 19.850       | 0.51                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 20.100       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 20.350       | 0.50                      | 0.50                      | 0.49                      | 0.49                      | 0.49                      |
| 20.600       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 20.850       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.48                      |
| 21.100       | 0.48                      | 0.48                      | 0.48                      | 0.48                      | 0.48                      |
| 21.350       | 0.48                      | 0.48                      | 0.48                      | 0.47                      | 0.47                      |
| 21.600       | 0.47                      | 0.47                      | 0.47                      | 0.47                      | 0.47                      |
| 21.850       | 0.47                      | 0.47                      | 0.46                      | 0.46                      | 0.46                      |
| 22.100       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 22.350       | 0.46                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 22.600       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 22.850       | 0.45                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 23.100       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 23.350       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 23.600       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 23.850       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | (N/A)                     |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond1A

Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 533.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.00                         | 0.000           | 0.064        | 0.00                              | 0.00                              | 0.00                          |
| 533.10         | 0.00                         | 0.006           | 0.066        | 0.00                              | 0.00                              | 3.13                          |
| 533.20         | 0.00                         | 0.013           | 0.067        | 0.00                              | 0.00                              | 6.34                          |
| 533.30         | 0.00                         | 0.020           | 0.069        | 0.00                              | 0.00                              | 9.63                          |
| 533.40         | 0.00                         | 0.027           | 0.070        | 0.00                              | 0.00                              | 12.98                         |
| 533.50         | 0.00                         | 0.034           | 0.072        | 0.00                              | 0.00                              | 16.42                         |
| 533.60         | 0.00                         | 0.041           | 0.073        | 0.00                              | 0.00                              | 19.93                         |
| 533.70         | 0.00                         | 0.049           | 0.075        | 0.00                              | 0.00                              | 23.52                         |
| 533.80         | 0.00                         | 0.056           | 0.077        | 0.00                              | 0.00                              | 27.19                         |
| 533.90         | 0.00                         | 0.064           | 0.078        | 0.00                              | 0.00                              | 30.94                         |
| 534.00         | 0.00                         | 0.072           | 0.080        | 0.00                              | 0.00                              | 34.78                         |
| 534.10         | 0.00                         | 0.080           | 0.082        | 0.00                              | 0.00                              | 38.69                         |
| 534.20         | 0.00                         | 0.088           | 0.083        | 0.00                              | 0.00                              | 42.69                         |
| 534.30         | 0.00                         | 0.097           | 0.085        | 0.00                              | 0.00                              | 46.77                         |
| 534.40         | 0.00                         | 0.105           | 0.087        | 0.00                              | 0.00                              | 50.94                         |
| 534.50         | 0.00                         | 0.114           | 0.089        | 0.00                              | 0.00                              | 55.19                         |
| 534.60         | 0.00                         | 0.123           | 0.091        | 0.00                              | 0.00                              | 59.53                         |
| 534.70         | 0.00                         | 0.132           | 0.092        | 0.00                              | 0.00                              | 63.96                         |
| 534.80         | 0.00                         | 0.141           | 0.094        | 0.00                              | 0.00                              | 68.47                         |
| 534.90         | 0.00                         | 0.151           | 0.096        | 0.00                              | 0.00                              | 73.08                         |
| 535.00         | 0.00                         | 0.161           | 0.098        | 0.00                              | 0.00                              | 77.78                         |
| 535.10         | 0.00                         | 0.171           | 0.100        | 0.00                              | 0.00                              | 82.57                         |
| 535.20         | 0.00                         | 0.181           | 0.102        | 0.00                              | 0.00                              | 87.44                         |
| 535.30         | 0.00                         | 0.191           | 0.104        | 0.00                              | 0.00                              | 92.41                         |
| 535.40         | 0.00                         | 0.201           | 0.105        | 0.00                              | 0.00                              | 97.46                         |
| 535.50         | 0.00                         | 0.212           | 0.107        | 0.00                              | 0.00                              | 102.61                        |
| 535.60         | 0.00                         | 0.223           | 0.109        | 0.00                              | 0.00                              | 107.85                        |
| 535.70         | 0.00                         | 0.234           | 0.111        | 0.00                              | 0.00                              | 113.18                        |
| 535.80         | 0.00                         | 0.245           | 0.113        | 0.00                              | 0.00                              | 118.61                        |
| 535.90         | 0.00                         | 0.256           | 0.115        | 0.00                              | 0.00                              | 124.13                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond1A

Storm Event: 100-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 536.00            | 0.00                            | 0.268              | 0.117           | 0.00                                 | 0.00                                 | 129.74                           |
| 536.10            | 2.85                            | 0.280              | 0.119           | 0.00                                 | 2.85                                 | 138.30                           |
| 536.20            | 8.05                            | 0.292              | 0.121           | 0.00                                 | 8.05                                 | 149.31                           |
| 536.30            | 14.79                           | 0.304              | 0.123           | 0.00                                 | 14.79                                | 161.96                           |
| 536.40            | 22.77                           | 0.316              | 0.125           | 0.00                                 | 22.77                                | 175.95                           |
| 536.50            | 31.82                           | 0.329              | 0.127           | 0.00                                 | 31.82                                | 191.11                           |
| 536.60            | 41.83                           | 0.342              | 0.129           | 0.00                                 | 41.83                                | 207.33                           |
| 536.70            | 52.71                           | 0.355              | 0.132           | 0.00                                 | 52.71                                | 224.53                           |
| 536.80            | 64.40                           | 0.368              | 0.134           | 0.00                                 | 64.40                                | 242.63                           |
| 536.90            | 76.84                           | 0.382              | 0.136           | 0.00                                 | 76.84                                | 261.60                           |
| 537.00            | 90.00                           | 0.395              | 0.138           | 0.00                                 | 90.00                                | 281.38                           |



## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1A (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                          |                             |              |
|------------------------------------|--------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration          |                             |              |
| Initial Conditions                 |                          |                             |              |
| Elevation (Water Surface, Initial) | 533.00 ft                |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Time Increment                     | 0.050 hours              |                             |              |
| Inflow/Outflow Hydrograph Summary  |                          |                             |              |
| Flow (Peak In)                     | 11.03 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 10.93 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.150 hours |
| Peak Conditions                    |                          |                             |              |
| Elevation (Water Surface, Peak)    | 536.24 ft                |                             |              |
| Volume (Peak)                      | 0.297 ac-ft              |                             |              |
| Mass Balance (ac-ft)               |                          |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Volume (Total Inflow)              | 1.077 ac-ft              |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft              |                             |              |
| Volume (Total Outlet Outflow)      | 0.808 ac-ft              |                             |              |
| Volume (Retained)                  | 0.268 ac-ft              |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft              |                             |              |
| Error (Mass Balance)               | 0.0 %                    |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                          |
|-------------------|--------------------------|
| Peak Discharge    | 10.93 ft <sup>3</sup> /s |
| Time to Peak      | 12.150 hours             |
| Hydrograph Volume | 0.808 ac-ft              |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 11.950          | 0.00                         | 3.16                         | 8.85                         | 10.40                        | 10.93                        |
| 12.200          | 10.86                        | 10.25                        | 9.25                         | 8.05                         | 6.99                         |
| 12.450          | 5.94                         | 5.05                         | 4.33                         | 3.74                         | 3.26                         |
| 12.700          | 2.86                         | 2.62                         | 2.36                         | 2.12                         | 1.92                         |
| 12.950          | 1.75                         | 1.61                         | 1.49                         | 1.39                         | 1.31                         |
| 13.200          | 1.23                         | 1.17                         | 1.11                         | 1.06                         | 1.01                         |
| 13.450          | 0.97                         | 0.94                         | 0.91                         | 0.88                         | 0.85                         |
| 13.700          | 0.83                         | 0.81                         | 0.78                         | 0.76                         | 0.74                         |
| 13.950          | 0.73                         | 0.71                         | 0.69                         | 0.67                         | 0.66                         |
| 14.200          | 0.64                         | 0.63                         | 0.62                         | 0.60                         | 0.59                         |
| 14.450          | 0.58                         | 0.57                         | 0.57                         | 0.56                         | 0.55                         |
| 14.700          | 0.55                         | 0.54                         | 0.53                         | 0.53                         | 0.52                         |
| 14.950          | 0.52                         | 0.51                         | 0.50                         | 0.50                         | 0.49                         |
| 15.200          | 0.49                         | 0.48                         | 0.48                         | 0.47                         | 0.47                         |
| 15.450          | 0.46                         | 0.46                         | 0.45                         | 0.45                         | 0.44                         |
| 15.700          | 0.43                         | 0.43                         | 0.42                         | 0.42                         | 0.41                         |
| 15.950          | 0.41                         | 0.40                         | 0.40                         | 0.39                         | 0.39                         |
| 16.200          | 0.38                         | 0.38                         | 0.37                         | 0.37                         | 0.36                         |
| 16.450          | 0.36                         | 0.36                         | 0.35                         | 0.35                         | 0.35                         |
| 16.700          | 0.35                         | 0.35                         | 0.34                         | 0.34                         | 0.34                         |
| 16.950          | 0.34                         | 0.33                         | 0.33                         | 0.33                         | 0.33                         |
| 17.200          | 0.33                         | 0.32                         | 0.32                         | 0.32                         | 0.32                         |
| 17.450          | 0.32                         | 0.32                         | 0.31                         | 0.31                         | 0.31                         |
| 17.700          | 0.31                         | 0.31                         | 0.30                         | 0.30                         | 0.30                         |
| 17.950          | 0.30                         | 0.30                         | 0.29                         | 0.29                         | 0.29                         |
| 18.200          | 0.29                         | 0.29                         | 0.28                         | 0.28                         | 0.28                         |
| 18.450          | 0.28                         | 0.28                         | 0.27                         | 0.27                         | 0.27                         |
| 18.700          | 0.27                         | 0.27                         | 0.27                         | 0.26                         | 0.26                         |
| 18.950          | 0.26                         | 0.26                         | 0.26                         | 0.25                         | 0.25                         |
| 19.200          | 0.25                         | 0.25                         | 0.25                         | 0.24                         | 0.24                         |
| 19.450          | 0.24                         | 0.24                         | 0.24                         | 0.23                         | 0.23                         |
| 19.700          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 19.950          | 0.22                         | 0.22                         | 0.22                         | 0.21                         | 0.21                         |
| 20.200          | 0.21                         | 0.21                         | 0.21                         | 0.21                         | 0.21                         |
| 20.450          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 20.700          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 20.950          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.20                         |
| 21.200          | 0.20                         | 0.20                         | 0.20                         | 0.20                         | 0.19                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1A (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 21.450          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 21.700          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 21.950          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 22.200          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 22.450          | 0.19                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 22.700          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 22.950          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.200          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.450          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.700          | 0.18                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 23.950          | 0.18                         | 0.17                         | (N/A)                        | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1A (IN)

Return Event: 100 years

Storm Event: 100-year

## Summary for Hydrograph Addition at 'Pond1A'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin1A       |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin1A | 1.077          | 12.150               | 11.03                            |
| Flow (In)   | Pond1A  | 1.077          | 12.150               | 11.03                            |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)  
 Label: Pond1B

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 530.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 530.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 530.10         | 0.02                         | 0.000           | 0.000        | 0.00                              | 0.02                              | 0.02                          |
| 530.20         | 0.07                         | 0.000           | 0.001        | 0.00                              | 0.07                              | 0.11                          |
| 530.30         | 0.14                         | 0.000           | 0.003        | 0.00                              | 0.14                              | 0.28                          |
| 530.40         | 0.20                         | 0.001           | 0.005        | 0.00                              | 0.20                              | 0.53                          |
| 530.50         | 0.24                         | 0.001           | 0.008        | 0.00                              | 0.24                              | 0.87                          |
| 530.60         | 0.28                         | 0.002           | 0.011        | 0.00                              | 0.28                              | 1.37                          |
| 530.70         | 0.31                         | 0.004           | 0.015        | 0.00                              | 0.31                              | 2.04                          |
| 530.80         | 0.33                         | 0.005           | 0.020        | 0.00                              | 0.33                              | 2.92                          |
| 530.90         | 0.36                         | 0.008           | 0.025        | 0.00                              | 0.36                              | 4.04                          |
| 531.00         | 0.38                         | 0.010           | 0.031        | 0.00                              | 0.38                              | 5.43                          |
| 531.10         | 0.41                         | 0.014           | 0.038        | 0.00                              | 0.41                              | 7.12                          |
| 531.20         | 0.43                         | 0.018           | 0.045        | 0.00                              | 0.43                              | 9.14                          |
| 531.30         | 0.45                         | 0.023           | 0.053        | 0.00                              | 0.45                              | 11.52                         |
| 531.40         | 0.47                         | 0.029           | 0.061        | 0.00                              | 0.47                              | 14.30                         |
| 531.50         | 0.48                         | 0.035           | 0.070        | 0.00                              | 0.48                              | 17.50                         |
| 531.60         | 0.50                         | 0.043           | 0.080        | 0.00                              | 0.50                              | 21.15                         |
| 531.70         | 0.52                         | 0.051           | 0.090        | 0.00                              | 0.52                              | 25.29                         |
| 531.80         | 0.54                         | 0.061           | 0.101        | 0.00                              | 0.54                              | 29.94                         |
| 531.90         | 0.55                         | 0.071           | 0.113        | 0.00                              | 0.55                              | 35.13                         |
| 532.00         | 0.57                         | 0.083           | 0.125        | 0.00                              | 0.57                              | 40.90                         |
| 532.10         | 0.58                         | 0.096           | 0.130        | 0.00                              | 0.58                              | 47.08                         |
| 532.20         | 0.60                         | 0.109           | 0.134        | 0.00                              | 0.60                              | 53.47                         |
| 532.30         | 0.61                         | 0.123           | 0.139        | 0.00                              | 0.61                              | 60.09                         |
| 532.40         | 0.63                         | 0.137           | 0.144        | 0.00                              | 0.63                              | 66.94                         |
| 532.50         | 0.64                         | 0.152           | 0.148        | 0.00                              | 0.64                              | 74.03                         |
| 532.60         | 0.66                         | 0.167           | 0.153        | 0.00                              | 0.66                              | 81.35                         |
| 532.70         | 0.67                         | 0.182           | 0.158        | 0.00                              | 0.67                              | 88.91                         |
| 532.80         | 0.68                         | 0.198           | 0.164        | 0.00                              | 0.68                              | 96.71                         |
| 532.90         | 0.69                         | 0.215           | 0.169        | 0.00                              | 0.69                              | 104.77                        |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond1B

Storm Event: 100-year

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 533.00         | 0.71                         | 0.232           | 0.174        | 0.00                              | 0.71                              | 113.07                        |
| 533.10         | 0.72                         | 0.250           | 0.177        | 0.00                              | 0.72                              | 121.57                        |
| 533.20         | 0.73                         | 0.267           | 0.179        | 0.00                              | 0.73                              | 130.18                        |
| 533.30         | 0.74                         | 0.285           | 0.182        | 0.00                              | 0.74                              | 138.92                        |
| 533.40         | 0.76                         | 0.304           | 0.184        | 0.00                              | 0.76                              | 147.79                        |
| 533.50         | 0.77                         | 0.322           | 0.187        | 0.00                              | 0.77                              | 156.78                        |
| 533.60         | 0.78                         | 0.341           | 0.189        | 0.00                              | 0.78                              | 165.89                        |
| 533.70         | 0.79                         | 0.360           | 0.192        | 0.00                              | 0.79                              | 175.13                        |
| 533.80         | 0.80                         | 0.380           | 0.195        | 0.00                              | 0.80                              | 184.50                        |
| 533.90         | 0.81                         | 0.399           | 0.197        | 0.00                              | 0.81                              | 194.00                        |
| 534.00         | 0.82                         | 0.419           | 0.200        | 0.00                              | 0.82                              | 203.62                        |
| 534.10         | 1.69                         | 0.439           | 0.203        | 0.00                              | 1.69                              | 214.23                        |
| 534.20         | 3.26                         | 0.460           | 0.205        | 0.00                              | 3.26                              | 225.68                        |
| 534.30         | 5.29                         | 0.480           | 0.208        | 0.00                              | 5.29                              | 237.72                        |
| 534.40         | 7.69                         | 0.501           | 0.211        | 0.00                              | 7.69                              | 250.27                        |
| 534.50         | 10.42                        | 0.522           | 0.214        | 0.00                              | 10.42                             | 263.28                        |
| 534.60         | 13.43                        | 0.544           | 0.217        | 0.00                              | 13.43                             | 276.70                        |
| 534.70         | 16.71                        | 0.566           | 0.219        | 0.00                              | 16.71                             | 290.53                        |
| 534.80         | 20.22                        | 0.588           | 0.222        | 0.00                              | 20.22                             | 304.73                        |
| 534.90         | 23.97                        | 0.610           | 0.225        | 0.00                              | 23.97                             | 319.30                        |
| 535.00         | 27.92                        | 0.633           | 0.228        | 0.00                              | 27.92                             | 334.23                        |
| 535.10         | 32.08                        | 0.656           | 0.231        | 0.00                              | 32.08                             | 349.49                        |
| 535.20         | 36.43                        | 0.679           | 0.234        | 0.00                              | 36.43                             | 365.08                        |
| 535.30         | 40.97                        | 0.703           | 0.237        | 0.00                              | 40.97                             | 381.00                        |
| 535.40         | 45.69                        | 0.726           | 0.239        | 0.00                              | 45.69                             | 397.23                        |
| 535.50         | 50.57                        | 0.750           | 0.242        | 0.00                              | 50.57                             | 413.77                        |
| 535.60         | 55.62                        | 0.775           | 0.245        | 0.00                              | 55.62                             | 430.62                        |
| 535.70         | 60.83                        | 0.799           | 0.248        | 0.00                              | 60.83                             | 447.77                        |
| 535.80         | 66.20                        | 0.824           | 0.251        | 0.00                              | 66.20                             | 465.21                        |
| 535.90         | 71.72                        | 0.850           | 0.254        | 0.00                              | 71.72                             | 482.95                        |
| 536.00         | 77.38                        | 0.875           | 0.257        | 0.00                              | 77.38                             | 500.98                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond1B (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                          |                             |              |
|------------------------------------|--------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration          |                             |              |
| Initial Conditions                 |                          |                             |              |
| Elevation (Water Surface, Initial) | 530.00 ft                |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Time Increment                     | 0.050 hours              |                             |              |
| Inflow/Outflow Hydrograph Summary  |                          |                             |              |
| Flow (Peak In)                     | 11.54 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 2.78 ft <sup>3</sup> /s  | Time to Peak (Flow, Outlet) | 12.750 hours |
| Peak Conditions                    |                          |                             |              |
| Elevation (Water Surface, Peak)    | 534.17 ft                |                             |              |
| Volume (Peak)                      | 0.453 ac-ft              |                             |              |
| Mass Balance (ac-ft)               |                          |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Volume (Total Inflow)              | 0.999 ac-ft              |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft              |                             |              |
| Volume (Total Outlet Outflow)      | 0.891 ac-ft              |                             |              |
| Volume (Retained)                  | 0.106 ac-ft              |                             |              |
| Volume (Unrouted)                  | -0.003 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.3 %                    |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.78 ft <sup>3</sup> /s |
| Time to Peak      | 12.750 hours            |
| Hydrograph Volume | 0.891 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.650           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 6.150           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 6.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.650           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 6.900           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.400           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.650           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.900           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.150           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 8.400           | 0.02                         | 0.02                         | 0.02                         | 0.03                         | 0.03                         |
| 8.650           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.900           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 9.150           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 9.650           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 9.900           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 10.150          | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 10.400          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 10.650          | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.11                         |
| 10.900          | 0.11                         | 0.12                         | 0.12                         | 0.13                         | 0.14                         |
| 11.150          | 0.14                         | 0.15                         | 0.16                         | 0.17                         | 0.18                         |
| 11.400          | 0.19                         | 0.20                         | 0.21                         | 0.23                         | 0.26                         |
| 11.650          | 0.29                         | 0.33                         | 0.37                         | 0.40                         | 0.44                         |
| 11.900          | 0.47                         | 0.50                         | 0.54                         | 0.58                         | 0.63                         |
| 12.150          | 0.67                         | 0.70                         | 0.73                         | 0.76                         | 0.78                         |
| 12.400          | 0.80                         | 0.81                         | 0.82                         | 1.40                         | 2.00                         |
| 12.650          | 2.48                         | 2.71                         | 2.78                         | 2.77                         | 2.68                         |
| 12.900          | 2.56                         | 2.42                         | 2.27                         | 2.13                         | 1.99                         |
| 13.150          | 1.86                         | 1.75                         | 1.66                         | 1.60                         | 1.55                         |
| 13.400          | 1.49                         | 1.43                         | 1.38                         | 1.33                         | 1.28                         |
| 13.650          | 1.24                         | 1.19                         | 1.15                         | 1.12                         | 1.08                         |
| 13.900          | 1.05                         | 1.02                         | 0.99                         | 0.96                         | 0.93                         |
| 14.150          | 0.91                         | 0.88                         | 0.86                         | 0.84                         | 0.82                         |
| 14.400          | 0.82                         | 0.82                         | 0.82                         | 0.82                         | 0.82                         |
| 14.650          | 0.82                         | 0.82                         | 0.82                         | 0.82                         | 0.82                         |
| 14.900          | 0.82                         | 0.82                         | 0.82                         | 0.82                         | 0.82                         |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond1B (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 15.150       | 0.82                      | 0.82                      | 0.81                      | 0.81                      | 0.81                      |
| 15.400       | 0.81                      | 0.81                      | 0.81                      | 0.81                      | 0.81                      |
| 15.650       | 0.81                      | 0.81                      | 0.81                      | 0.81                      | 0.81                      |
| 15.900       | 0.81                      | 0.81                      | 0.81                      | 0.80                      | 0.80                      |
| 16.150       | 0.80                      | 0.80                      | 0.80                      | 0.80                      | 0.80                      |
| 16.400       | 0.80                      | 0.80                      | 0.80                      | 0.80                      | 0.79                      |
| 16.650       | 0.79                      | 0.79                      | 0.79                      | 0.79                      | 0.79                      |
| 16.900       | 0.79                      | 0.79                      | 0.79                      | 0.79                      | 0.79                      |
| 17.150       | 0.78                      | 0.78                      | 0.78                      | 0.78                      | 0.78                      |
| 17.400       | 0.78                      | 0.78                      | 0.78                      | 0.78                      | 0.78                      |
| 17.650       | 0.78                      | 0.77                      | 0.77                      | 0.77                      | 0.77                      |
| 17.900       | 0.77                      | 0.77                      | 0.77                      | 0.77                      | 0.77                      |
| 18.150       | 0.76                      | 0.76                      | 0.76                      | 0.76                      | 0.76                      |
| 18.400       | 0.76                      | 0.76                      | 0.76                      | 0.76                      | 0.75                      |
| 18.650       | 0.75                      | 0.75                      | 0.75                      | 0.75                      | 0.75                      |
| 18.900       | 0.75                      | 0.75                      | 0.75                      | 0.74                      | 0.74                      |
| 19.150       | 0.74                      | 0.74                      | 0.74                      | 0.74                      | 0.74                      |
| 19.400       | 0.74                      | 0.73                      | 0.73                      | 0.73                      | 0.73                      |
| 19.650       | 0.73                      | 0.73                      | 0.73                      | 0.73                      | 0.72                      |
| 19.900       | 0.72                      | 0.72                      | 0.72                      | 0.72                      | 0.72                      |
| 20.150       | 0.72                      | 0.72                      | 0.71                      | 0.71                      | 0.71                      |
| 20.400       | 0.71                      | 0.71                      | 0.71                      | 0.71                      | 0.70                      |
| 20.650       | 0.70                      | 0.70                      | 0.70                      | 0.70                      | 0.70                      |
| 20.900       | 0.70                      | 0.69                      | 0.69                      | 0.69                      | 0.69                      |
| 21.150       | 0.69                      | 0.69                      | 0.69                      | 0.68                      | 0.68                      |
| 21.400       | 0.68                      | 0.68                      | 0.68                      | 0.68                      | 0.68                      |
| 21.650       | 0.67                      | 0.67                      | 0.67                      | 0.67                      | 0.67                      |
| 21.900       | 0.67                      | 0.67                      | 0.66                      | 0.66                      | 0.66                      |
| 22.150       | 0.66                      | 0.66                      | 0.66                      | 0.65                      | 0.65                      |
| 22.400       | 0.65                      | 0.65                      | 0.65                      | 0.65                      | 0.64                      |
| 22.650       | 0.64                      | 0.64                      | 0.64                      | 0.64                      | 0.64                      |
| 22.900       | 0.64                      | 0.63                      | 0.63                      | 0.63                      | 0.63                      |
| 23.150       | 0.63                      | 0.63                      | 0.62                      | 0.62                      | 0.62                      |
| 23.400       | 0.62                      | 0.62                      | 0.62                      | 0.61                      | 0.61                      |
| 23.650       | 0.61                      | 0.61                      | 0.61                      | 0.60                      | 0.60                      |
| 23.900       | 0.60                      | 0.60                      | 0.60                      | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond1B (IN)

Return Event: 100 years

Storm Event: 100-year

## Summary for Hydrograph Addition at 'Pond1B'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| Outlet1A                    | Pond1A        |
| <Catchment to Outflow Node> | Basin1B       |

## Node Inflows

| Inflow Type | Element  | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|----------|----------------|----------------------|----------------------------------|
| Flow (From) | Outlet1A | 0.808          | 12.150               | 10.93                            |
| Flow (From) | Basin1B  | 0.191          | 11.900               | 3.45                             |
| Flow (In)   | Pond1B   | 0.999          | 12.150               | 11.54                            |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond2

Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 553.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 553.00         | 0.00                         | 0.000           | 0.015        | 0.00                              | 0.00                              | 0.00                          |
| 553.10         | 0.00                         | 0.002           | 0.016        | 0.00                              | 0.00                              | 0.75                          |
| 553.20         | 0.00                         | 0.003           | 0.017        | 0.00                              | 0.00                              | 1.55                          |
| 553.30         | 0.00                         | 0.005           | 0.018        | 0.00                              | 0.00                              | 2.41                          |
| 553.40         | 0.00                         | 0.007           | 0.019        | 0.00                              | 0.00                              | 3.31                          |
| 553.50         | 0.00                         | 0.009           | 0.020        | 0.00                              | 0.00                              | 4.28                          |
| 553.60         | 0.20                         | 0.011           | 0.022        | 0.00                              | 0.20                              | 5.49                          |
| 553.70         | 0.56                         | 0.013           | 0.023        | 0.00                              | 0.56                              | 6.94                          |
| 553.80         | 0.92                         | 0.016           | 0.024        | 0.00                              | 0.92                              | 8.43                          |
| 553.90         | 1.06                         | 0.018           | 0.025        | 0.00                              | 1.06                              | 9.78                          |
| 554.00         | 1.19                         | 0.021           | 0.027        | 0.00                              | 1.19                              | 11.17                         |
| 554.10         | 1.30                         | 0.023           | 0.028        | 0.00                              | 1.30                              | 12.61                         |
| 554.20         | 1.41                         | 0.026           | 0.029        | 0.00                              | 1.41                              | 14.10                         |
| 554.30         | 1.50                         | 0.029           | 0.031        | 0.00                              | 1.50                              | 15.65                         |
| 554.40         | 1.59                         | 0.032           | 0.032        | 0.00                              | 1.59                              | 17.26                         |
| 554.50         | 1.68                         | 0.036           | 0.033        | 0.00                              | 1.68                              | 18.94                         |
| 554.60         | 1.76                         | 0.039           | 0.035        | 0.00                              | 1.76                              | 20.67                         |
| 554.70         | 1.84                         | 0.043           | 0.036        | 0.00                              | 1.84                              | 22.48                         |
| 554.80         | 1.92                         | 0.046           | 0.038        | 0.00                              | 1.92                              | 24.35                         |
| 554.90         | 1.99                         | 0.050           | 0.039        | 0.00                              | 1.99                              | 26.29                         |
| 555.00         | 2.06                         | 0.054           | 0.041        | 0.00                              | 2.06                              | 28.30                         |
| 555.10         | 2.13                         | 0.058           | 0.042        | 0.00                              | 2.13                              | 30.38                         |
| 555.20         | 2.19                         | 0.063           | 0.044        | 0.00                              | 2.19                              | 32.53                         |
| 555.30         | 2.25                         | 0.067           | 0.045        | 0.00                              | 2.25                              | 34.74                         |
| 555.40         | 2.32                         | 0.072           | 0.047        | 0.00                              | 2.32                              | 37.03                         |
| 555.50         | 2.38                         | 0.076           | 0.048        | 0.00                              | 2.38                              | 39.38                         |
| 555.60         | 2.43                         | 0.081           | 0.050        | 0.00                              | 2.43                              | 41.81                         |
| 555.70         | 2.49                         | 0.086           | 0.051        | 0.00                              | 2.49                              | 44.31                         |
| 555.80         | 2.55                         | 0.092           | 0.053        | 0.00                              | 2.55                              | 46.88                         |
| 555.90         | 2.60                         | 0.097           | 0.054        | 0.00                              | 2.60                              | 49.53                         |

# O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond2

Storm Event: 100-year

| Elevation<br>(ft) | Outflow<br>(ft <sup>3</sup> /s) | Storage<br>(ac-ft) | Area<br>(acres) | Infiltration<br>(ft <sup>3</sup> /s) | Flow (Total)<br>(ft <sup>3</sup> /s) | 2S/t + O<br>(ft <sup>3</sup> /s) |
|-------------------|---------------------------------|--------------------|-----------------|--------------------------------------|--------------------------------------|----------------------------------|
| 556.00            | 2.66                            | 0.102              | 0.056           | 0.00                                 | 2.66                                 | 52.25                            |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond2 (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 553.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 3.97 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 2.03 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.050 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.96 ft               |                             |              |
| Volume (Peak)                      | 0.052 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.238 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.228 ac-ft             |                             |              |
| Volume (Retained)                  | 0.009 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 2.03 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours            |
| Hydrograph Volume | 0.228 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.650           | 0.00                         | 0.01                         | 0.02                         | 0.03                         | 0.03                         |
| 6.900           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 7.150           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.400           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.650           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 7.900           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 8.150           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 8.400           | 0.06                         | 0.06                         | 0.06                         | 0.07                         | 0.07                         |
| 8.650           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 8.900           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 9.150           | 0.08                         | 0.08                         | 0.08                         | 0.09                         | 0.09                         |
| 9.400           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.650           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.10                         |
| 9.900           | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 10.150          | 0.11                         | 0.11                         | 0.12                         | 0.12                         | 0.12                         |
| 10.400          | 0.13                         | 0.13                         | 0.13                         | 0.14                         | 0.14                         |
| 10.650          | 0.15                         | 0.15                         | 0.16                         | 0.16                         | 0.17                         |
| 10.900          | 0.17                         | 0.18                         | 0.19                         | 0.19                         | 0.20                         |
| 11.150          | 0.22                         | 0.23                         | 0.24                         | 0.26                         | 0.27                         |
| 11.400          | 0.29                         | 0.30                         | 0.32                         | 0.36                         | 0.47                         |
| 11.650          | 0.64                         | 0.89                         | 1.04                         | 1.21                         | 1.42                         |
| 11.900          | 1.66                         | 1.86                         | 1.98                         | 2.03                         | 1.99                         |
| 12.150          | 1.91                         | 1.80                         | 1.68                         | 1.55                         | 1.42                         |
| 12.400          | 1.28                         | 1.13                         | 0.97                         | 0.72                         | 0.51                         |
| 12.650          | 0.39                         | 0.32                         | 0.29                         | 0.26                         | 0.25                         |
| 12.900          | 0.24                         | 0.23                         | 0.22                         | 0.21                         | 0.20                         |
| 13.150          | 0.20                         | 0.19                         | 0.19                         | 0.18                         | 0.18                         |
| 13.400          | 0.17                         | 0.17                         | 0.17                         | 0.16                         | 0.16                         |
| 13.650          | 0.15                         | 0.15                         | 0.15                         | 0.14                         | 0.14                         |
| 13.900          | 0.14                         | 0.13                         | 0.13                         | 0.13                         | 0.12                         |
| 14.150          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.11                         |
| 14.400          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 14.650          | 0.11                         | 0.11                         | 0.10                         | 0.10                         | 0.10                         |
| 14.900          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 15.150          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.400          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 15.650          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.900          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond2 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 16.150          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.400          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.650          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 16.900          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 17.150          | 0.07                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.400          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.650          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 17.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 18.400          | 0.06                         | 0.06                         | 0.05                         | 0.05                         | 0.05                         |
| 18.650          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 18.900          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.150          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.400          | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 19.650          | 0.05                         | 0.05                         | 0.04                         | 0.04                         | 0.04                         |
| 19.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 20.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 21.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 22.900          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.150          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.400          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.650          | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 23.900          | 0.04                         | 0.04                         | 0.04                         | (N/A)                        | (N/A)                        |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond2 (IN)

Return Event: 100 years

Storm Event: 100-year

## Summary for Hydrograph Addition at 'Pond2'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin2        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin2  | 0.238          | 11.900               | 3.97                             |
| Flow (In)   | Pond2   | 0.238          | 11.900               | 3.97                             |



## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond3

Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 554.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 554.00         | 0.00                         | 0.000           | 0.016        | 0.00                              | 0.00                              | 0.00                          |
| 554.10         | 0.00                         | 0.002           | 0.018        | 0.00                              | 0.00                              | 0.81                          |
| 554.20         | 0.00                         | 0.004           | 0.019        | 0.00                              | 0.00                              | 1.71                          |
| 554.30         | 0.00                         | 0.006           | 0.021        | 0.00                              | 0.00                              | 2.69                          |
| 554.40         | 0.00                         | 0.008           | 0.023        | 0.00                              | 0.00                              | 3.76                          |
| 554.50         | 0.00                         | 0.010           | 0.025        | 0.00                              | 0.00                              | 4.92                          |
| 554.60         | 0.37                         | 0.013           | 0.027        | 0.00                              | 0.37                              | 6.55                          |
| 554.70         | 1.05                         | 0.016           | 0.029        | 0.00                              | 1.05                              | 8.59                          |
| 554.80         | 1.94                         | 0.019           | 0.031        | 0.00                              | 1.94                              | 10.94                         |
| 554.90         | 2.98                         | 0.022           | 0.034        | 0.00                              | 2.98                              | 13.56                         |
| 555.00         | 4.17                         | 0.025           | 0.036        | 0.00                              | 4.17                              | 16.43                         |
| 555.10         | 4.58                         | 0.029           | 0.038        | 0.00                              | 4.58                              | 18.63                         |
| 555.20         | 4.94                         | 0.033           | 0.040        | 0.00                              | 4.94                              | 20.88                         |
| 555.30         | 5.28                         | 0.037           | 0.042        | 0.00                              | 5.28                              | 23.21                         |
| 555.40         | 5.60                         | 0.041           | 0.044        | 0.00                              | 5.60                              | 25.61                         |
| 555.50         | 5.91                         | 0.046           | 0.046        | 0.00                              | 5.91                              | 28.11                         |
| 555.60         | 6.19                         | 0.051           | 0.049        | 0.00                              | 6.19                              | 30.69                         |
| 555.70         | 6.47                         | 0.056           | 0.051        | 0.00                              | 6.47                              | 33.37                         |
| 555.80         | 6.73                         | 0.061           | 0.053        | 0.00                              | 6.73                              | 36.15                         |
| 555.90         | 6.99                         | 0.066           | 0.056        | 0.00                              | 6.99                              | 39.04                         |
| 556.00         | 7.23                         | 0.072           | 0.058        | 0.00                              | 7.23                              | 42.03                         |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond3 (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 554.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 3.29 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 12.150 hours |
| Flow (Peak Outlet)                 | 3.25 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.200 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 554.92 ft               |                             |              |
| Volume (Peak)                      | 0.023 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.332 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.321 ac-ft             |                             |              |
| Volume (Retained)                  | 0.010 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 3.25 ft <sup>3</sup> /s |
| Time to Peak      | 12.200 hours            |
| Hydrograph Volume | 0.321 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.800           | 0.00                         | 0.01                         | 0.04                         | 0.05                         | 0.06                         |
| 9.050           | 0.07                         | 0.07                         | 0.07                         | 0.08                         | 0.08                         |
| 9.300           | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.09                         |
| 9.550           | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 9.800           | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 10.050          | 0.10                         | 0.10                         | 0.11                         | 0.11                         | 0.11                         |
| 10.300          | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 10.550          | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.16                         |
| 10.800          | 0.16                         | 0.17                         | 0.17                         | 0.18                         | 0.19                         |
| 11.050          | 0.19                         | 0.20                         | 0.21                         | 0.22                         | 0.23                         |
| 11.300          | 0.24                         | 0.25                         | 0.26                         | 0.28                         | 0.29                         |
| 11.550          | 0.31                         | 0.33                         | 0.36                         | 0.43                         | 0.53                         |
| 11.800          | 0.66                         | 0.86                         | 1.14                         | 1.52                         | 1.94                         |
| 12.050          | 2.41                         | 2.81                         | 3.11                         | 3.25                         | 3.19                         |
| 12.300          | 3.01                         | 2.75                         | 2.43                         | 2.11                         | 1.82                         |
| 12.550          | 1.58                         | 1.37                         | 1.20                         | 1.05                         | 0.94                         |
| 12.800          | 0.84                         | 0.75                         | 0.68                         | 0.62                         | 0.56                         |
| 13.050          | 0.52                         | 0.48                         | 0.45                         | 0.42                         | 0.40                         |
| 13.300          | 0.38                         | 0.36                         | 0.35                         | 0.34                         | 0.32                         |
| 13.550          | 0.31                         | 0.30                         | 0.29                         | 0.28                         | 0.27                         |
| 13.800          | 0.26                         | 0.26                         | 0.25                         | 0.24                         | 0.24                         |
| 14.050          | 0.23                         | 0.22                         | 0.22                         | 0.21                         | 0.21                         |
| 14.300          | 0.20                         | 0.20                         | 0.20                         | 0.19                         | 0.19                         |
| 14.550          | 0.19                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 14.800          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 15.050          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 15.300          | 0.16                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 15.550          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 15.800          | 0.14                         | 0.14                         | 0.14                         | 0.13                         | 0.13                         |
| 16.050          | 0.13                         | 0.13                         | 0.13                         | 0.12                         | 0.12                         |
| 16.300          | 0.12                         | 0.12                         | 0.12                         | 0.12                         | 0.12                         |
| 16.550          | 0.12                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 16.800          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 17.050          | 0.11                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 17.300          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.550          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 17.800          | 0.10                         | 0.10                         | 0.10                         | 0.10                         | 0.10                         |
| 18.050          | 0.10                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond3 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 18.300          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.550          | 0.09                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 18.800          | 0.09                         | 0.09                         | 0.08                         | 0.08                         | 0.08                         |
| 19.050          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 19.300          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 19.550          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.07                         |
| 19.800          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.050          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.300          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 20.550          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 20.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 21.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 22.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.050          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.300          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.550          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 23.800          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond3 (IN)

Return Event: 100 years

Storm Event: 100-year

## Summary for Hydrograph Addition at 'Pond3'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin3        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin3  | 0.332          | 12.150               | 3.29                             |
| Flow (In)   | Pond3   | 0.332          | 12.150               | 3.29                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond4

Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

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| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 545.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 545.00         | 0.00                         | 0.000           | 0.010        | 0.00                              | 0.00                              | 0.00                          |
| 545.10         | 0.00                         | 0.001           | 0.011        | 0.00                              | 0.00                              | 0.51                          |
| 545.20         | 0.00                         | 0.002           | 0.012        | 0.00                              | 0.00                              | 1.07                          |
| 545.30         | 0.00                         | 0.003           | 0.013        | 0.00                              | 0.00                              | 1.67                          |
| 545.40         | 0.00                         | 0.005           | 0.014        | 0.00                              | 0.00                              | 2.31                          |
| 545.50         | 0.00                         | 0.006           | 0.015        | 0.00                              | 0.00                              | 3.00                          |
| 545.60         | 0.02                         | 0.008           | 0.016        | 0.00                              | 0.02                              | 3.75                          |
| 545.70         | 0.07                         | 0.009           | 0.017        | 0.00                              | 0.07                              | 4.58                          |
| 545.80         | 0.14                         | 0.011           | 0.018        | 0.00                              | 0.14                              | 5.49                          |
| 545.90         | 0.20                         | 0.013           | 0.019        | 0.00                              | 0.20                              | 6.44                          |
| 546.00         | 0.24                         | 0.015           | 0.020        | 0.00                              | 0.24                              | 7.42                          |
| 546.10         | 0.28                         | 0.017           | 0.021        | 0.00                              | 0.28                              | 8.45                          |
| 546.20         | 0.31                         | 0.019           | 0.022        | 0.00                              | 0.31                              | 9.52                          |
| 546.30         | 0.33                         | 0.021           | 0.023        | 0.00                              | 0.33                              | 10.65                         |
| 546.40         | 0.36                         | 0.024           | 0.024        | 0.00                              | 0.36                              | 11.83                         |
| 546.50         | 0.38                         | 0.026           | 0.026        | 0.00                              | 0.38                              | 13.07                         |
| 546.60         | 0.41                         | 0.029           | 0.027        | 0.00                              | 0.41                              | 14.36                         |
| 546.70         | 0.43                         | 0.032           | 0.028        | 0.00                              | 0.43                              | 15.71                         |
| 546.80         | 0.45                         | 0.034           | 0.029        | 0.00                              | 0.45                              | 17.12                         |
| 546.90         | 0.47                         | 0.037           | 0.031        | 0.00                              | 0.47                              | 18.60                         |
| 547.00         | 0.48                         | 0.041           | 0.032        | 0.00                              | 0.48                              | 20.13                         |
| 547.10         | 0.50                         | 0.044           | 0.033        | 0.00                              | 0.50                              | 21.73                         |
| 547.20         | 0.52                         | 0.047           | 0.035        | 0.00                              | 0.52                              | 23.39                         |
| 547.30         | 0.54                         | 0.051           | 0.036        | 0.00                              | 0.54                              | 25.11                         |
| 547.40         | 0.55                         | 0.054           | 0.037        | 0.00                              | 0.55                              | 26.89                         |
| 547.50         | 0.57                         | 0.058           | 0.039        | 0.00                              | 0.57                              | 28.75                         |
| 547.60         | 0.92                         | 0.062           | 0.040        | 0.00                              | 0.92                              | 30.99                         |
| 547.70         | 1.54                         | 0.066           | 0.041        | 0.00                              | 1.54                              | 33.59                         |
| 547.80         | 2.34                         | 0.070           | 0.043        | 0.00                              | 2.34                              | 36.42                         |
| 547.90         | 3.28                         | 0.075           | 0.044        | 0.00                              | 3.28                              | 39.48                         |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond4

Storm Event: 100-year

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 548.00         | 4.35                         | 0.079           | 0.046        | 0.00                              | 4.35                              | 42.73                         |
| 548.10         | 5.54                         | 0.084           | 0.047        | 0.00                              | 5.54                              | 46.15                         |
| 548.20         | 6.82                         | 0.089           | 0.048        | 0.00                              | 6.82                              | 49.73                         |
| 548.30         | 8.19                         | 0.094           | 0.049        | 0.00                              | 8.19                              | 53.45                         |
| 548.40         | 9.66                         | 0.098           | 0.050        | 0.00                              | 9.66                              | 57.31                         |
| 548.50         | 11.21                        | 0.104           | 0.051        | 0.00                              | 11.21                             | 61.31                         |
| 548.60         | 12.83                        | 0.109           | 0.052        | 0.00                              | 12.83                             | 65.44                         |
| 548.70         | 14.53                        | 0.114           | 0.053        | 0.00                              | 14.53                             | 69.70                         |
| 548.80         | 16.31                        | 0.119           | 0.055        | 0.00                              | 16.31                             | 74.09                         |
| 548.90         | 18.15                        | 0.125           | 0.056        | 0.00                              | 18.15                             | 78.60                         |
| 549.00         | 20.06                        | 0.131           | 0.057        | 0.00                              | 20.06                             | 83.24                         |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond4 (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 545.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 2.95 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 1.14 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.100 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 547.64 ft               |                             |              |
| Volume (Peak)                      | 0.064 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.175 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.167 ac-ft             |                             |              |
| Volume (Retained)                  | 0.008 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.1 %                   |                             |              |



## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 1.14 ft <sup>3</sup> /s |
| Time to Peak      | 12.100 hours            |
| Hydrograph Volume | 0.167 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6.900           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.01                         |
| 7.150           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 7.400           | 0.01                         | 0.01                         | 0.02                         | 0.02                         | 0.02                         |
| 7.650           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 7.900           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 8.150           | 0.03                         | 0.03                         | 0.03                         | 0.04                         | 0.04                         |
| 8.400           | 0.04                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 8.650           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 8.900           | 0.05                         | 0.05                         | 0.05                         | 0.05                         | 0.05                         |
| 9.150           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 9.400           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.650           | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 9.900           | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 10.150          | 0.07                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 10.400          | 0.08                         | 0.09                         | 0.09                         | 0.09                         | 0.09                         |
| 10.650          | 0.10                         | 0.10                         | 0.10                         | 0.11                         | 0.11                         |
| 10.900          | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 11.150          | 0.14                         | 0.14                         | 0.15                         | 0.16                         | 0.16                         |
| 11.400          | 0.17                         | 0.18                         | 0.19                         | 0.20                         | 0.22                         |
| 11.650          | 0.25                         | 0.29                         | 0.33                         | 0.38                         | 0.43                         |
| 11.900          | 0.49                         | 0.54                         | 0.63                         | 1.12                         | 1.14                         |
| 12.150          | 0.89                         | 0.76                         | 0.64                         | 0.57                         | 0.56                         |
| 12.400          | 0.56                         | 0.55                         | 0.55                         | 0.54                         | 0.54                         |
| 12.650          | 0.53                         | 0.52                         | 0.52                         | 0.51                         | 0.50                         |
| 12.900          | 0.50                         | 0.49                         | 0.48                         | 0.47                         | 0.47                         |
| 13.150          | 0.46                         | 0.45                         | 0.44                         | 0.43                         | 0.42                         |
| 13.400          | 0.41                         | 0.40                         | 0.39                         | 0.38                         | 0.37                         |
| 13.650          | 0.36                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 13.900          | 0.31                         | 0.30                         | 0.28                         | 0.27                         | 0.26                         |
| 14.150          | 0.25                         | 0.24                         | 0.23                         | 0.21                         | 0.20                         |
| 14.400          | 0.19                         | 0.17                         | 0.16                         | 0.15                         | 0.14                         |
| 14.650          | 0.13                         | 0.12                         | 0.12                         | 0.11                         | 0.10                         |
| 14.900          | 0.10                         | 0.10                         | 0.09                         | 0.09                         | 0.09                         |
| 15.150          | 0.08                         | 0.08                         | 0.08                         | 0.08                         | 0.08                         |
| 15.400          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.07                         |
| 15.650          | 0.07                         | 0.07                         | 0.07                         | 0.07                         | 0.06                         |
| 15.900          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |
| 16.150          | 0.06                         | 0.06                         | 0.06                         | 0.06                         | 0.06                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond4 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 16.400       | 0.06                      | 0.06                      | 0.06                      | 0.06                      | 0.05                      |
| 16.650       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 16.900       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.150       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.400       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.650       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.05                      |
| 17.900       | 0.05                      | 0.05                      | 0.05                      | 0.05                      | 0.04                      |
| 18.150       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.400       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.650       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 18.900       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.150       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.400       | 0.04                      | 0.04                      | 0.04                      | 0.04                      | 0.04                      |
| 19.650       | 0.04                      | 0.04                      | 0.04                      | 0.03                      | 0.03                      |
| 19.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 20.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 21.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 22.900       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.150       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.400       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.650       | 0.03                      | 0.03                      | 0.03                      | 0.03                      | 0.03                      |
| 23.900       | 0.03                      | 0.03                      | 0.03                      | (N/A)                     | (N/A)                     |

# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond4 (IN)

Return Event: 100 years

Storm Event: 100-year

## Summary for Hydrograph Addition at 'Pond4'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin4        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin4  | 0.175          | 11.900               | 2.95                             |
| Flow (In)   | Pond4   | 0.175          | 11.900               | 2.95                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond5

Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 563.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 563.00         | 0.00                         | 0.000           | 0.023        | 0.00                              | 0.00                              | 0.00                          |
| 563.10         | 0.00                         | 0.002           | 0.026        | 0.00                              | 0.00                              | 1.19                          |
| 563.20         | 0.00                         | 0.005           | 0.029        | 0.00                              | 0.00                              | 2.51                          |
| 563.30         | 0.00                         | 0.008           | 0.032        | 0.00                              | 0.00                              | 3.97                          |
| 563.40         | 0.00                         | 0.012           | 0.035        | 0.00                              | 0.00                              | 5.58                          |
| 563.50         | 0.00                         | 0.015           | 0.038        | 0.00                              | 0.00                              | 7.34                          |
| 563.60         | 0.00                         | 0.019           | 0.041        | 0.00                              | 0.00                              | 9.26                          |
| 563.70         | 0.00                         | 0.023           | 0.045        | 0.00                              | 0.00                              | 11.34                         |
| 563.75         | 0.00                         | 0.026           | 0.047        | 0.00                              | 0.00                              | 12.45                         |
| 563.80         | 0.35                         | 0.028           | 0.048        | 0.00                              | 0.35                              | 13.95                         |
| 563.90         | 1.83                         | 0.033           | 0.052        | 0.00                              | 1.83                              | 17.87                         |
| 564.00         | 3.94                         | 0.039           | 0.056        | 0.00                              | 3.94                              | 22.60                         |
| 564.10         | 6.52                         | 0.044           | 0.060        | 0.00                              | 6.52                              | 27.99                         |
| 564.20         | 9.51                         | 0.051           | 0.063        | 0.00                              | 9.51                              | 33.95                         |
| 564.30         | 12.85                        | 0.057           | 0.067        | 0.00                              | 12.85                             | 40.44                         |
| 564.40         | 16.51                        | 0.064           | 0.071        | 0.00                              | 16.51                             | 47.44                         |
| 564.50         | 20.46                        | 0.071           | 0.075        | 0.00                              | 20.46                             | 54.92                         |
| 564.60         | 24.69                        | 0.079           | 0.079        | 0.00                              | 24.69                             | 62.86                         |
| 564.70         | 29.17                        | 0.087           | 0.083        | 0.00                              | 29.17                             | 71.25                         |
| 564.80         | 33.89                        | 0.095           | 0.087        | 0.00                              | 33.89                             | 80.10                         |
| 564.90         | 38.85                        | 0.104           | 0.092        | 0.00                              | 38.85                             | 89.38                         |
| 565.00         | 44.02                        | 0.114           | 0.096        | 0.00                              | 44.02                             | 99.09                         |

## O'Day Park Detention Calculations

Subsection: Detention Time  
 Label: Pond5 (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration   |                 |
|--|-----------------|
| Infiltration Method<br>(Computed)  | No Infiltration |
| <b>Approximate Detention Times</b>                                       |                 |
| Time to Peak (Outflow +<br>Infiltration, Peak to Peak<br>Detention Time) | 11.950 hours    |
| Time to Peak (Inflow, Peak<br>to Peak Detention Time)                    | 11.900 hours    |
| Detention Time (Peak to<br>Peak)   | 0.050 hours     |
| Time to Centroid (Outflow)   | 13.184 hours    |
| Time to Centroid (Inflow)  | 12.770 hours    |
| Detention Time (Centroid to<br>Centroid)                                 | 0.414 hours     |
| Weighted Average Plug Time   | 1.018 hours     |
| Maximum Plug Volume Plug<br>Time   | 0.082 hours     |
| Maximum Inflow Plug<br>Volume  | 0.032 ac-ft     |
| Time (Maximum Plug<br>Volume, Start)                                     | 11.900 hours    |
| Time (Maximum Plug<br>Volume, End)                                       | 11.950 hours    |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond5 (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                         |                             |              |
|------------------------------------|-------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration         |                             |              |
| Initial Conditions                 |                         |                             |              |
| Elevation (Water Surface, Initial) | 563.00 ft               |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |                             |              |
| Time Increment                     | 0.050 hours             |                             |              |
| Inflow/Outflow Hydrograph Summary  |                         |                             |              |
| Flow (Peak In)                     | 8.07 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 7.83 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 11.950 hours |
| Peak Conditions                    |                         |                             |              |
| Elevation (Water Surface, Peak)    | 564.14 ft               |                             |              |
| Volume (Peak)                      | 0.047 ac-ft             |                             |              |
| Mass Balance (ac-ft)               |                         |                             |              |
| Volume (Initial)                   | 0.000 ac-ft             |                             |              |
| Volume (Total Inflow)              | 0.474 ac-ft             |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft             |                             |              |
| Volume (Total Outlet Outflow)      | 0.448 ac-ft             |                             |              |
| Volume (Retained)                  | 0.026 ac-ft             |                             |              |
| Volume (Unrouted)                  | 0.000 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.0 %                   |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                         |
|-------------------|-------------------------|
| Peak Discharge    | 7.83 ft <sup>3</sup> /s |
| Time to Peak      | 11.950 hours            |
| Hydrograph Volume | 0.448 ac-ft             |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 8.350           | 0.00                         | 0.05                         | 0.08                         | 0.10                         | 0.11                         |
| 8.600           | 0.12                         | 0.13                         | 0.13                         | 0.13                         | 0.14                         |
| 8.850           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.15                         |
| 9.100           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 9.350           | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.16                         |
| 9.600           | 0.17                         | 0.17                         | 0.17                         | 0.18                         | 0.18                         |
| 9.850           | 0.19                         | 0.19                         | 0.19                         | 0.20                         | 0.20                         |
| 10.100          | 0.21                         | 0.22                         | 0.22                         | 0.23                         | 0.24                         |
| 10.350          | 0.24                         | 0.25                         | 0.26                         | 0.27                         | 0.27                         |
| 10.600          | 0.28                         | 0.29                         | 0.30                         | 0.31                         | 0.33                         |
| 10.850          | 0.34                         | 0.35                         | 0.37                         | 0.38                         | 0.40                         |
| 11.100          | 0.42                         | 0.44                         | 0.47                         | 0.50                         | 0.53                         |
| 11.350          | 0.56                         | 0.59                         | 0.62                         | 0.65                         | 0.77                         |
| 11.600          | 1.05                         | 1.48                         | 2.15                         | 2.99                         | 3.88                         |
| 11.850          | 5.23                         | 7.05                         | 7.83                         | 7.03                         | 5.46                         |
| 12.100          | 3.31                         | 1.84                         | 1.38                         | 1.15                         | 1.03                         |
| 12.350          | 0.94                         | 0.87                         | 0.79                         | 0.72                         | 0.65                         |
| 12.600          | 0.60                         | 0.56                         | 0.54                         | 0.52                         | 0.50                         |
| 12.850          | 0.48                         | 0.46                         | 0.45                         | 0.43                         | 0.42                         |
| 13.100          | 0.40                         | 0.39                         | 0.38                         | 0.37                         | 0.36                         |
| 13.350          | 0.35                         | 0.35                         | 0.34                         | 0.33                         | 0.32                         |
| 13.600          | 0.31                         | 0.31                         | 0.30                         | 0.29                         | 0.29                         |
| 13.850          | 0.28                         | 0.27                         | 0.27                         | 0.26                         | 0.25                         |
| 14.100          | 0.25                         | 0.24                         | 0.24                         | 0.24                         | 0.23                         |
| 14.350          | 0.23                         | 0.23                         | 0.23                         | 0.22                         | 0.22                         |
| 14.600          | 0.22                         | 0.22                         | 0.22                         | 0.21                         | 0.21                         |
| 14.850          | 0.21                         | 0.21                         | 0.20                         | 0.20                         | 0.20                         |
| 15.100          | 0.20                         | 0.19                         | 0.19                         | 0.19                         | 0.19                         |
| 15.350          | 0.19                         | 0.18                         | 0.18                         | 0.18                         | 0.18                         |
| 15.600          | 0.17                         | 0.17                         | 0.17                         | 0.17                         | 0.17                         |
| 15.850          | 0.16                         | 0.16                         | 0.16                         | 0.16                         | 0.15                         |
| 16.100          | 0.15                         | 0.15                         | 0.15                         | 0.15                         | 0.15                         |
| 16.350          | 0.15                         | 0.15                         | 0.14                         | 0.14                         | 0.14                         |
| 16.600          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.14                         |
| 16.850          | 0.14                         | 0.14                         | 0.14                         | 0.14                         | 0.13                         |
| 17.100          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 17.350          | 0.13                         | 0.13                         | 0.13                         | 0.13                         | 0.13                         |
| 17.600          | 0.13                         | 0.13                         | 0.12                         | 0.12                         | 0.12                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond5 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 17.850       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.12                      |
| 18.100       | 0.12                      | 0.12                      | 0.12                      | 0.12                      | 0.11                      |
| 18.350       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 18.600       | 0.11                      | 0.11                      | 0.11                      | 0.11                      | 0.11                      |
| 18.850       | 0.11                      | 0.11                      | 0.10                      | 0.10                      | 0.10                      |
| 19.100       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.10                      |
| 19.350       | 0.10                      | 0.10                      | 0.10                      | 0.10                      | 0.09                      |
| 19.600       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 19.850       | 0.09                      | 0.09                      | 0.09                      | 0.09                      | 0.09                      |
| 20.100       | 0.09                      | 0.09                      | 0.08                      | 0.08                      | 0.08                      |
| 20.350       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 20.600       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 20.850       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 21.100       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 21.350       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 21.600       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 21.850       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 22.100       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 22.350       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 22.600       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 22.850       | 0.08                      | 0.08                      | 0.08                      | 0.08                      | 0.08                      |
| 23.100       | 0.08                      | 0.08                      | 0.07                      | 0.07                      | 0.07                      |
| 23.350       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 23.600       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | 0.07                      |
| 23.850       | 0.07                      | 0.07                      | 0.07                      | 0.07                      | (N/A)                     |



# O'Day Park Detention Calculations

Subsection: Pond Inflow Summary

Label: Pond5 (IN)

Return Event: 100 years

Storm Event: 100-year

## Summary for Hydrograph Addition at 'Pond5'

| Upstream Link               | Upstream Node |
|-----------------------------|---------------|
| <Catchment to Outflow Node> | Basin5        |

### Node Inflows

| Inflow Type | Element | Volume (ac-ft) | Time to Peak (hours) | Flow (Peak) (ft <sup>3</sup> /s) |
|-------------|---------|----------------|----------------------|----------------------------------|
| Flow (From) | Basin5  | 0.474          | 11.900               | 8.07                             |
| Flow (In)   | Pond5   | 0.474          | 11.900               | 8.07                             |

## O'Day Park Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Return Event: 100 years

Label: Pond7

Storm Event: 100-year

| Infiltration                   |                 |
|--------------------------------|-----------------|
| Infiltration Method (Computed) | No Infiltration |

| Initial Conditions                 |                         |
|------------------------------------|-------------------------|
| Elevation (Water Surface, Initial) | 529.00 ft               |
| Volume (Initial)                   | 0.000 ac-ft             |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s |
| Time Increment                     | 0.050 hours             |

| Elevation (ft) | Outflow (ft <sup>3</sup> /s) | Storage (ac-ft) | Area (acres) | Infiltration (ft <sup>3</sup> /s) | Flow (Total) (ft <sup>3</sup> /s) | 2S/t + O (ft <sup>3</sup> /s) |
|----------------|------------------------------|-----------------|--------------|-----------------------------------|-----------------------------------|-------------------------------|
| 529.00         | 0.00                         | 0.000           | 0.000        | 0.00                              | 0.00                              | 0.00                          |
| 529.50         | 0.24                         | 0.008           | 0.049        | 0.00                              | 0.24                              | 4.15                          |
| 530.00         | 0.38                         | 0.065           | 0.194        | 0.00                              | 0.38                              | 31.68                         |
| 530.50         | 0.48                         | 0.166           | 0.210        | 0.00                              | 0.48                              | 80.68                         |
| 531.00         | 0.57                         | 0.275           | 0.227        | 0.00                              | 0.57                              | 133.64                        |
| 531.50         | 15.49                        | 0.393           | 0.244        | 0.00                              | 15.49                             | 205.51                        |
| 532.00         | 42.71                        | 0.519           | 0.261        | 0.00                              | 42.71                             | 293.78                        |

## O'Day Park Detention Calculations

Subsection: Level Pool Pond Routing Summary  
 Label: Pond7 (IN)

Return Event: 100 years  
 Storm Event: 100-year

| Infiltration                       |                          |                             |              |
|------------------------------------|--------------------------|-----------------------------|--------------|
| Infiltration Method (Computed)     | No Infiltration          |                             |              |
| Initial Conditions                 |                          |                             |              |
| Elevation (Water Surface, Initial) | 529.00 ft                |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Flow (Initial Outlet)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial Infiltration)        | 0.00 ft <sup>3</sup> /s  |                             |              |
| Flow (Initial, Total)              | 0.00 ft <sup>3</sup> /s  |                             |              |
| Time Increment                     | 0.050 hours              |                             |              |
| Inflow/Outflow Hydrograph Summary  |                          |                             |              |
| Flow (Peak In)                     | 19.02 ft <sup>3</sup> /s | Time to Peak (Flow, In)     | 11.900 hours |
| Flow (Peak Outlet)                 | 12.44 ft <sup>3</sup> /s | Time to Peak (Flow, Outlet) | 12.050 hours |
| Peak Conditions                    |                          |                             |              |
| Elevation (Water Surface, Peak)    | 531.40 ft                |                             |              |
| Volume (Peak)                      | 0.368 ac-ft              |                             |              |
| Mass Balance (ac-ft)               |                          |                             |              |
| Volume (Initial)                   | 0.000 ac-ft              |                             |              |
| Volume (Total Inflow)              | 1.058 ac-ft              |                             |              |
| Volume (Total Infiltration)        | 0.000 ac-ft              |                             |              |
| Volume (Total Outlet Outflow)      | 0.955 ac-ft              |                             |              |
| Volume (Retained)                  | 0.100 ac-ft              |                             |              |
| Volume (Unrouted)                  | -0.003 ac-ft             |                             |              |
| Error (Mass Balance)               | 0.3 %                    |                             |              |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

|                   |                          |
|-------------------|--------------------------|
| Peak Discharge    | 12.44 ft <sup>3</sup> /s |
| Time to Peak      | 12.050 hours             |
| Hydrograph Volume | 0.955 ac-ft              |

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

| Time<br>(hours) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) | Flow<br>(ft <sup>3</sup> /s) |
|-----------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 5.100           | 0.00                         | 0.00                         | 0.00                         | 0.00                         | 0.00                         |
| 5.350           | 0.00                         | 0.01                         | 0.01                         | 0.01                         | 0.01                         |
| 5.600           | 0.01                         | 0.01                         | 0.01                         | 0.01                         | 0.02                         |
| 5.850           | 0.02                         | 0.02                         | 0.02                         | 0.02                         | 0.02                         |
| 6.100           | 0.03                         | 0.03                         | 0.03                         | 0.03                         | 0.03                         |
| 6.350           | 0.03                         | 0.04                         | 0.04                         | 0.04                         | 0.04                         |
| 6.600           | 0.04                         | 0.04                         | 0.05                         | 0.05                         | 0.05                         |
| 6.850           | 0.05                         | 0.05                         | 0.06                         | 0.06                         | 0.06                         |
| 7.100           | 0.06                         | 0.06                         | 0.07                         | 0.07                         | 0.07                         |
| 7.350           | 0.07                         | 0.07                         | 0.08                         | 0.08                         | 0.08                         |
| 7.600           | 0.08                         | 0.08                         | 0.09                         | 0.09                         | 0.09                         |
| 7.850           | 0.09                         | 0.09                         | 0.10                         | 0.10                         | 0.10                         |
| 8.100           | 0.10                         | 0.11                         | 0.11                         | 0.11                         | 0.11                         |
| 8.350           | 0.12                         | 0.12                         | 0.12                         | 0.13                         | 0.13                         |
| 8.600           | 0.14                         | 0.14                         | 0.15                         | 0.15                         | 0.15                         |
| 8.850           | 0.16                         | 0.16                         | 0.17                         | 0.18                         | 0.18                         |
| 9.100           | 0.19                         | 0.19                         | 0.20                         | 0.20                         | 0.20                         |
| 9.350           | 0.21                         | 0.21                         | 0.22                         | 0.22                         | 0.22                         |
| 9.600           | 0.23                         | 0.23                         | 0.24                         | 0.24                         | 0.24                         |
| 9.850           | 0.24                         | 0.24                         | 0.25                         | 0.25                         | 0.25                         |
| 10.100          | 0.25                         | 0.25                         | 0.25                         | 0.25                         | 0.25                         |
| 10.350          | 0.26                         | 0.26                         | 0.26                         | 0.26                         | 0.26                         |
| 10.600          | 0.27                         | 0.27                         | 0.27                         | 0.28                         | 0.28                         |
| 10.850          | 0.28                         | 0.29                         | 0.29                         | 0.30                         | 0.30                         |
| 11.100          | 0.31                         | 0.31                         | 0.32                         | 0.32                         | 0.33                         |
| 11.350          | 0.34                         | 0.35                         | 0.36                         | 0.37                         | 0.38                         |
| 11.600          | 0.39                         | 0.40                         | 0.42                         | 0.45                         | 0.48                         |
| 11.850          | 0.52                         | 0.63                         | 8.11                         | 11.82                        | 12.44                        |
| 12.100          | 10.53                        | 7.87                         | 5.88                         | 4.56                         | 3.70                         |
| 12.350          | 3.12                         | 2.70                         | 2.39                         | 2.12                         | 1.91                         |
| 12.600          | 1.73                         | 1.58                         | 1.48                         | 1.40                         | 1.34                         |
| 12.850          | 1.28                         | 1.23                         | 1.19                         | 1.14                         | 1.10                         |
| 13.100          | 1.06                         | 1.03                         | 1.00                         | 0.97                         | 0.94                         |
| 13.350          | 0.92                         | 0.90                         | 0.87                         | 0.85                         | 0.83                         |
| 13.600          | 0.81                         | 0.79                         | 0.77                         | 0.75                         | 0.73                         |
| 13.850          | 0.72                         | 0.70                         | 0.68                         | 0.67                         | 0.65                         |
| 14.100          | 0.64                         | 0.63                         | 0.62                         | 0.61                         | 0.60                         |
| 14.350          | 0.59                         | 0.59                         | 0.58                         | 0.58                         | 0.57                         |

## O'Day Park Detention Calculations

Subsection: Pond Routed Hydrograph (total out)  
 Label: Pond7 (OUT)

Return Event: 100 years  
 Storm Event: 100-year

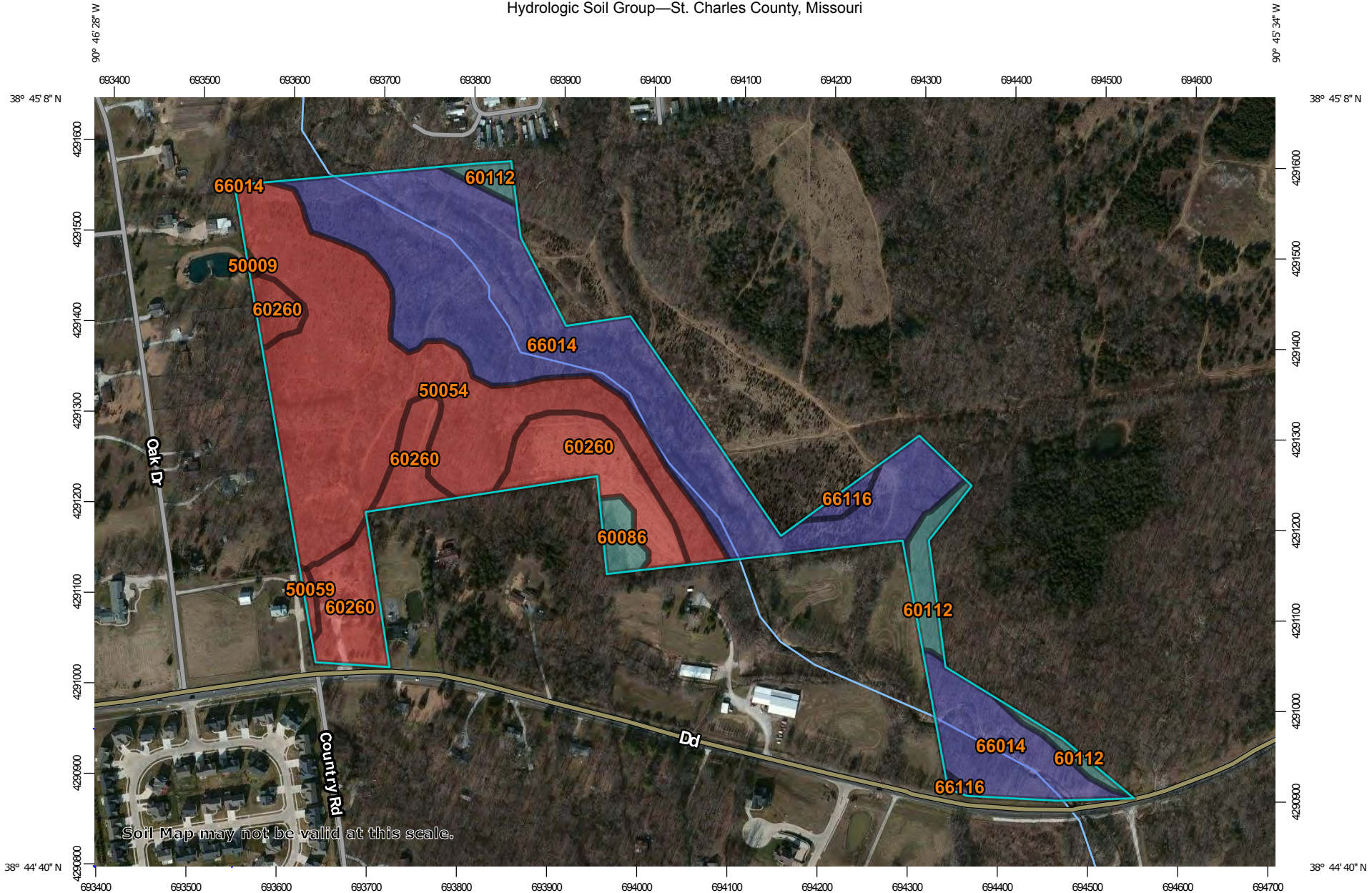
### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s) Output Time Increment = 0.050 hours

Time on left represents time for first value in each row.

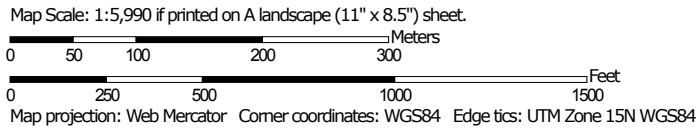
| Time (hours) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) | Flow (ft <sup>3</sup> /s) |
|--------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 14.600       | 0.57                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 14.850       | 0.57                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 15.100       | 0.57                      | 0.57                      | 0.57                      | 0.57                      | 0.57                      |
| 15.350       | 0.57                      | 0.57                      | 0.57                      | 0.56                      | 0.56                      |
| 15.600       | 0.56                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 15.850       | 0.56                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 16.100       | 0.56                      | 0.56                      | 0.56                      | 0.56                      | 0.56                      |
| 16.350       | 0.56                      | 0.56                      | 0.56                      | 0.55                      | 0.55                      |
| 16.600       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 16.850       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.55                      |
| 17.100       | 0.55                      | 0.55                      | 0.55                      | 0.55                      | 0.54                      |
| 17.350       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 17.600       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.54                      |
| 17.850       | 0.54                      | 0.54                      | 0.54                      | 0.54                      | 0.53                      |
| 18.100       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 18.350       | 0.53                      | 0.53                      | 0.53                      | 0.53                      | 0.53                      |
| 18.600       | 0.53                      | 0.53                      | 0.52                      | 0.52                      | 0.52                      |
| 18.850       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.52                      |
| 19.100       | 0.52                      | 0.52                      | 0.52                      | 0.52                      | 0.51                      |
| 19.350       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 19.600       | 0.51                      | 0.51                      | 0.51                      | 0.51                      | 0.51                      |
| 19.850       | 0.51                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 20.100       | 0.50                      | 0.50                      | 0.50                      | 0.50                      | 0.50                      |
| 20.350       | 0.50                      | 0.50                      | 0.49                      | 0.49                      | 0.49                      |
| 20.600       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.49                      |
| 20.850       | 0.49                      | 0.49                      | 0.49                      | 0.49                      | 0.48                      |
| 21.100       | 0.48                      | 0.48                      | 0.48                      | 0.48                      | 0.48                      |
| 21.350       | 0.48                      | 0.48                      | 0.48                      | 0.47                      | 0.47                      |
| 21.600       | 0.47                      | 0.47                      | 0.47                      | 0.47                      | 0.47                      |
| 21.850       | 0.47                      | 0.47                      | 0.46                      | 0.46                      | 0.46                      |
| 22.100       | 0.46                      | 0.46                      | 0.46                      | 0.46                      | 0.46                      |
| 22.350       | 0.46                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 22.600       | 0.45                      | 0.45                      | 0.45                      | 0.45                      | 0.45                      |
| 22.850       | 0.45                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 23.100       | 0.44                      | 0.44                      | 0.44                      | 0.44                      | 0.44                      |
| 23.350       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 23.600       | 0.43                      | 0.43                      | 0.43                      | 0.43                      | 0.43                      |
| 23.850       | 0.43                      | 0.42                      | 0.42                      | 0.42                      | (N/A)                     |

**Appendix I**  
**SCS Soil Report**

Hydrologic Soil Group—St. Charles County, Missouri




Soil Map may not be valid at this scale.



## MAP LEGEND

### Area of Interest (AOI)









 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines


 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points






 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available


### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: St. Charles County, Missouri  
 Survey Area Data: Version 16, Sep 28, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 2, 2012—Mar 9, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Hydrologic Soil Group

| Hydrologic Soil Group— Summary by Map Unit — St. Charles County, Missouri (MO183) |  |        |              |                |
|---|--|--------|--------------|----------------|
| Map unit symbol   | Map unit name  | Rating | Acres in AOI | Percent of AOI |
| 50009   | Keswick silt loam, 9 to 14 percent slopes, eroded              | D      | 0.0          | 0.1%           |
| 50054   | Armster silt loam, 5 to 9 percent slopes                       | D      | 17.5         | 34.2%          |
| 50059   | Mexico silt loam, 1 to 4 percent slopes, eroded                | D      | 0.2          | 0.4%           |
| 60086   | Crider silt loam, 9 to 14 percent slopes, eroded               | C      | 0.8          | 1.5%           |
| 60112   | Goss very gravelly silt loam, 14 to 45 percent slopes          | C      | 2.0          | 4.0%           |
| 60260   | Weller silt loam, 5 to 9 percent slopes                        | D      | 7.9          | 15.5%          |
| 66014   | Haymond silt loam, 0 to 3 percent slopes, frequently flooded   | B      | 22.2         | 43.3%          |
| 66116   | Haymond silt loam, 0 to 2 percent slopes, occasionally flooded | B      | 0.5          | 0.9%           |
| <b>Totals for Area of Interest</b>  |  |        | <b>51.2</b>  | <b>100.0%</b>  |

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

# **Appendix J**

## **Drainage Area Maps**



CITY OF O'FALLON  
100 North Main Street  
O'Fallon Missouri, 63366

Project:  
**O'Day Park & Activity Center**

Landscape Architect:



7722 Big Bend Blvd.  
St. Louis, MO 63119  
t. 314.644.5700

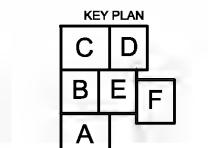
Consultant Role: ARCHITECTURE,  
MEPP ENGINEERING  
**ROSS & BARUZZINI**  
6 SOUTH OLD ORCHARD  
ST. LOUIS, MO 63119  
314.918.8383

Consultant Role: CIVIL &  
STRUCTURAL ENGINEERING  
**HORNER & SHIFRIN**  
401 SOUTH 10TH #400  
ST. LOUIS, MO 63103  
314.531.4321

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April Giesmann - Civil Engineer  
MO PE # - 2001004592

8/18/2017  
Horner & Shifrin, Inc.  
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Issues

| No. | Description  | Date     |
|-----|--------------|----------|
| 01  | PRICING SET  | 04/18/17 |
| 02  | PRELIM P&Z   | 04/28/17 |
| 03  | P&Z RESUBMIT | 05/17/17 |
| 04  | 100% DD SET  | 05/31/17 |
| 05  | 50% CD SET   | 07/14/17 |
| 06  | 90% CD SET   | 08/01/17 |
| 07  | PERMIT SET   | 08/18/17 |

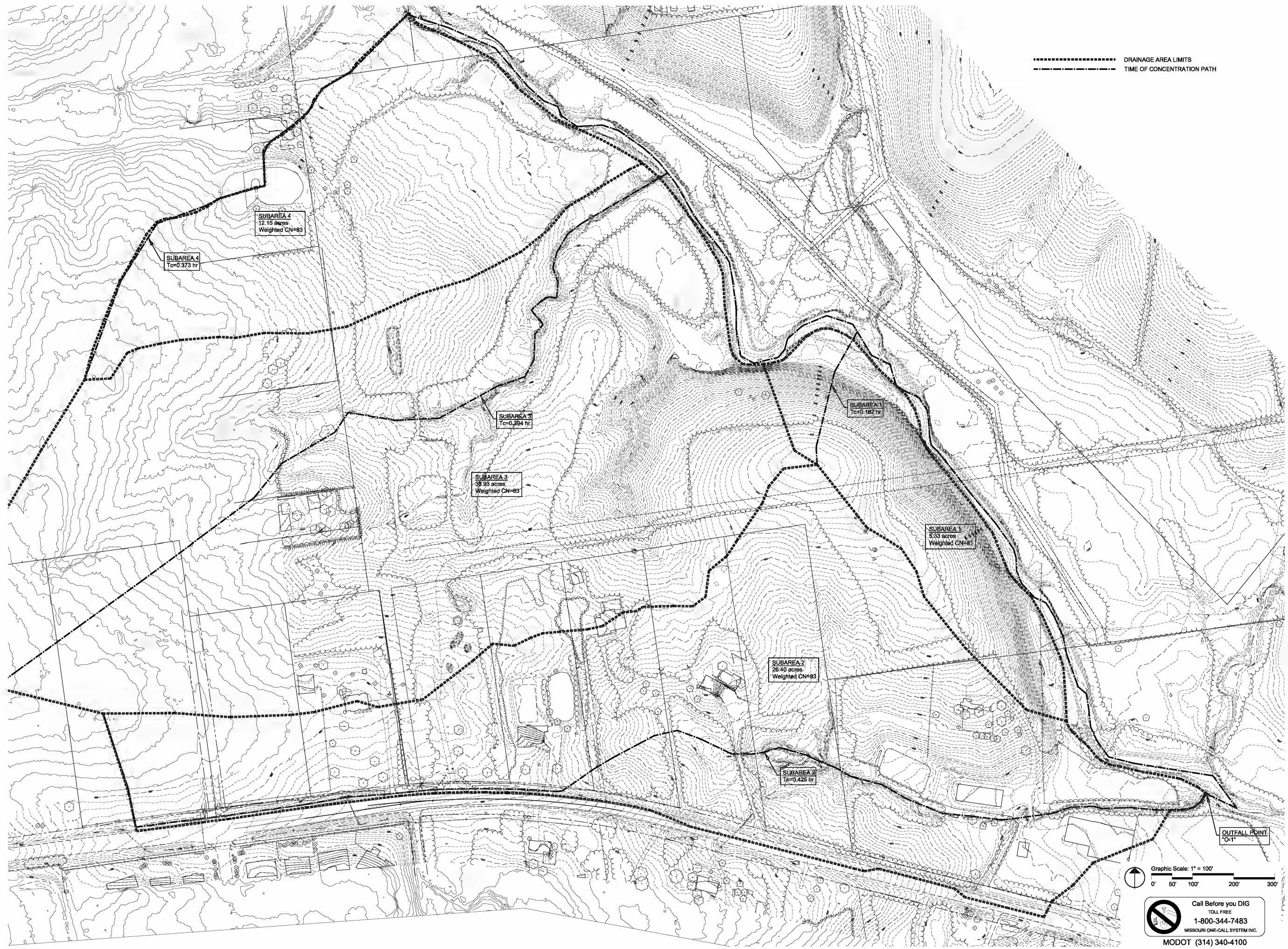
Revisions

| No. | Description | Date |
|-----|-------------|------|
|     |             |      |
|     |             |      |
|     |             |      |
|     |             |      |

SWT No. 20150.04  
Drawn \_\_\_\_\_ Reviewed \_\_\_\_\_

Sheet Title  
**EXISTING DRAINAGE AREA MAP**

Number  
**C-500**



SUBAREA 4  
12.15 acres  
Weighted CN=83

SUBAREA 4  
Tc=0.373 hr

SUBAREA 3  
Tc=0.394 hr

SUBAREA 3  
38.93 acres  
Weighted CN=83

SUBAREA 1  
Tc=0.182 hr

SUBAREA 1  
5.33 acres  
Weighted CN=81

SUBAREA 2  
26.40 acres  
Weighted CN=83

SUBAREA 2  
Tc=0.426 hr

OUTFALL POINT  
"0-1"

Graphic Scale: 1" = 100'  
0' 50' 100' 200' 300'

Call Before you DIG  
TOLL FREE  
1-800-344-7483  
MISSOURI ONE-CALL SYSTEM INC.  
MODOT (314) 340-4100

August 16, 2017 - PERMIT SET



----- DRAINAGE AREA LIMITS  
 - - - - - TIME OF CONCENTRATION PATH

Prepared For:



CITY OF ST. LOUIS, MISSOURI  
 100 North Main Street  
 St. Louis, Missouri, 63102

Project:  
**O'Day Park &  
 ACTIVITY CENTER**

Landscape Architect:



7722 Big Bend Blvd.  
 St. Louis, MO 63119  
 t. 314.644.5700

Consultant Role: ARCHITECTURE,  
 MEPP ENGINEERING  
 ROSS & BARUZZI  
 6 SOUTH OLD ORCHARD  
 ST. LOUIS, MO 63119  
 314.918.8383

Consultant Role: CIVIL &  
 STRUCTURAL ENGINEERING  
 HOMER & SHIFRIN  
 401 SOUTH 18TH AVE  
 ST. LOUIS, MO 63103  
 314.531.4321

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April Giesmann - Civil Engineer  
 MO PE # - 2001004692



8/18/2017  
 Homer & Shifrin, Inc.  
 Missouri State Certificate of  
 Authority #000159

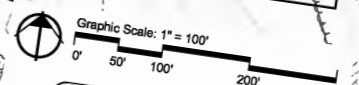
KEY PLAN



| No. | Description  | Date     |
|-----|--------------|----------|
| 01  | PRICING SET  | 04/18/17 |
| 02  | PRELIM P&Z   | 04/28/17 |
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| 05  | 50% CD SET   | 07/14/17 |
| 06  | 90% CD SET   | 08/01/17 |
| 07  | PERMIT SET   | 08/18/17 |

| No. | Description | Date |
|-----|-------------|------|
|     |             |      |
|     |             |      |
|     |             |      |

SWT No. 20150.04  
 Drawn



LIMIT SET

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