Stormwater Analysis Report
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O'Fallon Senior Living
Bax Project No. 06-13901B
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INTRODUCTION:

The currently undeveloped site is located in the City of O'Fallon, Missouri and is comprised of 6.416 acres of land. The site shall be analyzed for the construction of the proposed O'Fallon Senior Living Center on approximately 6.89 acre of land. On this site, two detention basins will be designed to provide the Stormwater Attenuation required of the development by the City of O'Fallon Design Standards for the current development. The storage volume and outflow rates shall be proportioned to insure that the peak rate of runoff leaving the tract under post- developed conditions is less than or equal to the peak rate of runoff und pre-development conditions for the 2, 15, 25, and 100 year 20 minute design storms. The safe passage of the 100 year 20 minute design storm will also be analyzed assuming the low flow slot is blocked.

GENERAL SITE DATA AND RUNOFF CALCULATIONS

The Predeveloped Runoff Factors used for the analysis are:

Land Use	Percent Impervious	PI Factors (cfs/ac)			
		2 year	15 year	25 year	100 year
Greenspace	0-5%	1.15	1.87	2.31	2.95
Pavement/ Building	100%	2.39	3.85	4.75	6.08

The Postdeveloped Runoff Factors used for the analysis are:

Land Use	Percent Impervious	PI Factors (cfs/ac)			
		2 year	15 year	25 year	100 year
Greenspace	0-5%	1.15	1.87	2.31	2.95
Pavement/ Building	100%	2.39	3.85	4.75	6.08
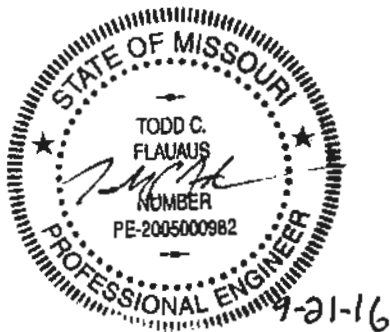
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WATER QUALITY

To ensure that sedimentation and pollution in receiving streams due to development of this site is minimized, our design will consider the Water Quality Volume requirement as described in "Georgia Stormwater Management Manual Volumes 1, 2 and 3". Water quality volume is defined as "The storage needed to capture and treat the runoff from 90% of the recorded daily rainfall events." Water Quality treatment will be provided by series of inlet filters which treat the stormwater runoff from the impervious area by filtration prior to entering the storm pipes.

To reduce the pollutants in the runoff from the site, water quality treatment will be provided by two downstream defenders as well as one Flex Storm inlet and one Trash Guard Plus.

DOWNSTREAM DEFENDER A (BASIN 1)

GI 108

$WQ_v = PR_vA/12$ ⠀⠀⠀⠀⠀ Where: P = 1.14"

⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀ $R_v = 0.05 + 0.009(I)$

⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀ I = % Impervious

⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀ A_I = Impervious Area = 1.09 ac

⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀⠀ A = Watershed Area = 1.29 ac

⠀⠀⠀ $I = A_I/A = 1.09$ ac / 1.29 ac = 0.8450 = 84.50%

⠀⠀⠀ $R_v = 0.05 + 0.009(84.50) = 0.8105$

⠀⠀⠀ $WQ_v = 1.14(.8105)(1.29)/12 = 0.09932$ ac-ft = **4,327 ft³**

The total water quality volume for this watershed is 4,327 ft³.

A Hydrodynamic Separator will be installed downstream of MH 107 to treat the runoff from this watershed.

Impervious Area to Water Quality Unit A = 1.09 acres
Total Area to Water Quality Unit A = 1.29 acres
I = 1.09 ac / 1.29 ac = 0.8450 = 84.50%
$R_v = 0.05 + 0.009(84.50) = 0.8105$

Qa = P*Rv
P = 1.14"
Qa = 1.14*0.8105 = 0.924 watershed inches

$$CN = \frac{1000}{[10+5P+10Qa-10\sqrt{(Qa^2+1.25QaP)}]}$$

CN = 97.97

Qp = qu x A x Qa
qu = 1000 csm/in
A = 1.29 acres → 0.00202 mi²
Qp = 1000 x .00202 x 0.924 = 1.87 cfs

An 6 feet diameter Downstream Defender Unit will be installed which is capable of treating a maximum of 4.25 cfs and removing 80% TSS Removal.

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To prevent resuspension of the settled solids the treatment unit will be placed off line of the main storm sewer system via a flow splitter manhole. The slitter will have a bypass line at a higher flowline to allow storms larger than the water quality flow rate to be bypassed around the unit.

Using the orifice equation below the pipe size of the discharge pipe to the BMP and a bypass pipe can be determine to pass the larger storms.

$Q = Ca\sqrt{(64.4Ho)}$

Solve for Ho → $Ho = \dfrac{(Q/(Ca))^2}{64.4}$

Q=Qp= 4.25 cfs

c = 0.6

A = 1.77 ft^2 (18" pipe)

$$Ho = \dfrac{(4.25/(0.6*1.77))^2}{64.4}$$

$$Ho = 0.25 \text{ feet}$$

$$H = 0.25 + D/2 \rightarrow 0.25 + \tfrac{1}{2}(1.5) = 1.00'$$

The bypass pipe shall be set 0.89' above the pipe discharging to the Water Quality Unit at manhole 107.

      Flow Line of Discharge Pipe to BMP – 520.98

      Flow Line of Bypass Pipe to MH 106 – 521.98

Details of the Hydrodynamic Separator and the Flow Splitter Manhole are shown on the accompanying drawings.

DOWNSTREAM DEFENDER B (BASIN 2)

GI 117

$$WQ_v = PR_vA/12$$

Where: P = 1.14"

$R_v = 0.05 + 0.009(I)$

I = % Impervious

A_I = Impervious Area = 1.58 ac

A = Watershed Area = 2.07 ac

$I = A_I/A = 1.58\ ac\ /\ 2.07\ ac = 0.7633 = 76.33\%$

$R_v = 0.05 + 0.009(76.33) = 0.737$

$WQ_v = 1.14(.737)(2.07)/12 = 0.1449\ ac\text{-}ft =$ **6,316 ft³**

The total water quality volume for this watershed is 6,316 ft³.

A Hydrodynamic Separator will be installed downstream of MH 115 to treat the runoff from this watershed.

Impervious Area to Water Quality Unit A = 1.58 acres

Total Area to Water Quality Unit A = 2.07 acres

I = 1.58 ac / 2.07 ac = 0.7633 = 76.33%

$R_v = 0.05 + 0.009(76.33) = 0.737$

Qa = P*Rv

P = 1.14"

Qa = 1.14*0.737 = 0.840 watershed inches

$$CN = \frac{1000}{[10+5P+10Qa-10\sqrt{(Qa^2+1.25QaP)}]}$$

CN = 97.03

Qp = qu x A x Qa

qu = 1000 csm/in

A = 2.07 acres → 0.003234 mi²

Qp = 1000 x .003234 x 0.840 = 2.72 cfs

An 6 feet diameter Downstream Defender Unit will be installed which is capable of treating a maximum of 4.25 cfs and removing 80% TSS Removal.

To prevent resuspension of the settled solids the treatment unit will be placed off line of the main storm sewer system via a flow splitter manhole. The slitter will have a bypass line at a higher flowline to allow storms larger than the water quality flow rate to be bypassed around the unit.

Using the orifice equation below the pipe size of the discharge pipe to the BMP and a bypass pipe can be determine to pass the larger storms.

$Q = Ca\sqrt{(64.4Ho)}$

Solve for Ho → $Ho = \dfrac{(Q/(Ca))^2}{64.4}$

Q=Qp= 4.25 cfs

c = 0.6

A = 3.142 ft^2 (24" pipe)

$$Ho = \frac{(4.25/(0.6*3.142))^2}{64.4}$$

$$Ho = 0.08 \text{ feet}$$

$$H = 0.08 + D/2 \rightarrow 0.08 + \tfrac{1}{2}(2) = 1.08'$$

The bypass pipe shall be set 1.08' above the pipe discharging to the Water Quality Unit at manhole 120B.

      Flow Line of Discharge Pipe to BMP – 515.29

      Flow Line of Bypass Pipe to MH 114– 516.37

Details of the Hydrodynamic Separator and the Flow Splitter Manhole are shown on the accompanying drawings.

INLET FILTERS

GI 101

$$WQ_v = PR_vA/12$$

Where: P = 1.14"

$R_v = 0.05 + 0.009(I)$

I = % Impervious

A_I = Impervious Area = 0.23 ac

A = Watershed Area = 0.35 ac

$I = A_I/A = 0.23 \text{ ac} / 0.35 \text{ ac} = 0.6571 = 65.71\%$

$R_v = 0.05 + 0.009(65.71) = 0.6414$

$WQ_v = 1.14(0.6414)(0.35)/12 = 0.0213 \text{ ac-ft} = 929 \text{ ft}^3$

The total water quality volume for this watershed is 929 ft^3.

An inlet filter will be installed of GI 101 to treat the runoff from this watershed. A Flex Storm Pure PC+ inlet filter will treat 1.7 cfs while removing more than 80% TSS.

Impervious Area = 0.23 acres

Total Area = 0.35 acres

$I = A_I/A = 0.23 \text{ ac} / 0.35 \text{ ac} = 0.6571 = 65.71\%$

$R_v = 0.05 + 0.009(65.71) = 0.6414$

Qa = P*Rv

P = 1.14"

Qa = 1.14*0.6414 = 0.731 watershed inches

$$CN = \frac{1000}{[10+5P+10Qa-10\sqrt{(Qa^2+1.25QaP)}]}$$

CN = 95.64

Ia=(200/CN)-2= 0.091

Ia/P = 0.080

From Chart D.11.1 qu = 1000 csm/in

Qp = qu x A x Qa

A = 0.35 acres → 0.0005469 mi^2

Qp = 1000 x .0005469 x 0.731 = 0.40 cfs

A Flex Storm inlet filter will be installed which is capable of treating a maximum of 1.70 cfs and removing 80% TSS.

Trash Guard Plus

GI 101

$$WQ_v = PR_vA/12$$

Where: P = 1.14"

$R_v = 0.05 + 0.009(I)$

I = % Impervious

A_I = Impervious Area = 0.75 ac

A = Watershed Area = 1.27 ac

$I = A_I/A = 0.75$ ac / 1.27 ac = 0.5906 = 59.06%

$R_v = 0.05 + 0.009(59.06) = 0.5815$

$WQ_v = 1.14(0.5815)(1.266)/12 = 0.06993$ ac-ft = 3,046 ft^3

The total water quality volume for this watershed is 3,046 ft^3.

A Trash Guard Plus will be installed on DCI 123 to treat the runoff from this watershed.

Impervious Area = 0.75 acres

Total Area = 1.27 acres

$I = A_I/A = 0.75$ ac / 1.27 ac = 0.5906 = 59.06%

$R_v = 0.05 + 0.009(59.06) = 0.5815$

$Q_a = P*R_v$

P = 1.14"

$Q_a = 1.14*0.5815 = 0.663$ watershed inches

$$CN = \frac{1000}{[10+5P+10Q_a-10\sqrt{(Q_a^2+1.25Q_aP)}]}$$

CN = 94.66

$I_a=(200/CN)-2= 0.113$

$I_a/P = 0.0989$

From Chart D.11.1 q_u = 1000 csm/in

$Q_p = q_u \times A \times Q_a$

A = 1.266 acres → 0.00198 mi^2

$Q_p = 1000 \times .00198 \times 0.663 = 1.31$ cfs

$Q_{15}= 3.38$ cfs

The 28" Trash Guard Plus is design to treat flows up to 2.49 cfs through the screen flow and treat a peak flow of 3.16 cfs. See accompanying calculations in Appendix A.

DETENTION BASIN CALCULATIONS

PREDEVELOPED CONDITIONS:

The Predeveloped site has four separate discharge points which will give us four separate calculations per drainage area. These four separate discharge points will be analyzed for the total runoff from the watershed using the rational method to determine the Predeveloped Runoff rates leaving the site. For this analysis, the Predeveloped Runoff for the 2, 15, 25, and 100 year 20 minute design storms will be calculated for comparison to the Postdeveloped Runoff to determine the quantity of detention that will be required.

Discharge Point 1

2 Year

$$1.81 \text{ ac} \times 1.15 \text{ cfs/ac} = 2.08 \text{ cfs}$$
$$\text{Total} = 2.08 \text{ cfs}$$

15 Year

$$1.81 \text{ ac} \times 1.87 \text{ cfs/ac} = 3.38 \text{ cfs}$$
$$\text{Total} = 3.38 \text{ cfs}$$

25 Year

$$1.81 \text{ ac} \times 2.31 \text{ cfs/ac} = 4.18 \text{ cfs}$$
$$\text{Total} = 4.18 \text{ cfs}$$

100 Year

$$1.81 \text{ ac} \times 2.95 \text{ cfs/ac} = 5.34 \text{ cfs}$$
$$\text{Total} = 5.34 \text{ cfs}$$

2 year-20 minute storm:	2.08 cfs
15 year-20 minute storm:	3.38 cfs
25 year-20 minute storm:	4.18 cfs
100 year-20 minute storm:	5.34 cfs

Discharge Point 2

2 Year

$$1.27 \text{ ac} \times 1.15 \text{ cfs/ac} = \underline{\hspace{1cm} 1.46 \text{ cfs}}$$
$$\text{Total} = 1.46 \text{ cfs}$$

15 Year

$$1.27 \text{ ac} \times 1.87 \text{ cfs/ac} = \underline{\hspace{1cm} 2.38 \text{ cfs}}$$
$$\text{Total} = 2.38 \text{ cfs}$$

25 Year

$$1.27 \text{ ac} \times 2.31 \text{ cfs/ac} = \underline{\hspace{1cm} 2.93 \text{ cfs}}$$
$$\text{Total} = 2.93 \text{ cfs}$$

100 Year

$$1.27 \text{ ac} \times 2.95 \text{ cfs/ac} = \underline{\hspace{1cm} 3.75 \text{ cfs}}$$
$$\text{Total} = 3.75 \text{ cfs}$$

2 year-20 minute storm:	1.46 cfs
15 year-20 minute storm:	2.38 cfs
25 year-20 minute storm:	2.93 cfs
100 year-20 minute storm:	3.75 cfs

Discharge Point 3

2 Year

$$1.35 \text{ ac} \times 1.15 \text{ cfs/ac} = \underline{\hspace{1cm} 1.55 \text{ cfs}}$$
$$\text{Total} = 1.55 \text{ cfs}$$

15 Year

$$1.35 \text{ ac} \times 1.87 \text{ cfs/ac} = \underline{\hspace{1cm} 2.52 \text{ cfs}}$$
$$\text{Total} = 2.52 \text{ cfs}$$

25 Year

$$1.35 \text{ ac} \times 2.31 \text{ cfs/ac} = \underline{\hspace{1cm} 3.12 \text{ cfs}}$$
$$\text{Total} = 3.12 \text{ cfs}$$

100 Year

$$1.35 \text{ ac} \times 2.95 \text{ cfs/ac} = \underline{\hspace{1cm} 3.98 \text{ cfs}}$$
$$\text{Total} = 3.98 \text{ cfs}$$

2 year-20 minute storm:	1.55 cfs
15 year-20 minute storm:	2.52 cfs
25 year-20 minute storm:	3.12 cfs
100 year-20 minute storm:	3.98 cfs

Discharge Point 4

2 Year

$$1.98 \text{ ac} \times 1.15 \text{ cfs/ac} = \underline{\hspace{2cm} 2.28 \text{ cfs}}$$
$$\text{Total} = 2.28 \text{ cfs}$$

15 Year

$$1.98 \text{ ac} \times 1.87 \text{ cfs/ac} = \underline{\hspace{2cm} 3.70 \text{ cfs}}$$
$$\text{Total} = 3.70 \text{ cfs}$$

25 Year

$$1.98 \text{ ac} \times 2.31 \text{ cfs/ac} = \underline{\hspace{2cm} 4.57 \text{ cfs}}$$
$$\text{Total} = 4.57 \text{ cfs}$$

100 Year

$$1.98 \text{ ac} \times 2.95 \text{ cfs/ac} = \underline{\hspace{2cm} 5.84 \text{ cfs}}$$
$$\text{Total} = 5.84 \text{ cfs}$$

2 year-20 minute storm:	2.28 cfs
15 year-20 minute storm:	3.70 cfs
25 year-20 minute storm:	4.57 cfs
100 year-20 minute storm:	5.84 cfs

POSTDEVELOPED CONDITIONS:

The Postdeveloped site still has four distinct watersheds to work with. Each one discharges into a different area on the site. The total runoff from the watersheds will be calculated using the rational method to determine the Postdeveloped Runoff rates leaving the site. For this analysis, the Postdeveloped runoff for the 2, 15, 25, and 100 year 20 minute design storms will be calculated for comparison to the previously calculated Predeveloped Runoff to determine the quantity of detention that will be required.

Discharge Point 1

2 Year

Green Space	0.68 ac x	1.15 cfs/ac =	0.78 cfs
Pavement / Building	1.42 ac x	2.39 cfs/ac =	3.39 cfs
Basin	0.16 ac x	2.39 cfs/ac =	0.38 cfs
		Total =	4.55 cfs

15 Year

Green Space	0.68 ac x	1.87 cfs/ac =	1.27 cfs
Pavement / Building	1.42 ac x	3.85 cfs/ac =	5.47 cfs
Basin	0.16 ac x	3.85 cfs/ac =	0.62 cfs
		Total =	7.36 cfs

25 Year

Green Space	0.68 ac x	2.31 cfs/ac =	1.57 cfs
Pavement / Building	1.42 ac x	4.75 cfs/ac =	6.75 cfs
Basin	0.16 ac x	4.75 cfs/ac =	0.76 cfs
		Total =	9.08 cfs

100 Year

Green Space	0.68 ac x	2.95 cfs/ac =	2.01 cfs
Pavement / Building	1.42 ac x	6.08 cfs/ac =	8.63 cfs
Basin	0.16 ac x	6.08 cfs/ac =	0.97 cfs
		Total =	11.61 cfs

2 year-20 minute storm:	4.55 cfs
15 year-20 minute storm:	7.36 cfs
25 year-20 minute storm:	9.08 cfs
100 year-20 minute storm:	11.61 cfs

Discharge Point 2

2 Year

Green Space	1.41 ac x	1.15 cfs/ac =		1.62 cfs
Pavement / Building	2.17 ac x	2.39 cfs/ac =		5.19 cfs
Basin	0.14 ac x	2.39 cfs/ac =		0.33 cfs
		Total =		7.14 cfs

15 Year

Green Space	1.41 ac x	1.87 cfs/ac =		2.64 cfs
Pavement / Building	2.17 ac x	3.85 cfs/ac =		8.35 cfs
Basin	0.14 ac x	3.85 cfs/ac =		0.54 cfs
		Total =		11.53 cfs

25 Year

Green Space	1.41 ac x	2.31 cfs/ac =		3.26 cfs
Pavement / Building	2.17 ac x	4.75 cfs/ac =		10.31 cfs
Basin	0.14 ac x	4.75 cfs/ac =		0.67 cfs
		Total =		14.24 cfs

100 Year

Green Space	1.41 ac x	2.95 cfs/ac =		4.16 cfs
Pavement / Building	2.17 ac x	6.08 cfs/ac =		13.19 cfs
Basin	0.14 ac x	6.08 cfs/ac =		0.85 cfs
		Total =		18.20 cfs

2 year-20 minute storm:	7.14 cfs
15 year-20 minute storm:	11.53 cfs
25 year-20 minute storm:	14.24 cfs
100 year-20 minute storm:	18.20 cfs

Discharge Point 3

2 Year
   Green Space   0.09 ac x   1.15 cfs/ac =   0.10 cfs
                                              Total =   0.10 cfs

15 Year
   Green Space   0.09 ac x   1.87 cfs/ac =   0.17 cfs
                                              Total =   0.17 cfs

25 Year
   Green Space   0.09 ac x   2.31 cfs/ac =   0.21 cfs
                                              Total =   0.21 cfs

100 Year
   Green Space   0.09 ac x   2.95 cfs/ac =   0.27 cfs
                                              Total =   0.27 cfs

         2 year-20 minute storm: 0.10 cfs
        15 year-20 minute storm: 0.17 cfs
        25 year-20 minute storm: 0.21 cfs
       100 year-20 minute storm: 0.27 cfs

Discharge Point 4

2 Year
   Green Space   0.35 ac x   1.15 cfs/ac =   0.40 cfs
                                              Total =   0.40 cfs

15 Year
   Green Space   0.35 ac x   1.87 cfs/ac =   0.65 cfs
                                              Total =   0.65 cfs

1.25 Year
   Green Space   0.35 ac x   2.31 cfs/ac =   0.81 cfs
                                              Total =   0.81 cfs

100 Year
   Green Space   0.35 ac x   2.95 cfs/ac =   1.03 cfs
                                              Total =   1.03 cfs

         2 year-20 minute storm: 0.40 cfs
        15 year-20 minute storm: 0.65 cfs
        25 year-20 minute storm: 0.81 cfs
       100 year-20 minute storm: 1.03 cfs

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DIFFERENTIAL RUNOFF

The differential runoff for each discharge point is determined by subtracting the Predeveloped Runoff rate from the Postdeveloped Runoff rate. Due to the fact that the watersheds changed on this site from Predeveloped to Postdeveloped, Discharge Points 3 and 4, the Differential Runoff calculations are going to be negative.

Discharge Point 1

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 yr	4.55 cfs	2.08 cfs	2.47 cfs
15 yr	7.36 cfs	3.38 cfs	3.98 cfs
25 yr	9.08 cfs	4.18 cfs	4.90 cfs
100 yr	11.61 cfs	5.34 cfs	6.27 cfs

Discharge Point 2

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 yr	7.14 cfs	1.46 cfs	5.68 cfs
15 yr	11.53 cfs	2.38 cfs	9.15 cfs
25 yr	14.24 cfs	2.93 cfs	11.31 cfs
100 yr	18.20 cfs	3.75 cfs	14.45 cfs

Discharge Point 3

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 yr	0.10 cfs	1.55 cfs	-1.45 cfs
15 yr	0.17 cfs	2.52 cfs	-2.35 cfs
25 yr	0.21 cfs	3.12 cfs	-2.91 cfs
100 yr	0.27 cfs	3.98 cfs	-3.71 cfs

Discharge Point 4

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 yr	0.40 cfs	2.28 cfs	-1.88 cfs
15 yr	0.65 cfs	3.70 cfs	-3.05 cfs
25 yr	0.81 cfs	4.57 cfs	-3.76 cfs
100 yr	1.03 cfs	5.84 cfs	-4.81 cfs

TIME OF CONCENTRATION:

Time of Concentration takes into account how many of your discharge points go into a basin. In this case, there will be only 2 Times of Concentration due to only 2 of the 4 discharge points leading into a water detention basin. With that said, the most remote point of Discharge Point 1 lies to the Northwestern area of the drainage map. Flows will travel approximately 117 feet overland to the storm system where the runoff is carried 208 feet to the detention basin area. As for the most remote point of Discharge Point 2, it lies in the Southeastern portion of the drainage area map. Flows will travel approximately 202 feet overland to the storm system where the runoff is carried 486 feet to the detention basin area. Time of Concentration is estimated as follows:

Discharge Point 1

T(overland):   L = 117.43 feet
                    Elevation difference = 1.41 feet
                    Surface Coefficient = 0.4(pavement)

                    T(overland) = 1.75*0.4 = 0.7 minutes:
                    See figure 1 in Appendix A

T(storm system):   L = 208.28 feet
                    Average Velocity = 7 ft/s

                    T(storm system) = 208.28 (ft) / 7 (ft/s) / 60 (s/min) = 0.5 min

Total time = 0.70 + 0.50 = 1.20 min => **use 1 minute**

Discharge Point 2

T(overland):   L = 202.35 feet
                    Elevation difference = 2.88 feet
                    Surface Coefficient = 0.4(pavement)

                    T(overland) = 2.5*0.4 = 1.0 minutes:
                    See figure 1 in Appendix A

T(storm system):   L = 486.44 feet
                    Average Velocity = 7 ft/s

                    T(storm system)= 486.44 (ft) / 7 (ft/s) / 60 (s/min)= 1.16 min

Total time = 1.0 + 1.16 = 2.16 => **use 2 minutes**

Basin Peak Inflow

Discharge Point 1

2 Year

Green Space	0.20 ac x	1.15 cfs/ac =		0.23 cfs
Pavement / Building	1.09 ac x	2.39 cfs/ac =		2.61 cfs
Basin	0.16 ac x	2.39 cfs/ac =		0.38 cfs
		Total =		3.22 cfs

15 Year

Green Space	0.20 ac x	1.87 cfs/ac =		0.37 cfs
Pavement / Building	1.09 ac x	3.85 cfs/ac =		4.20 cfs
Basin	0.16 ac x	3.85 cfs/ac =		0.62 cfs
		Total =		5.19 cfs

25 Year

Green Space	0.20 ac x	2.31 cfs/ac =		0.46 cfs
Pavement / Building	1.09 ac x	4.75 cfs/ac =		5.18 cfs
Basin	0.16 ac x	4.75 cfs/ac =		0.76 cfs
		Total =		6.40 cfs

100 Year

Green Space	0.20 ac x	2.95 cfs/ac =		0.59 cfs
Pavement / Building	1.09 ac x	6.08 cfs/ac =		6.63 cfs
Basin	0.16 ac x	6.08 cfs/ac =		0.97 cfs
		Total =		8.19 cfs

2 year-20 minute storm:	3.22 cfs
15 year-20 minute storm:	5.19 cfs
25 year-20 minute storm:	6.40 cfs
100 year-20 minute storm:	8.19 cfs

Discharge Point 2

2 Year

Green Space	1.01 ac x	1.15 cfs/ac =	1.16 cfs
Pavement / Building	2.19 ac x	2.39 cfs/ac =	5.23 cfs
Basin	0.14 ac x	2.39 cfs/ac =	0.33 cfs
		Total =	6.73 cfs

15 Year

Green Space	1.01 ac x	1.87 cfs/ac =	1.89 cfs
Pavement / Building	2.19 ac x	3.85 cfs/ac =	8.43 cfs
Basin	0.14 ac x	3.85 cfs/ac =	0.54 cfs
		Total =	10.86 cfs

25 Year

Green Space	1.01 ac x	2.31 cfs/ac =	2.33 cfs
Pavement / Building	2.19 ac x	4.75 cfs/ac =	10.40 cfs
Basin	0.14 ac x	4.75 cfs/ac =	0.67 cfs
		Total =	13.40 cfs

100 Year

Green Space	1.01 ac x	2.95 cfs/ac =	2.98 cfs
Pavement / Building	2.19 ac x	6.08 cfs/ac =	13.32 cfs
Basin	0.14 ac x	6.08 cfs/ac =	0.85 cfs
		Total =	17.15 cfs

2 year-20 minute storm:	6.73 cfs
15 year-20 minute storm:	10.86 cfs
25 year-20 minute storm:	13.40 cfs
100 year-20 minute storm:	17.15 cfs

ALLOWABLE RELEASE RATE

BASIN 1

STORM	BASIN INFLOW	-	DIFFERENTIAL RUNOFF RATE	=	ALLOWABLE RELEASE RATE
2 yr	3.22 cfs	-	2.47 cfs	=	0.75 cfs
15 yr	5.19 cfs	-	3.98 cfs	=	1.21 cfs
25 yr	6.40 cfs	-	4.90 cfs	=	1.50 cfs
100 yr	8.19 cfs	-	6.27 cfs	=	1.92 cfs

Basin 2

STORM	BASIN INFLOW	-	DIFFERENTIAL RUNOFF RATE	=	ALLOWABLE RELEASE RATE
2 yr	6.73 cfs	-	5.68 cfs	=	1.05 cfs
15 yr	10.86 cfs	-	9.15 cfs	=	1.71 cfs
25 yr	13.40 cfs	-	11.31 cfs	=	2.09 cfs
100 yr	17.15 cfs	-	14.45 cfs	=	2.70 cfs

STORM ROUTING CALCULATIONS AND RESULTS

A computer program PONDPACK was used in routing the 2, 15, 25 and 100 year storms through the two basins required for this site. The routing calculations can be found in Appendix B for the 2, 15, 25 and 100 year storms for the watershed and also the calculations for safe passage of the 100 year storms with the low flow blocked (LFB) and the basin ponded full to the top of the outfall structure. Normal Pool Elevation (Dry Bed in this case) of Basin 1 was 519.74 feet while Basin 2 was 511 feet. As found in the routing calculations, the results are as follows:

Basin 1

STORM (20 MIN)	PEAK INFLOW	ALLOWABLE RELEASE RATE	CALCULATED RELEASE	PEAK ELEVATION
2 yr	3.22 cfs	0.75 cfs	0.66 cfs	521.05 ft
15 yr	5.19 cfs	1.21 cfs	1.07 cfs	521.48 ft
25 yr	6.40 cfs	1.49 cfs	1.41 cfs	521.72 ft
100 yr	8.19 cfs	1.91 cfs	1.74 cfs	522.05 ft
100 yr LFB	8.19 cfs	N/A	8.19 cfs	522.47 ft

Basin 2

STORM (20 MIN)	PEAK INFLOW	ALLOWABLE RELEASE RATE	CALCULATED RELEASE	PEAK ELEVATION
2 yr	6.73 cfs	1.05 cfs	0.87 cfs	513.94 ft
15 yr	10.86 cfs	1.71 cfs	1.36 cfs	514.98 ft
25 yr	13.40 cfs	2.09 cfs	1.77 cfs	515.59 ft
100 yr	17.15 cfs	2.70 cfs	2.16 cfs	516.48 ft
100 yr LFB	17.15 cfs	N/A	17.16 cfs	517.45 ft

SEDIMENT STORAGE CALCULATIONS

The City of O'Fallon design standards require that all detention basins are designed to accommodate two years of sediment storage. This is accomplished by routing the design storms through the outfall structure and determining the 100 year, 20 minute high-water elevation. Using the annual sediment storage nomograph included in the Appendix of this report, we calculate the volume of sediment delivered to each of the two detention basins over a two year period. By adding the volume of sediment to the storage volume required for the 100 year, 20 minute storm, we can calculate the crest elevation of the standpipe which must be above the volume required for the 100 year, 20 minute storm and the volume required sediment storage when added together. Pond pack has been used to calculate this elevation and the results are as follows:

Basin 1

100 Year, 20 Minute Storage	$= 8{,}313.08 \text{ ft}^3$
Volume Achieved at Elevation	$= 522.05 \text{ ft}$
2 Year Sediment Storage Volume	$= 507.50 \text{ ft}^3$
Required Storage Volume	$= 8{,}820.58$
Volume Achieved at Elevation	$= 522.14 \text{ ft}$
Crest of Outfall Structure and Sill	$= 522.20 \text{ ft}$

Basin 2

100 Year, 20 Minute Storage = 18,780.90 ft^3
Volume Achieved at Elevation = 516.48 ft
2 Year Sediment Storage Volume = 1169.00 ft^3
Required Storage Volume = 19,949.78 ft^3
Volume Achieved at Elevation = 516.73 ft
Crest of Outfall Structure and Sill = 517.00 ft

SUMMARY:

Normal- Basin 1	Flow Rate	High Water
2 Year	0.66 cfs	521.05 ft
15 Year	1.07 cfs	521.48 ft
25 Year	1.41 cfs	521.72 ft
100 Year	1.74 cfs	522.05 ft
100 Year –LOW FLOW BLOCKED	8.19 cfs	522.47 ft

Normal-Basin 2	Flow Rate	High Water
2 Year	0.87 cfs	513.94 ft
15 Year	1.36 cfs	514.98 ft
25 Year	1.77 cfs	515.59 ft
100 Year	2.16 cfs	516.48 ft
100 Year –LOW FLOW BLOCKED	17.16 cfs	517.45 ft

Basin 1   3.” W x 6” H
LOW FLOW SLOT
ELEVATION   519.74

LOW FLOW SLOT   4” W x 8” H
ELEVATION   521.00

STRUCTURE TYPE   Precast Double Area Inlet Base
CREST ELEVATION   522.20

TOP OF BASIN BERM   525.00 ft
FREEBOARD   2.95 ft

Basin 2   3" W x 5" H

LOW FLOW SLOT
ELEVATION   511.00

LOW FLOW SLOT   3.5" W x 6" H
ELEVATION   514.50

STRUCTURE TYPE   Precast Double Area Inlet Base
CREST ELEVATION   517.00

TOP OF BASIN BERM   520.00 ft
FREEBOARD   3.52 ft

Appendix A
-Structure Details
-Misc Figures

21" R.C.P.

#5 BARS @ 6" O.C.
BOLTED DOWN AND
WATERPROOFED (TYP.)

TOP VIEW
N.T.S.

522.20

521.67

4"   8"

521.00

3"

6"

21" R.C.P.

519.74

519.50
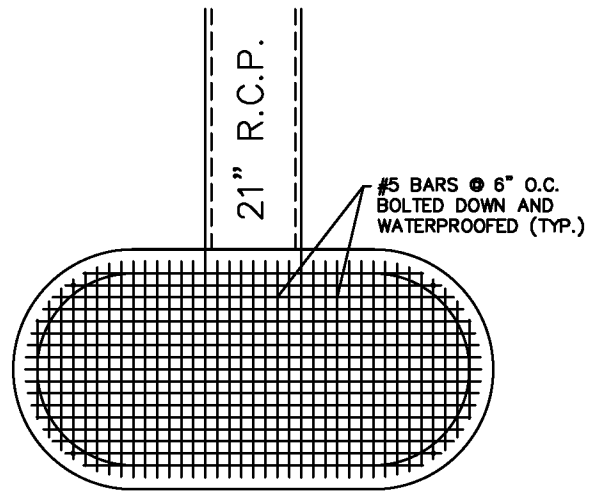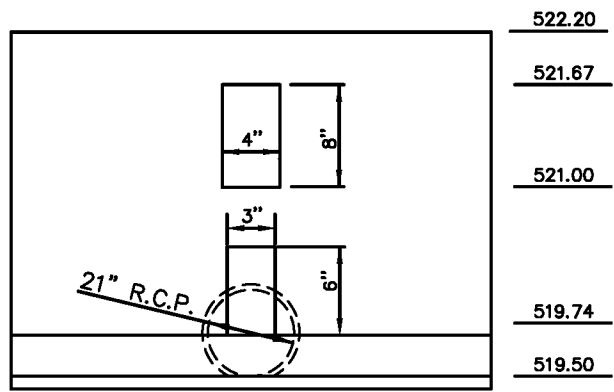
BASIN 1 OUTFLOW STRUCTURE
N.T.S.

24" R.C.P.

#5 BARS @ 6" O.C.
BOLTED DOWN AND
WATERPROOFED (TYP.)

TOP VIEW
N.T.S.

517

515.00

3.5" 6"

514.50

3"

24" R.C.P. 6"

511.00

505.50
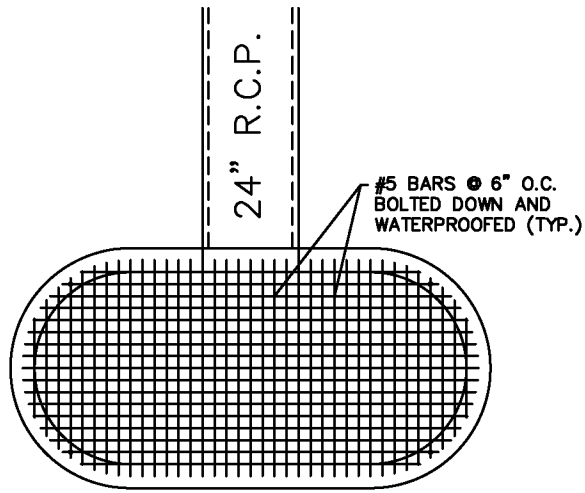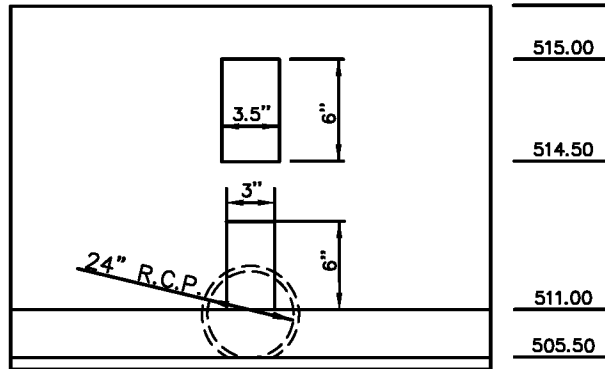
BASIN 2 OUTFLOW STRUCTURE
N.T.S.

BAX ENGINEERING

Engineering - Planning – Surveying

221 Point West Blvd.
St. Charles, MO 63301
636 928-5552   FAX 636 928-1718

Project:___O'Fallon Senior Living Center Basin 1_____
Date:__9-21-2016_____Project No:___13901B_____
Designer:___TMM_____Checked:_____

TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS

H (FT.)

EXAMPLE
Height = 100 Ft.
Length = 3,000 Ft.
Time of concentration = 14 Min.

HEIGHT OF MOST REMOTE POINT ABOVE OUTLET

Notes:
Use nomograph T_c for natural
basins with well-defined channels,
for overland flow on bare earth,
and for mowed grass road side
channels.
For overland flow, grass surfaces
multiply T_c by 2.0
For overland flow, concrete or
asphalt surfaces multiply
T_c by 0.4
For overland flow, concrete
channels multiply TC by 0.2

L (FT.)

MAXIMUM LENGTH OF TRAVEL

T_c (MIN.)

TIME OF CONCENTRATION

OVERLAND FLOW

Δ Height = ___1.41 ft_____

Length = ____117.43 ft_____

$T_{Overland}$ =__0.7 min_____

STORM SEWER TRAVEL TIME

T_{storm}=Pipe Length (L) * Assumed Velocity (V)
L = 208.28ft
V = 7 ft/s
T_{storm} = 208.28 ft / 7 ft/s / 60 sec/min = 0.5 min

Total Time of Concentration = $T_{Overland}$ + T_{storm} = 0.7 + 0.5 = 1.20 →USE 1 min.

BAX ENGINEERING

Engineering - Planning – Surveying

221 Point West Blvd.
St. Charles, MO 63301
636 928-5552   FAX 636 928-1718

Project:___O'Fallon Senior Living Center Basin 2___
Date:__9-21-2016_____Project No:___13901B_____
Designer:___TMM_____Checked:_____

TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS

H (FT.)

EXAMPLE
  Height = 100 Ft.
  Length = 3,000 Ft.
  Time of concentration = 14 Min.

HEIGHT OF MOST REMOTE POINT ABOVE OUTLET

Notes:
Use nomograph Tc for natural
 basins with well-defined channels,
 for overland flow on bare earth,
 and for mowed grass road side
 channels.
For overland flow, grass surfaces
 multiply Tc by 2.0
For overland flow, concrete or
 asphalt surfaces multiply
 Tc by 0.4
For overland flow, concrete
 channels multiply TC by 0.2

L (FT.)

MAXIMUM LENGTH OF TRAVEL

T_C (MIN.)

TIME OF CONCENTRATION

OVERLAND FLOW

Δ Height = ____2.88 ft_____

Length = _____202.35 ft_____

$T_{Overland}$ =__1.0 min_____

STORM SEWER TRAVEL TIME

T_{storm}=Pipe Length (L) * Assumed Velocity (V)
L = 486.44 ft
V = 7 ft/s
T_{storm} = 486.44 ft / 7 ft/s / 60 sec/min =1.16 min

Total Time of Concentration = $T_{Overland}$ + T_{storm} = 1.0 + 1.16 = 2.16 →USE 2 min.

BAX ENGINEERING
Engineering – Planning – Surveying
221 Point West Blvd.
St. Charles, MO 63301
636 928-5552   FAX 636 928-1718

Project: O'FALLON SENIOR LIVING CENTER
Date: 9/16/2016   Project: 13-901B
Designer: TCF   Checked: TCF

FOR BASIN 1   **ANNUAL SEDIMENT STORAGE**
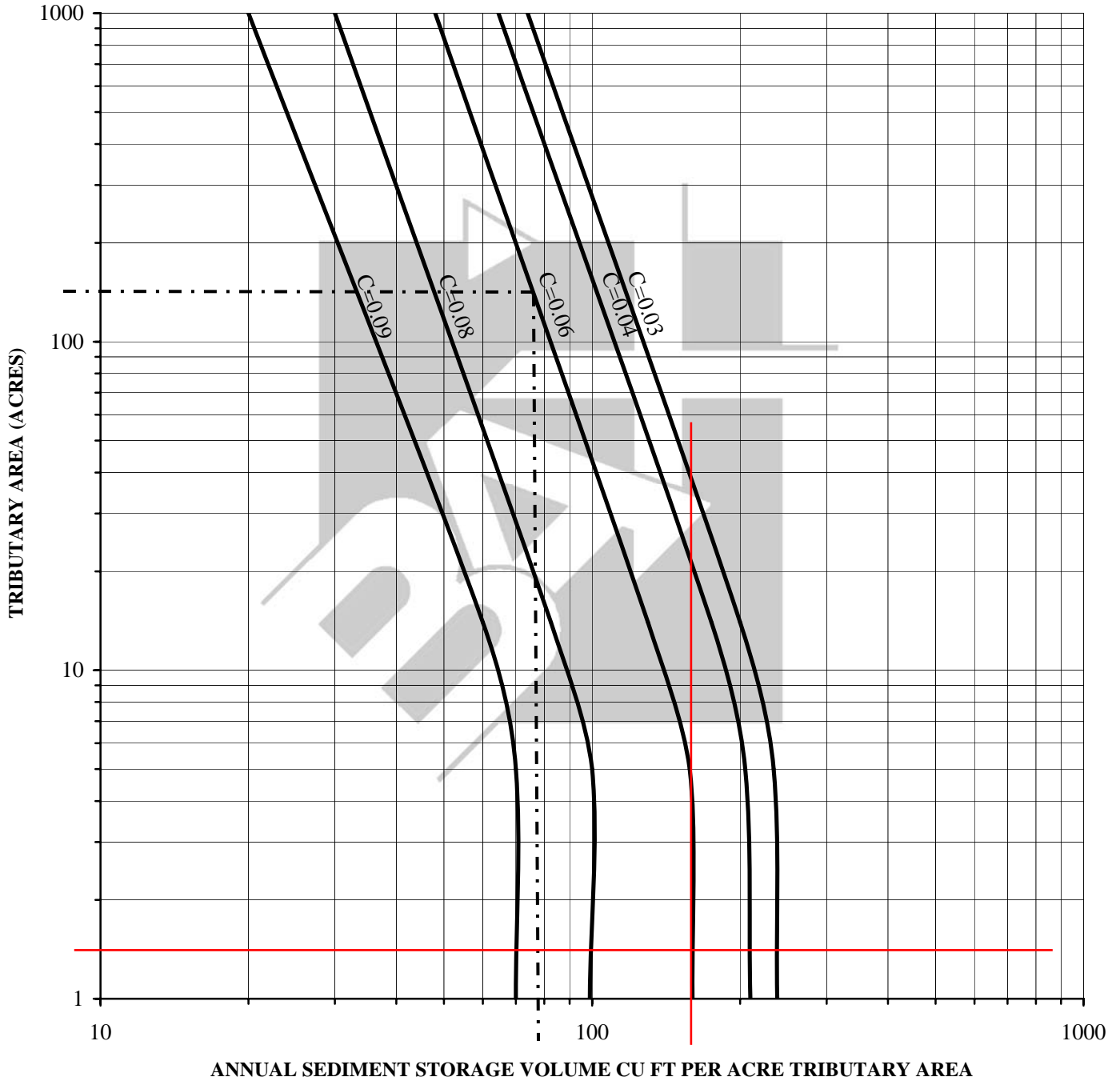
ANNUAL SEDIMENT STORAGE VOLUME CU FT PER ACRE TRIBUTARY AREA

(y-axis) TRIBUTARY AREA (ACRES)

Curves labeled: C=0.09, C=0.08, C=0.06, C=0.04, C=0.03

Storage Required = Years of Storage * Annual Sediment * Drainage Area

RUNOFF C VALUE = 0.06   YEARS OF STORAGE = 2 years
DRAINAGE AREA = 1.45 acres
ANNUAL SEDIMENT = 175 CU FT per acre   STORAGE REQUIRED = 2*175*1.45=507.50 CU FT

BAX ENGINEERING
Engineering – Planning – Surveying
221 Point West Blvd.
St. Charles, MO 63301
636 928-5552   FAX 636 928-1718

Project: O'FALLON SENIOR LIVING CENTER
Date: 9/16/2016 Project: 13-901B
Designer: TCF   Checked: TCF

FOR BASIN 2   **ANNUAL SEDIMENT STORAGE**
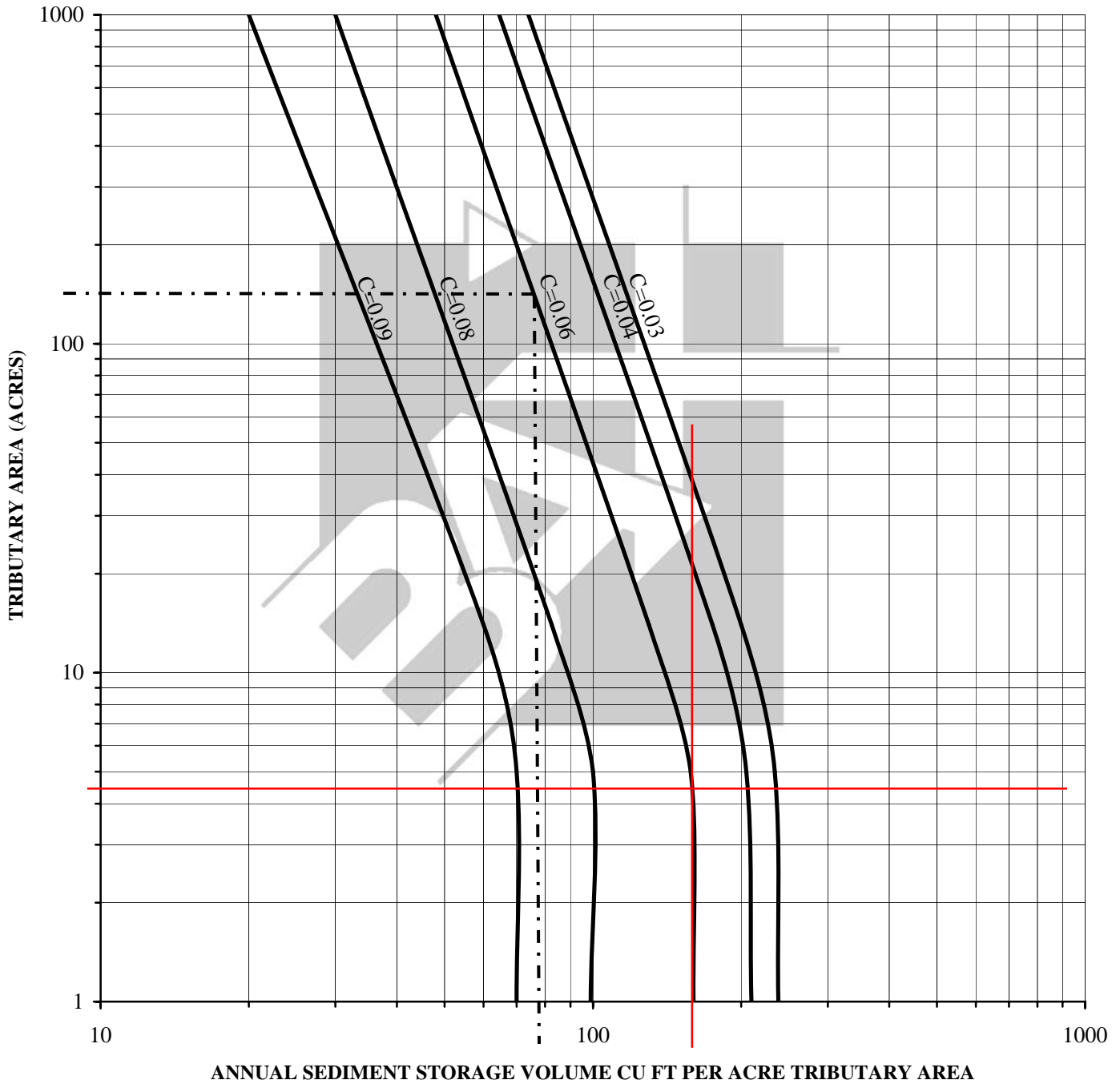
ANNUAL SEDIMENT STORAGE VOLUME CU FT PER ACRE TRIBUTARY AREA

Storage Required = Years of Storage * Annual Sediment * Drainage Area

RUNOFF C VALUE = 0.06   YEARS OF STORAGE = 2 years
DRAINAGE AREA = 3.34 acres
ANNUAL SEDIMENT = 175 CU FT per acre   STORAGE REQUIRED = 2*175*3.34=1169.00 CU FT

FLEXSTORM P/Ns 62LHDPC & 62LHDPCP
HD4 INLET TYPE: SQUARE/RECT PRECAST OPENING WITH 4 SEAT GRATE SUPPORT
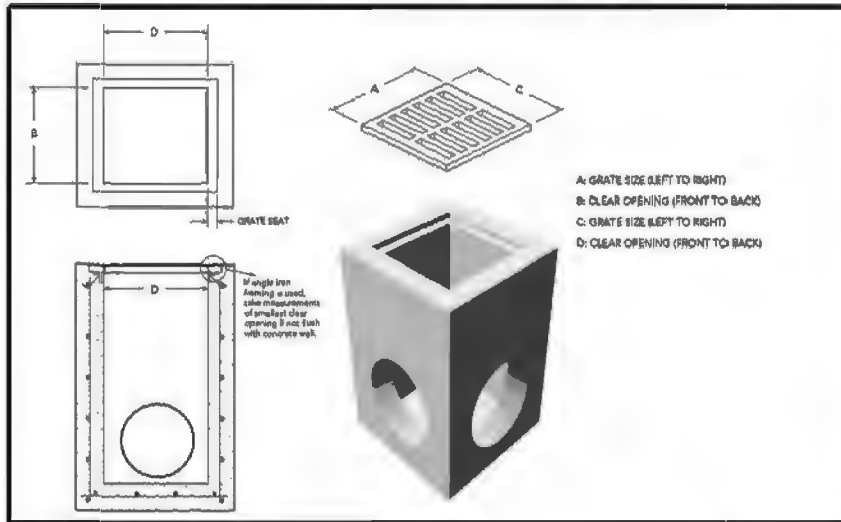
A: GRATE SIZE (LEFT TO RIGHT)
B: CLEAR OPENING (FRONT TO BACK)
C: GRATE SIZE (LEFT TO RIGHT)
D: CLEAR OPENING (FRONT TO BACK)

GRATE SEAT

If angle iron framing is used, take measurements of smallest clear opening if not flush with concrete wall.
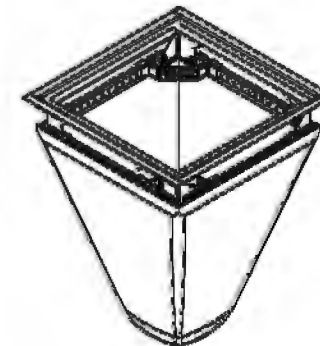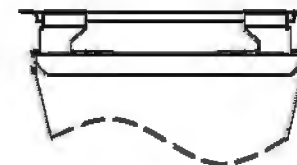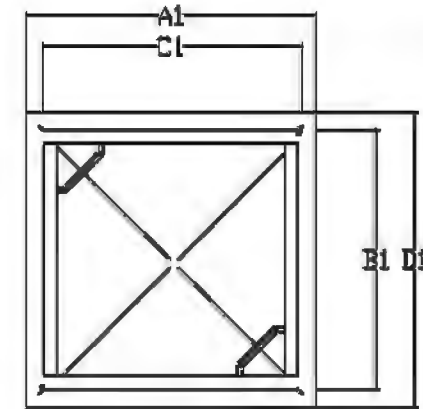
Pure Frame with PG Bag		Field Inlet Dimensions		Flexstorm Framing Dims				Flexstorm Ratings (Flow at 50% Max)			Pure Frame with PG+ Bag	
		Grate Size (A x C)	Clear Opening (B x D)	B1	D1	A1	C1	Bag Capacity (ft³)	PG/PG+ Flow Rate (CFS)	Bypass (CFS)		
ADS P/N	Flexstorm Item Code										ADS P/N	Flexstorm Item Code
62LHDPC	P-HD4-258-258-248-248-PC	25.75 X 25.75	24.25 X 24.25	22.0	21.6	25.6	25.6	3.0	1.4	4.7	62LHDPCP	P-HD4-258-258-248-248-PCP
62LHDPC	P-HD4-338-218-304-194-PC	33.75 x 21.75	30.375 x 19.375	30.0	16.5	33.5	19.1	3.0	1.4	4.9	62LHDPCP	P-HD4-338-218-304-194-PCP
62LHDPC	P-HD4-250-250-245-245-PC	25 x 25	24.5 x 24.5	24.0	21.6	27.6	24.5	3.3	1.5	4.9	62LHDPCP	P-HD4-250-250-245-245-PCP
62LHDPC	P-HD4-368-179-335-168-PC	33.75 x 17.87	33.62 x 16.62	32.0	12.5	35.5	17.5	3.5	1.5	4.6	62LHDPCP	P-HD4-368-179-335-168-PCP
62LHDPC	P-HD4-338-218-314-194-PC	33.75 x 21.75	31.375 x 19.375	32.0	16.5	33.5	21.5	3.2	1.5	5.0	62LHDPCP	P-HD4-338-218-314-194-PCP
62LHDPC	P-HD4-279-279-258-258-PC	27.875 x 27.875	26.75 x 26.75	24.0	23.0	27.5	27.5	3.5	1.5	5.1	62LHDPCP	P-HD4-279-279-258-258-PCP
62LHDPC	P-HD4-250-250-258-258-PC	25 X 25	25.37 X 25.37	24.5	23.0	28.0	27.5	3.6	1.5	5.1	62LHDPCP	P-HD4-250-250-258-258-PCP
62LHDPC	P-HD4-360-200-340-190-PC	35 x 20	34 x 19	32.5	16.0	36.0	19.5	3.1	1.5	5.1	62LHDPCP	P-HD4-360-200-340-190-PCP
62LHDPC	P-HD4-290-290-261-261-PC	29 x 29	26.1 x 26.1	28.5	23.0	29.9	29.3	3.7	1.6	5.2	62LHDPCP	P-HD4-290-290-261-261-PCP
62LHDPC	P-HD4-319-269-304-245-PC	31.87 x 26.87	30.375 x 24.62	28.0	21.6	31.5	25.5	3.6	1.6	5.3	62LHDPCP	P-HD4-319-269-304-245-PCP
62LHDPC	P-HD4-360-240-335-215-PC	36 x 24	33.5 x 21.5	32.5	19.5	36.0	23.5	3.6	1.6	5.5	62LHDPCP	P-HD4-360-240-335-215-PCP
62LHDPC	P-HD4-368-238-340-230-PC	36.75 x 23.75	34 x 22	32.0	19.0	36.5	23.5	3.9	1.7	5.6	62LHDPCP	P-HD4-368-238-340-230-PCP
62LHDPC	P-HD4-300-300-235-235-PC	30 x 30	28 x 28	28.5	26.0	30.0	29.5	4.2	1.7	5.6	62LHDPCP	P-HD4-300-300-235-235-PCP
62LHDPC	P-HD4-320-320-230-290-PC	32 x 32	29 x 29	27.5	26.0	31.0	27.5	4.4	1.7	5.7	62LHDPCP	P-HD4-320-320-230-290-PCP
62LHDPC	P-HD4-360-240-341-221-PC	36 x 24	34.125 x 22.125	32.5	19.0	36.0	23.5	3.9	1.7	5.6	62LHDPCP	P-HD4-360-240-341-221-PCP
62LHDPC	P-HD4-360-240-345-225-PC	36 x 24	34.5 x 22.5	32.5	19.5	36.0	23.5	4.0	1.7	5.8	62LHDPCP	P-HD4-360-240-345-225-PCP
62LHDPC	P-HD4-460-225-409-190-PC	46 x 22.5	40.55 x 19	40.0	16.0	43.5	17.3	3.5	1.7	5.9	62LHDPCP	P-HD4-460-225-409-190-PCP
62LHDPC	P-HD4-390-239-375-224-PC	39 x 23.87	37.5 x 22.375	35.5	19.5	39.0	23.5	4.4	1.8	5.9	62LHDPCP	P-HD4-390-239-375-224-PCP
62LHDPC	P-HD4-368-279-340-260-PC	36.87 x 27.87	34 x 26	32.0	23.0	36.5	27.5	4.7	1.8	6.0	62LHDPCP	P-HD4-368-279-340-260-PCP
62LHDPC	P-HD4-400-260-360-240-PC	40 x 26	36 x 24	36.5	21.0	39.0	23.5	4.7	1.8	6.1	62LHDPCP	P-HD4-400-260-360-240-PCP

NOTES:

1. RATINGS SHOWN ARE FOR STANDARD 22" BAG DEPTH; 'SHORT' 12" DEPTH BAGS ARE AVAILABLE WITH -S SUFFIX; RATINGS REDUCED BY ~50%.

2. THE FOLLOWING REQUIRES ADDITIONAL REVIEW

-GRATES WITH EXTENDED BOTTOMS

-ANY OBSTRUCTED INLET OPENINGS

ADS	FRAME TYPE	DWG NO	REV
C	HD4	HD4-62LHD-PC	A

SCALE | SHEET 1 OF 1

CONTRACTOR TO VERIFY FILTER IS CORRECTLY SIZED FOR THE INLETS ON SITE PRIOR TO PURCHASING AND INSTALLATION.

¾" x 4½" SLOTS

28"

¾" HOLES

5"

6"

30"

6"

10"

31.7" CURVED FACE

⅜" HOLES
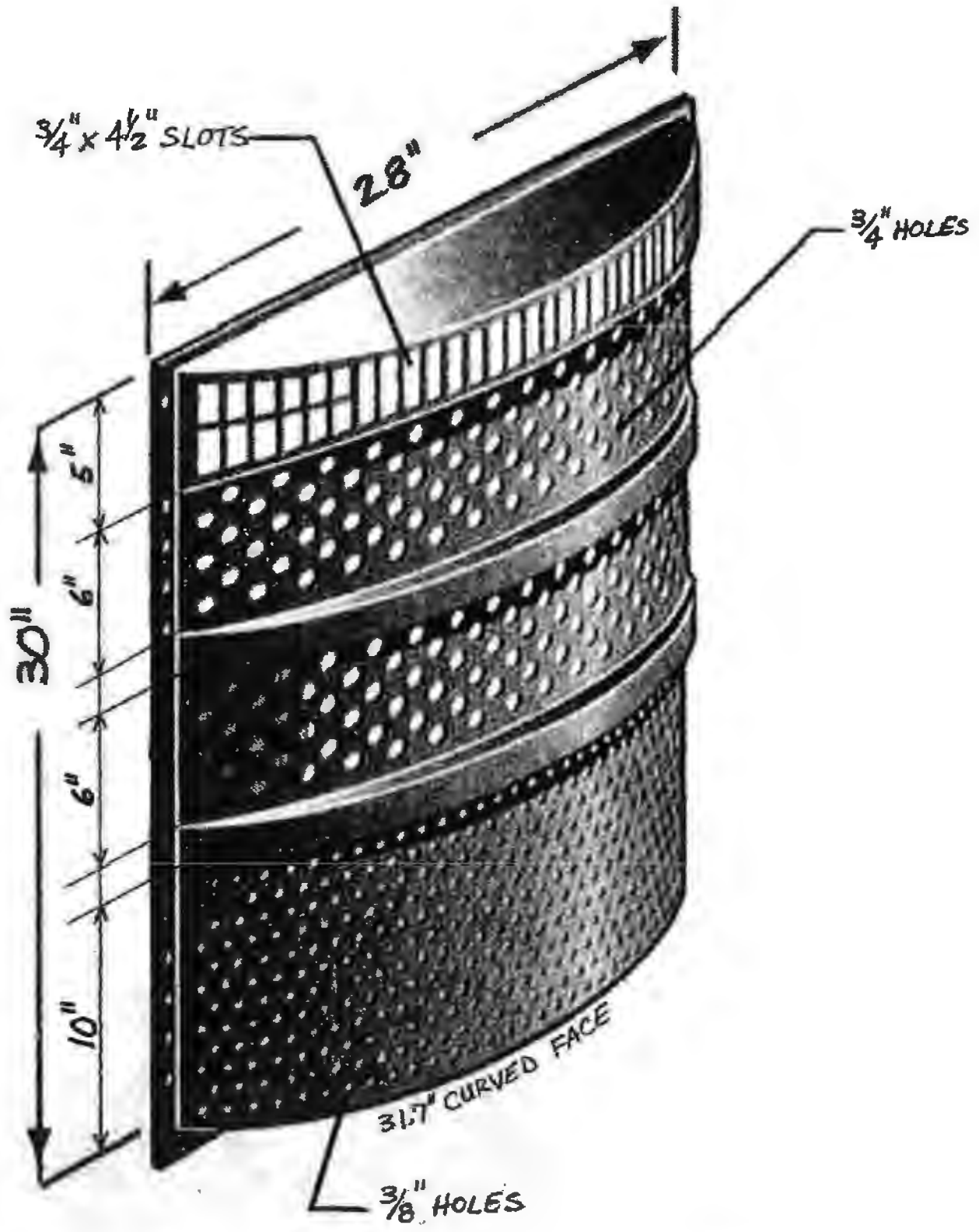
TRASHGUARD
DIMENSIONS

Appendix B
- Basin Routing
-Basin Inflow
-2 year Detention Routing
-15 year Detention Routing
-25 year Detention Routing
-100 year Detention Routing

Table of Contents

Table of Contents

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)
Site Runoff 1	2 Year 20 Min	0	3,864.000	5	3.22
Site Runoff 1	15 Year 20 Min	0	6,228.000	5	5.19
Site Runoff 1	25 Year 20 Min	0	7,680.000	5	6.40
Site Runoff 1	100 Year 20 Min	0	9,828.000	5	8.19
Site Runoff 1	100 Yr LFB	0	9,828.000	5	8.19
Site Runoff 2	2 Year 20 Min	0	8,076.000	5	6.73
Site Runoff 2	15 Year 20 Min	0	13,032.000	5	10.86
Site Runoff 2	25 Year 20 Min	0	16,080.000	5	13.40
Site Runoff 2	100 Year 20 Min	0	20,580.000	5	17.15
Site Runoff 2	100 Yr LFB	0	20,580.000	5	17.15

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)
Outflow 2	2 Year 20 Min	0	6,874.000	24	0.87
Outflow 2	15 Year 20 Min	0	8,697.000	24	1.36
Outflow 2	25 Year 20 Min	0	10,347.000	24	1.77
Outflow 2	100 Year 20 Min	0	13,038.000	24	2.16
Outflow 2	100 Yr LFB	0	17,999.000	12	17.18
Outflow 1	2 Year 20 Min	0	3,795.000	24	0.66
Outflow 1	15 Year 20 Min	0	5,791.000	24	1.07
Outflow 1	25 Year 20 Min	0	6,899.000	24	1.41
Outflow 1	100 Year 20 Min	0	8,542.000	24	1.74
Outflow 1	100 Yr LFB	0	11,449.000	0	9.34

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
Basin 2 (IN)	2 Year 20 Min	0	8,076.000	5	6.73	(N/A)	(N/A)
Basin 2 (OUT)	2 Year 20 Min	0	6,874.000	24	0.87	513.94	7,090.000
Basin 2 (IN)	15 Year 20 Min	0	13,032.000	5	10.86	(N/A)	(N/A)
Basin 2 (OUT)	15 Year 20 Min	0	8,697.000	24	1.36	514.98	11,817.000
Basin 2 (IN)	25 Year 20 Min	0	16,080.000	5	13.40	(N/A)	(N/A)
Basin 2 (OUT)	25 Year 20 Min	0	10,347.000	24	1.77	515.59	14,615.000

O'Fallon Senior Living Center Pondpack Final.ppc
9/21/2016

Bentley Systems, Inc. Haestad Methods Solution Center
27 Siemon Company Drive Suite 200 W
Watertown, CT 06795 USA +1-203-755-1666

Bentley PondPack V8i
[08.11.01.56]
Page 1 of 134

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
Basin 2 (IN)	100 Year 20 Min	0	20,580.000	5	17.15	(N/A)	(N/A)
Basin 2 (OUT)	100 Year 20 Min	0	13,038.000	24	2.16	516.48	18,773.000
Basin 2 (IN)	100 Yr LFB	0	20,374.000	6	17.15	(N/A)	(N/A)
Basin 2 (OUT)	100 Yr LFB	0	17,999.000	12	17.18	517.45	23,408.000
Basin 1 (IN)	2 Year 20 Min	0	3,864.000	5	3.22	(N/A)	(N/A)
Basin 1 (OUT)	2 Year 20 Min	0	3,795.000	24	0.66	521.05	3,203.000
Basin 1 (IN)	15 Year 20 Min	0	6,228.000	5	5.19	(N/A)	(N/A)
Basin 1 (OUT)	15 Year 20 Min	0	5,791.000	24	1.07	521.48	5,319.000
Basin 1 (IN)	25 Year 20 Min	0	7,680.000	5	6.40	(N/A)	(N/A)
Basin 1 (OUT)	25 Year 20 Min	0	6,899.000	24	1.41	521.72	6,577.000
Basin 1 (IN)	100 Year 20 Min	0	9,828.000	5	8.19	(N/A)	(N/A)
Basin 1 (OUT)	100 Year 20 Min	0	8,542.000	24	1.74	522.05	8,438.000
Basin 1 (IN)	100 Yr LFB	0	9,729.000	6	8.19	(N/A)	(N/A)
Basin 1 (OUT)	100 Yr LFB	0	11,449.000	0	9.34	522.47	10,856.000

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Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ft³)	Volume (Total) (ft³)
519.74	0.00	0.00	0.00	0.000	0.000
520.00	0.00	1,324.40	1,324.40	115.000	115.000
521.00	0.00	4,696.90	8,515.41	2,838.000	2,953.000
522.00	0.00	5,693.20	15,561.21	5,187.000	8,140.000
523.00	0.00	5,808.48	17,252.23	5,751.000	13,891.000
524.00	0.00	5,924.34	17,598.94	5,866.000	19,757.000
525.00	0.00	6,072.98	17,995.52	5,999.000	25,756.000

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Pond Volume Equations
* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2 - El1) * (Area1 + Area2 + sqr(Area1 * Area2))

where: EL1, EL2   Lower and upper elevations of the increment
          Area1, Area2   Areas computed for EL1, EL2, respectively
          Volume   Incremental volume between EL1 and EL2

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Subsection: Elevation-Area Volume Curve Return Event: 2 years
Label: Basin 2 Storm Event:

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ft³)	Volume (Total) (ft³)
511.00	0.00	0.00	0.00	0.000	0.000
512.00	0.00	1,933.95	1,933.95	645.000	645.000
513.00	0.00	3,575.32	8,138.81	2,713.000	3,358.000
514.00	0.00	4,469.61	12,042.46	4,014.000	7,372.000
515.00	0.00	4,569.98	13,559.11	4,520.000	11,891.000
516.00	0.00	4,673.13	13,864.38	4,621.000	16,513.000
517.00	0.00	4,776.56	14,174.25	4,725.000	21,238.000
518.00	0.00	4,880.68	14,485.58	4,829.000	26,066.000
519.00	0.00	4,985.84	14,799.50	4,933.000	30,999.000
520.00	0.00	5,091.90	15,116.33	5,039.000	36,038.000

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Pond Volume Equations
* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2 - El1) * (Area1 + Area2 + sqr(Area1 * Area2))

where: EL1, EL2   Lower and upper elevations of the increment

Area1, Area2   Areas computed for EL1, EL2, respectively

Volume   Incremental volume between EL1 and EL2

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Requested Pond Water Surface Elevations	
Minimum (Headwater)	519.74 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	525.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	Culvert - 1	522.20	525.00
Culvert-Circular	Culvert - 1	Forward	TW	519.54	525.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

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Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	522.20 ft
Orifice Area	21.07 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	21.0 in
Length	19.57 ft
Length (Computed Barrel)	19.57 ft
Slope (Computed)	0.002 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.015
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.094
T2 ratio (HW/D)	1.196
Slope Correction Factor	-0.500

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Use unsubmerged inlet control 0 equation below T1
elevation.
Use submerged inlet control 0 equation above T2
elevation

In transition zone between unsubmerged and submerged
inlet control,
interpolate between flows at T1 & T2...

| T1 Elevation | 521.46 ft | T1 Flow | 11.14 ft³/s |
| T2 Elevation | 521.63 ft | T2 Flow | 12.73 ft³/s |

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Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances

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 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
519.74	0.00	(N/A)	0.00
519.84	0.00	(N/A)	0.00
519.94	0.00	(N/A)	0.00
520.04	0.00	(N/A)	0.00
520.14	0.00	(N/A)	0.00
520.24	0.00	(N/A)	0.00
520.34	0.00	(N/A)	0.00
520.44	0.00	(N/A)	0.00
520.54	0.00	(N/A)	0.00
520.64	0.00	(N/A)	0.00
520.74	0.00	(N/A)	0.00
520.84	0.00	(N/A)	0.00
520.94	0.00	(N/A)	0.00
521.04	0.00	(N/A)	0.00
521.14	0.00	(N/A)	0.00
521.24	0.00	(N/A)	0.00
521.34	0.00	(N/A)	0.00
521.44	0.00	(N/A)	0.00
521.54	0.00	(N/A)	0.00
521.64	0.00	(N/A)	0.00
521.74	0.00	(N/A)	0.00
521.84	0.00	(N/A)	0.00
521.94	0.00	(N/A)	0.00
522.04	0.00	(N/A)	0.00
522.14	0.00	(N/A)	0.00
522.20	0.00	(N/A)	0.00
522.24	0.45	(N/A)	0.00
522.34	2.95	(N/A)	0.00
522.44	6.61	(N/A)	0.00
522.54	11.15	(N/A)	0.00
522.64	16.43	(N/A)	0.00
522.74	19.07	(N/A)	0.00
522.84	19.55	(N/A)	0.00
522.94	20.02	(N/A)	0.00
523.04	20.46	(N/A)	0.00
523.14	20.90	(N/A)	0.00
523.24	21.34	(N/A)	0.00
523.34	21.76	(N/A)	0.00
523.44	22.17	(N/A)	0.00
523.54	22.58	(N/A)	0.00
523.64	22.98	(N/A)	0.00
523.74	23.38	(N/A)	0.00
523.84	23.76	(N/A)	0.00
523.94	24.15	(N/A)	0.00

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Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
524.04	24.52	(N/A)	0.00
524.14	24.89	(N/A)	0.00
524.24	25.25	(N/A)	0.00
524.34	25.61	(N/A)	0.00
524.44	25.96	(N/A)	0.00
524.54	26.32	(N/A)	0.00
524.64	26.66	(N/A)	0.00
524.74	27.00	(N/A)	0.00
524.84	27.33	(N/A)	0.00
524.94	27.67	(N/A)	0.00
525.00	27.87	(N/A)	0.00

Contributing Structures
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
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(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
(no Q: Riser - 1,Culvert - 1)
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1

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Contributing Structures
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
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Riser - 1,Culvert - 1

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Requested Pond Water Surface Elevations	
Minimum (Headwater)	512.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	520.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 2	Forward	Culvert - 2	517.00	520.00
Culvert-Circular	Culvert - 2	Forward	TW	506.16	520.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 2
Structure Type: Inlet Box

Number of Openings	1
Elevation	517.00 ft
Orifice Area	21.07 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Structure ID: Culvert - 2
Structure Type: Culvert-Circular

Number of Barrels	1
Diameter	24.0 in
Length	55.38 ft
Length (Computed Barrel)	55.38 ft
Slope (Computed)	0.012 ft/ft

Outlet Control Data

Manning's n	0.013
Ke	0.200
Kb	0.012
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data

Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

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Use unsubmerged inlet control 0 equation below T1
elevation.
Use submerged inlet control 0 equation above T2
elevation

In transition zone between unsubmerged and submerged
inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	508.34 ft	T1 Flow	15.55 ft³/s
T2 Elevation	508.54 ft	T2 Flow	17.77 ft³/s

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Structure ID: TW
Structure Type: TW Setup, DS Channel

Tailwater Type	Free Outfall

Convergence Tolerances

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 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
511.00	0.00	(N/A)	0.00
511.10	0.00	(N/A)	0.00
511.20	0.00	(N/A)	0.00
511.30	0.00	(N/A)	0.00
511.40	0.00	(N/A)	0.00
511.50	0.00	(N/A)	0.00
511.60	0.00	(N/A)	0.00
511.70	0.00	(N/A)	0.00
511.80	0.00	(N/A)	0.00
511.90	0.00	(N/A)	0.00
512.00	0.00	(N/A)	0.00
512.10	0.00	(N/A)	0.00
512.20	0.00	(N/A)	0.00
512.30	0.00	(N/A)	0.00
512.40	0.00	(N/A)	0.00
512.50	0.00	(N/A)	0.00
512.60	0.00	(N/A)	0.00
512.70	0.00	(N/A)	0.00
512.80	0.00	(N/A)	0.00
512.90	0.00	(N/A)	0.00
513.00	0.00	(N/A)	0.00
513.10	0.00	(N/A)	0.00
513.20	0.00	(N/A)	0.00
513.30	0.00	(N/A)	0.00
513.40	0.00	(N/A)	0.00
513.50	0.00	(N/A)	0.00
513.60	0.00	(N/A)	0.00
513.70	0.00	(N/A)	0.00
513.80	0.00	(N/A)	0.00
513.90	0.00	(N/A)	0.00
514.00	0.00	(N/A)	0.00
514.10	0.00	(N/A)	0.00
514.20	0.00	(N/A)	0.00
514.30	0.00	(N/A)	0.00
514.40	0.00	(N/A)	0.00
514.50	0.00	(N/A)	0.00
514.60	0.00	(N/A)	0.00
514.70	0.00	(N/A)	0.00
514.80	0.00	(N/A)	0.00
514.90	0.00	(N/A)	0.00
515.00	0.00	(N/A)	0.00
515.10	0.00	(N/A)	0.00
515.20	0.00	(N/A)	0.00
515.30	0.00	(N/A)	0.00

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Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
515.40	0.00	(N/A)	0.00
515.50	0.00	(N/A)	0.00
515.60	0.00	(N/A)	0.00
515.70	0.00	(N/A)	0.00
515.80	0.00	(N/A)	0.00
515.90	0.00	(N/A)	0.00
516.00	0.00	(N/A)	0.00
516.10	0.00	(N/A)	0.00
516.20	0.00	(N/A)	0.00
516.30	0.00	(N/A)	0.00
516.40	0.00	(N/A)	0.00
516.50	0.00	(N/A)	0.00
516.60	0.00	(N/A)	0.00
516.70	0.00	(N/A)	0.00
516.80	0.00	(N/A)	0.00
516.90	0.00	(N/A)	0.00
517.00	0.00	(N/A)	0.00
517.10	1.78	(N/A)	0.00
517.20	5.03	(N/A)	0.00
517.30	9.25	(N/A)	0.00
517.40	14.23	(N/A)	0.00
517.50	19.90	(N/A)	0.00
517.60	26.15	(N/A)	0.00
517.70	32.96	(N/A)	0.00
517.80	40.27	(N/A)	0.00
517.90	48.05	(N/A)	0.00
518.00	56.28	(N/A)	0.00
518.10	57.37	(N/A)	0.00
518.20	57.64	(N/A)	0.00
518.30	57.91	(N/A)	0.00
518.40	58.18	(N/A)	0.00
518.50	58.45	(N/A)	0.00
518.60	58.71	(N/A)	0.00
518.70	58.98	(N/A)	0.00
518.80	59.24	(N/A)	0.00
518.90	59.50	(N/A)	0.00
519.00	59.77	(N/A)	0.00
519.10	60.02	(N/A)	0.00
519.20	60.28	(N/A)	0.00
519.30	60.54	(N/A)	0.00
519.40	60.80	(N/A)	0.00
519.50	61.05	(N/A)	0.00
519.60	61.31	(N/A)	0.00
519.70	61.56	(N/A)	0.00

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519.80	61.81	(N/A)	0.00
519.90	62.07	(N/A)	0.00
520.00	62.32	(N/A)	0.00

Contributing Structures
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
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Composite Outflow Summary

Contributing Structures
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
(no Q: Riser - 2,Culvert - 2)
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Composite Outflow Summary

Contributing Structures
Riser - 2,Culvert - 2
Riser - 2,Culvert - 2
Riser - 2,Culvert - 2
Riser - 2,Culvert - 2
Riser - 2,Culvert - 2

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Requested Pond Water Surface Elevations	
Minimum (Headwater)	519.74 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	525.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 1	Forward	Culvert - 1	519.74	520.24
Orifice-Area	Orifice - 4	Forward	Culvert - 1	521.67	525.00
Rectangular Weir	Weir - 4	Forward	Culvert - 1	521.00	521.67
Inlet Box	Riser - 1	Forward	Culvert - 1	522.20	525.00
Orifice-Area	Orifice - 1	Forward	Culvert - 1	520.24	525.00
Culvert-Circular	Culvert - 1	Forward	TW	519.54	525.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

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Structure ID: Weir - 1
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	519.74 ft
Weir Length	0.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Orifice - 1
Structure Type: Orifice-Area

Number of Openings	1
Elevation	519.74 ft
Orifice Area	0.13 ft²
Top Elevation	520.24 ft
Datum Elevation	519.99 ft
Orifice Coefficient	0.600

Structure ID: Riser - 1
Structure Type: Inlet Box

Number of Openings	1
Elevation	522.20 ft
Orifice Area	21.06 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

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Structure ID: Culvert - 1	
Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	21.0 in
Length	19.56 ft
Length (Computed Barrel)	19.56 ft
Slope (Computed)	0.002 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.015
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.094
T2 ratio (HW/D)	1.196
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1
elevation.
Use submerged inlet control 0 equation above T2
elevation

In transition zone between unsubmerged and submerged
inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	521.46 ft	T1 Flow	11.14 ft³/s
T2 Elevation	521.63 ft	T2 Flow	12.73 ft³/s

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Structure ID: Weir - 4 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	521.00 ft
Weir Length	0.33 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Orifice - 4 Structure Type: Orifice-Area	
Number of Openings	1
Elevation	521.00 ft
Orifice Area	0.22 ft²
Top Elevation	521.67 ft
Datum Elevation	521.34 ft
Orifice Coefficient	0.600

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
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 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
519.74	0.00	(N/A)	0.00
519.84	0.02	(N/A)	0.00
519.94	0.07	(N/A)	0.00
520.04	0.12	(N/A)	0.00
520.14	0.19	(N/A)	0.00
520.24	0.31	(N/A)	0.00
520.34	0.37	(N/A)	0.00
520.44	0.42	(N/A)	0.00
520.54	0.46	(N/A)	0.00
520.64	0.50	(N/A)	0.00
520.74	0.54	(N/A)	0.00
520.84	0.58	(N/A)	0.00
520.94	0.60	(N/A)	0.00
521.00	0.63	(N/A)	0.00
521.04	0.65	(N/A)	0.00
521.14	0.72	(N/A)	0.00
521.24	0.81	(N/A)	0.00
521.34	0.91	(N/A)	0.00
521.44	1.02	(N/A)	0.00
521.54	1.15	(N/A)	0.00
521.64	1.28	(N/A)	0.00
521.74	1.45	(N/A)	0.00
521.84	1.55	(N/A)	0.00
521.94	1.65	(N/A)	0.00
522.04	1.73	(N/A)	0.00
522.14	1.81	(N/A)	0.00
522.20	1.85	(N/A)	0.00
522.24	2.32	(N/A)	0.00
522.34	4.80	(N/A)	0.00
522.44	8.42	(N/A)	0.00
522.54	12.70	(N/A)	0.00
522.64	17.27	(N/A)	0.00
522.74	19.07	(N/A)	0.00
522.84	19.55	(N/A)	0.00
522.94	20.02	(N/A)	0.00
523.04	20.46	(N/A)	0.00
523.14	20.90	(N/A)	0.00
523.24	21.34	(N/A)	0.00
523.34	21.76	(N/A)	0.00
523.44	22.17	(N/A)	0.00
523.54	22.58	(N/A)	0.00
523.64	22.98	(N/A)	0.00
523.74	23.38	(N/A)	0.00
523.84	23.76	(N/A)	0.00

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
523.94	24.15	(N/A)	0.00
524.04	24.52	(N/A)	0.00
524.14	24.89	(N/A)	0.00
524.24	25.25	(N/A)	0.00
524.34	25.61	(N/A)	0.00
524.44	25.96	(N/A)	0.00
524.54	26.32	(N/A)	0.00
524.64	26.66	(N/A)	0.00
524.74	27.00	(N/A)	0.00
524.84	27.33	(N/A)	0.00
524.94	27.67	(N/A)	0.00
525.00	27.87	(N/A)	0.00

Contributing Structures
(no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1,Orifice - 1,Culvert - 1)
Weir - 1,Culvert - 1 (no Q: Orifice - 4,Weir - 4,Riser - 1,Orifice - 1)
Weir - 1,Culvert - 1 (no Q: Orifice - 4,Weir - 4,Riser - 1,Orifice - 1)
Weir - 1,Culvert - 1 (no Q: Orifice - 4,Weir - 4,Riser - 1,Orifice - 1)
Weir - 1,Culvert - 1 (no Q: Orifice - 4,Weir - 4,Riser - 1,Orifice - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Riser - 1)
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)

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Composite Outflow Summary

Contributing Structures
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)
Weir - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Riser - 1)
Orifice - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4,Riser - 1)
Orifice - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4,Riser - 1)
Orifice - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4,Riser - 1)
Orifice - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4,Riser - 1)
Orifice - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4,Riser - 1)
Orifice - 4,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4,Riser - 1)
Orifice - 4,Riser - 1,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4)
Orifice - 4,Riser - 1,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4)
Orifice - 4,Riser - 1,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4)
Orifice - 4,Riser - 1,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4)
Orifice - 4,Riser - 1,Orifice - 1,Culvert - 1 (no Q: Weir - 1,Weir - 4)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
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Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)

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Contributing Structures
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
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Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)
Riser - 1,Culvert - 1 (no Q: Weir - 1,Orifice - 4,Weir - 4,Orifice - 1)

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Requested Pond Water Surface Elevations	
Minimum (Headwater)	512.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	520.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Weir - 2	Forward	Culvert - 2	511.00	511.42
Orifice-Area	Orifice - 3	Forward	Culvert - 2	515.00	520.00
Rectangular Weir	Weir - 3	Forward	Culvert - 2	514.50	515.00
Inlet Box	Riser - 2	Forward	Culvert - 2	517.00	520.00
Orifice-Area	Orifice - 2	Forward	Culvert - 2	511.42	520.00
Culvert-Circular	Culvert - 2	Forward	TW	506.16	520.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

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Structure ID: Weir - 2
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	511.00 ft
Weir Length	0.25 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Orifice - 2
Structure Type: Orifice-Area

Number of Openings	1
Elevation	511.00 ft
Orifice Area	0.11 ft²
Top Elevation	511.42 ft
Datum Elevation	511.21 ft
Orifice Coefficient	0.600

Structure ID: Riser - 2
Structure Type: Inlet Box

Number of Openings	1
Elevation	517.00 ft
Orifice Area	21.07 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

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Structure ID: Culvert - 2	
Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	24.0 in
Length	55.38 ft
Length (Computed Barrel)	55.38 ft
Slope (Computed)	0.012 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.012
Kr	0.000
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.089
T2 ratio (HW/D)	1.191
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1
elevation.
Use submerged inlet control 0 equation above T2
elevation

In transition zone between unsubmerged and submerged
inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	508.34 ft	T1 Flow	15.55 ft³/s
T2 Elevation	508.54 ft	T2 Flow	17.77 ft³/s

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Structure ID: Weir - 3 Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	514.50 ft
Weir Length	0.29 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Orifice - 3 Structure Type: Orifice-Area	
Number of Openings	1
Elevation	514.50 ft
Orifice Area	0.15 ft²
Top Elevation	515.00 ft
Datum Elevation	514.75 ft
Orifice Coefficient	0.600

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
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 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
511.00	0.00	(N/A)	0.00
511.10	0.02	(N/A)	0.00
511.20	0.07	(N/A)	0.00
511.30	0.12	(N/A)	0.00
511.40	0.19	(N/A)	0.00
511.50	0.29	(N/A)	0.00
511.60	0.33	(N/A)	0.00
511.70	0.37	(N/A)	0.00
511.80	0.41	(N/A)	0.00
511.90	0.44	(N/A)	0.00
512.00	0.47	(N/A)	0.00
512.10	0.50	(N/A)	0.00
512.20	0.53	(N/A)	0.00
512.30	0.55	(N/A)	0.00
512.40	0.58	(N/A)	0.00
512.50	0.60	(N/A)	0.00
512.60	0.62	(N/A)	0.00
512.70	0.65	(N/A)	0.00
512.80	0.67	(N/A)	0.00
512.90	0.69	(N/A)	0.00
513.00	0.71	(N/A)	0.00
513.10	0.73	(N/A)	0.00
513.20	0.75	(N/A)	0.00
513.30	0.77	(N/A)	0.00
513.40	0.78	(N/A)	0.00
513.50	0.80	(N/A)	0.00
513.60	0.82	(N/A)	0.00
513.70	0.84	(N/A)	0.00
513.80	0.85	(N/A)	0.00
513.90	0.87	(N/A)	0.00
514.00	0.89	(N/A)	0.00
514.10	0.90	(N/A)	0.00
514.20	0.92	(N/A)	0.00
514.30	0.93	(N/A)	0.00
514.40	0.95	(N/A)	0.00
514.50	0.96	(N/A)	0.00
514.60	1.00	(N/A)	0.00
514.70	1.06	(N/A)	0.00
514.80	1.15	(N/A)	0.00
514.90	1.24	(N/A)	0.00
515.00	1.39	(N/A)	0.00
515.10	1.47	(N/A)	0.00
515.20	1.54	(N/A)	0.00
515.30	1.60	(N/A)	0.00

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
515.40	1.67	(N/A)	0.00
515.50	1.72	(N/A)	0.00
515.60	1.77	(N/A)	0.00
515.70	1.82	(N/A)	0.00
515.80	1.87	(N/A)	0.00
515.90	1.92	(N/A)	0.00
516.00	1.97	(N/A)	0.00
516.10	2.01	(N/A)	0.00
516.20	2.05	(N/A)	0.00
516.30	2.09	(N/A)	0.00
516.40	2.13	(N/A)	0.00
516.50	2.17	(N/A)	0.00
516.60	2.21	(N/A)	0.00
516.70	2.25	(N/A)	0.00
516.80	2.29	(N/A)	0.00
516.90	2.32	(N/A)	0.00
517.00	2.36	(N/A)	0.00
517.10	4.17	(N/A)	0.00
517.20	7.46	(N/A)	0.00
517.30	11.71	(N/A)	0.00
517.40	16.74	(N/A)	0.00
517.50	22.42	(N/A)	0.00
517.60	28.72	(N/A)	0.00
517.70	35.48	(N/A)	0.00
517.80	42.62	(N/A)	0.00
517.90	49.94	(N/A)	0.00
518.00	56.76	(N/A)	0.00
518.10	57.37	(N/A)	0.00
518.20	57.64	(N/A)	0.00
518.30	57.91	(N/A)	0.00
518.40	58.18	(N/A)	0.00
518.50	58.45	(N/A)	0.00
518.60	58.71	(N/A)	0.00
518.70	58.98	(N/A)	0.00
518.80	59.24	(N/A)	0.00
518.90	59.50	(N/A)	0.00
519.00	59.77	(N/A)	0.00
519.10	60.02	(N/A)	0.00
519.20	60.28	(N/A)	0.00
519.30	60.54	(N/A)	0.00
519.40	60.80	(N/A)	0.00
519.50	61.05	(N/A)	0.00
519.60	61.31	(N/A)	0.00
519.70	61.56	(N/A)	0.00

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Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
519.80	61.81	(N/A)	0.00
519.90	62.07	(N/A)	0.00
520.00	62.32	(N/A)	0.00

Contributing Structures
(no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2,Orifice - 2,Culvert - 2)
Weir - 2,Culvert - 2 (no Q: Orifice - 3,Weir - 3,Riser - 2,Orifice - 2)
Weir - 2,Culvert - 2 (no Q: Orifice - 3,Weir - 3,Riser - 2,Orifice - 2)
Weir - 2,Culvert - 2 (no Q: Orifice - 3,Weir - 3,Riser - 2,Orifice - 2)
Weir - 2,Culvert - 2 (no Q: Orifice - 3,Weir - 3,Riser - 2,Orifice - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)

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Subsection: Composite Rating Curve   Return Event: 2 years
Label: OS 201   Storm Event:

Composite Outflow Summary

Contributing Structures
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Riser - 2)
Weir - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Riser - 2)
Weir - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Riser - 2)
Weir - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Riser - 2)
Weir - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)

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Composite Outflow Summary

Contributing Structures
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3,Riser - 2)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)

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Contributing Structures
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Orifice - 3,Riser - 2,Orifice - 2,Culvert - 2 (no Q: Weir - 2,Weir - 3)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)
Riser - 2,Culvert - 2 (no Q: Weir - 2,Orifice - 3,Weir - 3,Orifice - 2)

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Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	519.74 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	3.22 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	0.66 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	521.05 ft
Volume (Peak)	3,203.408 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	3,864.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	3,795.000 ft³
Volume (Retained)	61.000 ft³
Volume (Unrouted)	-8.000 ft³
Error (Mass Balance)	0.2 %

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Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	519.74 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	5.19 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	1.07 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	521.48 ft
Volume (Peak)	5,319.124 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	6,228.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	5,791.000 ft³
Volume (Retained)	418.000 ft³
Volume (Unrouted)	-19.000 ft³
Error (Mass Balance)	0.3 %

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Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	519.74 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	6.40 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	1.41 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	521.72 ft
Volume (Peak)	6,576.820 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	7,680.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	6,899.000 ft³
Volume (Retained)	756.000 ft³
Volume (Unrouted)	-25.000 ft³
Error (Mass Balance)	0.3 %

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Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	519.74 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	8.19 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	1.74 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	522.05 ft
Volume (Peak)	8,437.904 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	9,828.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	8,542.000 ft³
Volume (Retained)	1,256.000 ft³
Volume (Unrouted)	-30.000 ft³
Error (Mass Balance)	0.3 %

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Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	522.50 ft
Volume (Initial)	11,001.000 ft³
Flow (Initial Outlet)	9.34 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	9.34 ft³/s
Time Increment	3 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	8.19 ft³/s	Time to Peak (Flow, In)	6 min
Flow (Peak Outlet)	9.34 ft³/s	Time to Peak (Flow, Outlet)	0 min

Elevation (Water Surface, Peak)	522.47 ft
Volume (Peak)	10,855.838 ft³

Mass Balance (ft³)	
Volume (Initial)	11,001.000 ft³
Volume (Total Inflow)	9,729.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	11,449.000 ft³
Volume (Retained)	9,281.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	519.74
1	0.64	0.57	0.64	0.00	0.03	13.000	519.87
2	1.29	2.35	2.50	0.00	0.08	67.000	519.96
3	1.93	5.33	5.57	0.00	0.12	162.000	520.03
4	2.58	9.49	9.84	0.00	0.17	288.000	520.12
5	3.22	14.74	15.29	0.00	0.28	448.000	520.21
6	3.22	20.49	21.18	0.00	0.35	621.000	520.30
7	3.22	26.15	26.93	0.00	0.39	793.000	520.37
8	3.22	31.75	32.59	0.00	0.42	964.000	520.44
9	3.22	37.29	38.19	0.00	0.45	1,128.000	520.51
10	3.22	42.78	43.73	0.00	0.47	1,294.000	520.56
11	3.22	48.23	49.22	0.00	0.50	1,459.000	520.62
12	3.22	53.64	54.67	0.00	0.51	1,621.000	520.67
13	3.22	59.02	60.08	0.00	0.53	1,783.000	520.71
14	3.22	64.36	65.46	0.00	0.55	1,944.000	520.76
15	3.22	69.67	70.80	0.00	0.56	2,102.000	520.80
16	3.22	74.96	76.11	0.00	0.58	2,266.000	520.84
17	3.22	80.22	81.40	0.00	0.59	2,419.000	520.88
18	3.22	85.46	86.66	0.00	0.60	2,578.000	520.92
19	3.22	90.69	91.90	0.00	0.61	2,738.000	520.95
20	3.22	95.88	97.13	0.00	0.62	2,894.000	520.99
21	2.58	100.40	101.68	0.00	0.64	3,031.000	521.02
22	1.93	103.62	104.91	0.00	0.65	3,128.000	521.04
23	1.29	105.53	106.84	0.00	0.66	3,185.000	521.05
24	0.64	106.14	107.46	0.00	0.66	3,203.000	521.05
25	0.00	105.47	106.78	0.00	0.66	3,183.000	521.05
26	0.00	104.17	105.47	0.00	0.65	3,145.000	521.04
27	0.00	102.88	104.17	0.00	0.65	3,106.000	521.03
28	0.00	101.60	102.88	0.00	0.64	3,067.000	521.02
29	0.00	100.32	101.60	0.00	0.64	3,029.000	521.02
30	0.00	99.06	100.32	0.00	0.63	2,991.000	521.01
31	0.00	97.80	99.06	0.00	0.63	2,953.000	521.00
32	0.00	96.55	97.80	0.00	0.63	2,914.000	520.99
33	0.00	95.30	96.55	0.00	0.62	2,876.000	520.98
34	0.00	94.07	95.30	0.00	0.62	2,839.000	520.98
35	0.00	92.84	94.07	0.00	0.62	2,802.000	520.97
36	0.00	91.61	92.84	0.00	0.61	2,765.000	520.96
37	0.00	90.39	91.61	0.00	0.61	2,729.000	520.95
38	0.00	89.18	90.39	0.00	0.61	2,693.000	520.94
39	0.00	87.98	89.18	0.00	0.60	2,656.000	520.93
40	0.00	86.78	87.98	0.00	0.60	2,619.000	520.93
41	0.00	85.58	86.78	0.00	0.60	2,582.000	520.92
42	0.00	84.39	85.58	0.00	0.60	2,545.000	520.91
43	0.00	83.20	84.39	0.00	0.59	2,509.000	520.90

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	82.02	83.20	0.00	0.59	2,473.000	520.89
45	0.00	80.84	82.02	0.00	0.59	2,438.000	520.88
46	0.00	79.67	80.84	0.00	0.59	2,403.000	520.88
47	0.00	78.50	79.67	0.00	0.58	2,368.000	520.87
48	0.00	77.33	78.50	0.00	0.58	2,334.000	520.86
49	0.00	76.17	77.33	0.00	0.58	2,301.000	520.85
50	0.00	75.02	76.17	0.00	0.58	2,267.000	520.84
51	0.00	73.87	75.02	0.00	0.57	2,232.000	520.83
52	0.00	72.72	73.87	0.00	0.57	2,196.000	520.82
53	0.00	71.59	72.72	0.00	0.57	2,161.000	520.82
54	0.00	70.46	71.59	0.00	0.57	2,126.000	520.81
55	0.00	69.33	70.46	0.00	0.56	2,092.000	520.80
56	0.00	68.21	69.33	0.00	0.56	2,058.000	520.79
57	0.00	67.10	68.21	0.00	0.56	2,025.000	520.78
58	0.00	65.99	67.10	0.00	0.55	1,992.000	520.77
59	0.00	64.89	65.99	0.00	0.55	1,960.000	520.76
60	0.00	63.79	64.89	0.00	0.55	1,928.000	520.75
61	0.00	62.71	63.79	0.00	0.54	1,896.000	520.75
62	0.00	61.62	62.71	0.00	0.54	1,864.000	520.74
63	0.00	60.55	61.62	0.00	0.54	1,830.000	520.73
64	0.00	59.48	60.55	0.00	0.53	1,797.000	520.72
65	0.00	58.42	59.48	0.00	0.53	1,764.000	520.71
66	0.00	57.36	58.42	0.00	0.53	1,732.000	520.70
67	0.00	56.31	57.36	0.00	0.52	1,700.000	520.69
68	0.00	55.27	56.31	0.00	0.52	1,669.000	520.68
69	0.00	54.24	55.27	0.00	0.52	1,639.000	520.67
70	0.00	53.21	54.24	0.00	0.51	1,608.000	520.66
71	0.00	52.19	53.21	0.00	0.51	1,579.000	520.65
72	0.00	51.18	52.19	0.00	0.51	1,550.000	520.65
73	0.00	50.17	51.18	0.00	0.50	1,520.000	520.64
74	0.00	49.18	50.17	0.00	0.50	1,488.000	520.63
75	0.00	48.19	49.18	0.00	0.50	1,457.000	520.62
76	0.00	47.20	48.19	0.00	0.49	1,427.000	520.61
77	0.00	46.23	47.20	0.00	0.49	1,397.000	520.60
78	0.00	45.26	46.23	0.00	0.48	1,368.000	520.59
79	0.00	44.30	45.26	0.00	0.48	1,339.000	520.58
80	0.00	43.35	44.30	0.00	0.48	1,311.000	520.57
81	0.00	42.41	43.35	0.00	0.47	1,284.000	520.56
82	0.00	41.47	42.41	0.00	0.47	1,256.000	520.55
83	0.00	40.54	41.47	0.00	0.46	1,230.000	520.54
84	0.00	39.62	40.54	0.00	0.46	1,201.000	520.53
85	0.00	38.71	39.62	0.00	0.46	1,172.000	520.52
86	0.00	37.81	38.71	0.00	0.45	1,144.000	520.51
87	0.00	36.91	37.81	0.00	0.45	1,117.000	520.50

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	36.03	36.91	0.00	0.44	1,090.000	520.49
89	0.00	35.15	36.03	0.00	0.44	1,064.000	520.48
90	0.00	34.28	35.15	0.00	0.43	1,038.000	520.47
91	0.00	33.42	34.28	0.00	0.43	1,013.000	520.46
92	0.00	32.57	33.42	0.00	0.43	988.000	520.45
93	0.00	31.72	32.57	0.00	0.42	964.000	520.44
94	0.00	30.89	31.72	0.00	0.42	938.000	520.43
95	0.00	30.07	30.89	0.00	0.41	912.000	520.42
96	0.00	29.25	30.07	0.00	0.41	887.000	520.41
97	0.00	28.45	29.25	0.00	0.40	862.000	520.40
98	0.00	27.65	28.45	0.00	0.40	838.000	520.39
99	0.00	26.87	27.65	0.00	0.39	814.000	520.38
100	0.00	26.10	26.87	0.00	0.39	791.000	520.37
101	0.00	25.33	26.10	0.00	0.38	769.000	520.36
102	0.00	24.58	25.33	0.00	0.38	747.000	520.35
103	0.00	23.83	24.58	0.00	0.37	725.000	520.35
104	0.00	23.09	23.83	0.00	0.37	703.000	520.34
105	0.00	22.37	23.09	0.00	0.36	680.000	520.32
106	0.00	21.66	22.37	0.00	0.36	658.000	520.31
107	0.00	20.96	21.66	0.00	0.35	636.000	520.30
108	0.00	20.27	20.96	0.00	0.34	615.000	520.29
109	0.00	19.59	20.27	0.00	0.34	594.000	520.28
110	0.00	18.93	19.59	0.00	0.33	574.000	520.27
111	0.00	18.27	18.93	0.00	0.33	555.000	520.27
112	0.00	17.63	18.27	0.00	0.32	537.000	520.26
113	0.00	16.99	17.63	0.00	0.32	518.000	520.25
114	0.00	16.37	16.99	0.00	0.31	500.000	520.24
115	0.00	15.78	16.37	0.00	0.30	481.000	520.23
116	0.00	15.21	15.78	0.00	0.29	462.000	520.22
117	0.00	14.66	15.21	0.00	0.27	445.000	520.21
118	0.00	14.14	14.66	0.00	0.26	429.000	520.20
119	0.00	13.63	14.14	0.00	0.25	413.000	520.19
120	0.00	13.15	13.63	0.00	0.24	398.000	520.18
121	0.00	12.69	13.15	0.00	0.23	384.000	520.18
122	0.00	12.24	12.69	0.00	0.22	371.000	520.17
123	0.00	11.81	12.24	0.00	0.21	359.000	520.16
124	0.00	11.40	11.81	0.00	0.20	347.000	520.15
125	0.00	11.01	11.40	0.00	0.20	335.000	520.15
126	0.00	10.63	11.01	0.00	0.19	325.000	520.14
127	0.00	10.27	10.63	0.00	0.18	313.000	520.13
128	0.00	9.91	10.27	0.00	0.18	301.000	520.13
129	0.00	9.56	9.91	0.00	0.17	290.000	520.12
130	0.00	9.22	9.56	0.00	0.17	279.000	520.11
131	0.00	8.89	9.22	0.00	0.17	269.000	520.11

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	8.56	8.89	0.00	0.16	259.000	520.10
133	0.00	8.25	8.56	0.00	0.16	249.000	520.09
134	0.00	7.94	8.25	0.00	0.15	240.000	520.09
135	0.00	7.64	7.94	0.00	0.15	231.000	520.08
136	0.00	7.34	7.64	0.00	0.15	222.000	520.08
137	0.00	7.06	7.34	0.00	0.14	213.000	520.07
138	0.00	6.78	7.06	0.00	0.14	205.000	520.06
139	0.00	6.51	6.78	0.00	0.14	197.000	520.06
140	0.00	6.24	6.51	0.00	0.13	190.000	520.05
141	0.00	5.98	6.24	0.00	0.13	182.000	520.05
142	0.00	5.73	5.98	0.00	0.13	175.000	520.04
143	0.00	5.49	5.73	0.00	0.12	168.000	520.04
144	0.00	5.25	5.49	0.00	0.12	159.000	520.03
145	0.00	5.02	5.25	0.00	0.12	151.000	520.03
146	0.00	4.79	5.02	0.00	0.11	143.000	520.02
147	0.00	4.57	4.79	0.00	0.11	135.000	520.02
148	0.00	4.36	4.57	0.00	0.11	128.000	520.01
149	0.00	4.15	4.36	0.00	0.10	120.000	520.00
150	0.00	3.95	4.15	0.00	0.10	114.000	520.00
151	0.00	3.76	3.95	0.00	0.10	107.000	519.99
152	0.00	3.57	3.76	0.00	0.09	101.000	519.99
153	0.00	3.39	3.57	0.00	0.09	95.000	519.98
154	0.00	3.21	3.39	0.00	0.09	90.000	519.98
155	0.00	3.03	3.21	0.00	0.09	85.000	519.98
156	0.00	2.87	3.03	0.00	0.08	80.000	519.97
157	0.00	2.70	2.87	0.00	0.08	76.000	519.97
158	0.00	2.54	2.70	0.00	0.08	72.000	519.96
159	0.00	2.39	2.54	0.00	0.08	68.000	519.96
160	0.00	2.24	2.39	0.00	0.07	65.000	519.95

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Peak Discharge	0.66 ft³/s
Time to Peak	24 min
Hydrograph Volume	3,794.538 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.03	0.08	0.12	0.17
5	0.28	0.35	0.39	0.42	0.45
10	0.47	0.50	0.51	0.53	0.55
15	0.56	0.58	0.59	0.60	0.61
20	0.62	0.64	0.65	0.66	0.66
25	0.66	0.65	0.65	0.64	0.64
30	0.63	0.63	0.63	0.62	0.62
35	0.62	0.61	0.61	0.61	0.60
40	0.60	0.60	0.60	0.59	0.59
45	0.59	0.59	0.58	0.58	0.58
50	0.58	0.57	0.57	0.57	0.57
55	0.56	0.56	0.56	0.55	0.55
60	0.55	0.54	0.54	0.54	0.53
65	0.53	0.53	0.52	0.52	0.52
70	0.51	0.51	0.51	0.50	0.50
75	0.50	0.49	0.49	0.48	0.48
80	0.48	0.47	0.47	0.46	0.46
85	0.46	0.45	0.45	0.44	0.44
90	0.43	0.43	0.43	0.42	0.42
95	0.41	0.41	0.40	0.40	0.39
100	0.39	0.38	0.38	0.37	0.37
105	0.36	0.36	0.35	0.34	0.34
110	0.33	0.33	0.32	0.32	0.31
115	0.30	0.29	0.27	0.26	0.25
120	0.24	0.23	0.22	0.21	0.20
125	0.20	0.19	0.18	0.18	0.17
130	0.17	0.17	0.16	0.16	0.15
135	0.15	0.15	0.14	0.14	0.14
140	0.13	0.13	0.13	0.12	0.12
145	0.12	0.11	0.11	0.11	0.10
150	0.10	0.10	0.09	0.09	0.09
155	0.09	0.08	0.08	0.08	0.08
160	0.07	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	519.74
1	1.04	0.95	1.04	0.00	0.05	22.000	519.89
2	2.08	3.87	4.07	0.00	0.10	111.000	520.00
3	3.11	8.73	9.06	0.00	0.16	264.000	520.10
4	4.15	15.42	15.99	0.00	0.29	469.000	520.22
5	5.19	24.01	24.76	0.00	0.37	730.000	520.35
6	5.19	33.53	34.39	0.00	0.43	1,016.000	520.46
7	5.19	42.96	43.91	0.00	0.47	1,300.000	520.57
8	5.19	52.32	53.34	0.00	0.51	1,582.000	520.66
9	5.19	61.62	62.70	0.00	0.54	1,864.000	520.74
10	5.19	70.86	72.00	0.00	0.57	2,139.000	520.81
11	5.19	80.07	81.24	0.00	0.59	2,415.000	520.88
12	5.19	89.24	90.45	0.00	0.61	2,695.000	520.94
13	5.19	98.35	99.62	0.00	0.63	2,969.000	521.00
14	5.19	107.40	108.73	0.00	0.66	3,241.000	521.06
15	5.19	116.37	117.78	0.00	0.71	3,512.000	521.12
16	5.19	125.25	126.75	0.00	0.75	3,779.000	521.17
17	5.19	134.02	135.63	0.00	0.80	4,044.000	521.23
18	5.19	142.70	144.40	0.00	0.85	4,305.000	521.28
19	5.19	151.27	153.08	0.00	0.90	4,565.000	521.33
20	5.19	159.74	161.65	0.00	0.96	4,820.000	521.38
21	4.15	167.06	169.08	0.00	1.01	5,042.000	521.43
22	3.11	172.24	174.32	0.00	1.04	5,198.000	521.46
23	2.08	175.30	177.43	0.00	1.07	5,290.000	521.47
24	1.04	176.27	178.42	0.00	1.07	5,319.000	521.48
25	0.00	175.18	177.31	0.00	1.06	5,286.000	521.47
26	0.00	173.08	175.18	0.00	1.05	5,223.000	521.46
27	0.00	171.02	173.08	0.00	1.03	5,161.000	521.45
28	0.00	168.98	171.02	0.00	1.02	5,100.000	521.44
29	0.00	166.96	168.98	0.00	1.01	5,038.000	521.43
30	0.00	164.98	166.96	0.00	0.99	4,978.000	521.41
31	0.00	163.01	164.98	0.00	0.98	4,919.000	521.40
32	0.00	161.08	163.01	0.00	0.97	4,860.000	521.39
33	0.00	159.17	161.08	0.00	0.95	4,803.000	521.38
34	0.00	157.29	159.17	0.00	0.94	4,746.000	521.37
35	0.00	155.43	157.29	0.00	0.93	4,690.000	521.36
36	0.00	153.59	155.43	0.00	0.92	4,635.000	521.35
37	0.00	151.78	153.59	0.00	0.91	4,580.000	521.33
38	0.00	149.99	151.78	0.00	0.90	4,526.000	521.32
39	0.00	148.22	149.99	0.00	0.88	4,472.000	521.31
40	0.00	146.47	148.22	0.00	0.87	4,419.000	521.30
41	0.00	144.74	146.47	0.00	0.86	4,367.000	521.29
42	0.00	143.03	144.74	0.00	0.85	4,315.000	521.28
43	0.00	141.34	143.03	0.00	0.84	4,265.000	521.27

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	139.68	141.34	0.00	0.83	4,215.000	521.26
45	0.00	138.03	139.68	0.00	0.82	4,165.000	521.25
46	0.00	136.40	138.03	0.00	0.81	4,116.000	521.24
47	0.00	134.79	136.40	0.00	0.80	4,068.000	521.23
48	0.00	133.20	134.79	0.00	0.80	4,019.000	521.22
49	0.00	131.63	133.20	0.00	0.79	3,971.000	521.21
50	0.00	130.07	131.63	0.00	0.78	3,924.000	521.20
51	0.00	128.53	130.07	0.00	0.77	3,878.000	521.19
52	0.00	127.00	128.53	0.00	0.76	3,832.000	521.18
53	0.00	125.49	127.00	0.00	0.75	3,786.000	521.17
54	0.00	124.00	125.49	0.00	0.75	3,742.000	521.17
55	0.00	122.53	124.00	0.00	0.74	3,697.000	521.16
56	0.00	121.07	122.53	0.00	0.73	3,654.000	521.15
57	0.00	119.62	121.07	0.00	0.72	3,610.000	521.14
58	0.00	118.19	119.62	0.00	0.72	3,567.000	521.13
59	0.00	116.77	118.19	0.00	0.71	3,524.000	521.12
60	0.00	115.37	116.77	0.00	0.70	3,481.000	521.11
61	0.00	113.98	115.37	0.00	0.70	3,439.000	521.10
62	0.00	112.60	113.98	0.00	0.69	3,398.000	521.09
63	0.00	111.24	112.60	0.00	0.68	3,356.000	521.09
64	0.00	109.88	111.24	0.00	0.68	3,316.000	521.08
65	0.00	108.54	109.88	0.00	0.67	3,275.000	521.07
66	0.00	107.22	108.54	0.00	0.66	3,236.000	521.06
67	0.00	105.90	107.22	0.00	0.66	3,196.000	521.05
68	0.00	104.60	105.90	0.00	0.65	3,157.000	521.04
69	0.00	103.30	104.60	0.00	0.65	3,118.000	521.04
70	0.00	102.02	103.30	0.00	0.64	3,080.000	521.03
71	0.00	100.74	102.02	0.00	0.64	3,041.000	521.02
72	0.00	99.47	100.74	0.00	0.63	3,003.000	521.01
73	0.00	98.21	99.47	0.00	0.63	2,965.000	521.00
74	0.00	96.96	98.21	0.00	0.63	2,927.000	520.99
75	0.00	95.71	96.96	0.00	0.62	2,889.000	520.99
76	0.00	94.47	95.71	0.00	0.62	2,851.000	520.98
77	0.00	93.24	94.47	0.00	0.62	2,814.000	520.97
78	0.00	92.01	93.24	0.00	0.61	2,777.000	520.96
79	0.00	90.79	92.01	0.00	0.61	2,741.000	520.95
80	0.00	89.58	90.79	0.00	0.61	2,705.000	520.95
81	0.00	88.37	89.58	0.00	0.60	2,669.000	520.94
82	0.00	87.17	88.37	0.00	0.60	2,631.000	520.93
83	0.00	85.97	87.17	0.00	0.60	2,594.000	520.92
84	0.00	84.78	85.97	0.00	0.60	2,557.000	520.91
85	0.00	83.59	84.78	0.00	0.59	2,521.000	520.90
86	0.00	82.41	83.59	0.00	0.59	2,485.000	520.90
87	0.00	81.23	82.41	0.00	0.59	2,449.000	520.89

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	80.05	81.23	0.00	0.59	2,414.000	520.88
89	0.00	78.88	80.05	0.00	0.59	2,380.000	520.87
90	0.00	77.72	78.88	0.00	0.58	2,345.000	520.86
91	0.00	76.55	77.72	0.00	0.58	2,312.000	520.85
92	0.00	75.40	76.55	0.00	0.58	2,278.000	520.85
93	0.00	74.25	75.40	0.00	0.58	2,244.000	520.84
94	0.00	73.10	74.25	0.00	0.57	2,208.000	520.83
95	0.00	71.96	73.10	0.00	0.57	2,173.000	520.82
96	0.00	70.83	71.96	0.00	0.57	2,138.000	520.81
97	0.00	69.70	70.83	0.00	0.56	2,103.000	520.80
98	0.00	68.58	69.70	0.00	0.56	2,069.000	520.79
99	0.00	67.47	68.58	0.00	0.56	2,036.000	520.78
100	0.00	66.36	67.47	0.00	0.55	2,003.000	520.77
101	0.00	65.25	66.36	0.00	0.55	1,970.000	520.77
102	0.00	64.16	65.25	0.00	0.55	1,938.000	520.76
103	0.00	63.06	64.16	0.00	0.55	1,907.000	520.75
104	0.00	61.98	63.06	0.00	0.54	1,876.000	520.74
105	0.00	60.90	61.98	0.00	0.54	1,842.000	520.73
106	0.00	59.83	60.90	0.00	0.54	1,808.000	520.72
107	0.00	58.77	59.83	0.00	0.53	1,775.000	520.71
108	0.00	57.71	58.77	0.00	0.53	1,743.000	520.70
109	0.00	56.66	57.71	0.00	0.52	1,711.000	520.69
110	0.00	55.62	56.66	0.00	0.52	1,679.000	520.68
111	0.00	54.58	55.62	0.00	0.52	1,649.000	520.68
112	0.00	53.55	54.58	0.00	0.51	1,618.000	520.67
113	0.00	52.53	53.55	0.00	0.51	1,588.000	520.66
114	0.00	51.51	52.53	0.00	0.51	1,559.000	520.65
115	0.00	50.50	51.51	0.00	0.50	1,530.000	520.64
116	0.00	49.50	50.50	0.00	0.50	1,498.000	520.63
117	0.00	48.51	49.50	0.00	0.50	1,467.000	520.62
118	0.00	47.53	48.51	0.00	0.49	1,437.000	520.61
119	0.00	46.55	47.53	0.00	0.49	1,407.000	520.60
120	0.00	45.58	46.55	0.00	0.48	1,377.000	520.59
121	0.00	44.62	45.58	0.00	0.48	1,349.000	520.58
122	0.00	43.66	44.62	0.00	0.48	1,320.000	520.57
123	0.00	42.72	43.66	0.00	0.47	1,293.000	520.56
124	0.00	41.78	42.72	0.00	0.47	1,265.000	520.55
125	0.00	40.85	41.78	0.00	0.47	1,239.000	520.54
126	0.00	39.92	40.85	0.00	0.46	1,211.000	520.53
127	0.00	39.01	39.92	0.00	0.46	1,182.000	520.52
128	0.00	38.10	39.01	0.00	0.45	1,153.000	520.51
129	0.00	37.21	38.10	0.00	0.45	1,126.000	520.50
130	0.00	36.32	37.21	0.00	0.44	1,099.000	520.49
131	0.00	35.44	36.32	0.00	0.44	1,072.000	520.49

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	34.57	35.44	0.00	0.44	1,046.000	520.48
133	0.00	33.70	34.57	0.00	0.43	1,021.000	520.47
134	0.00	32.85	33.70	0.00	0.43	996.000	520.46
135	0.00	32.00	32.85	0.00	0.42	972.000	520.45
136	0.00	31.16	32.00	0.00	0.42	947.000	520.44
137	0.00	30.34	31.16	0.00	0.41	921.000	520.43
138	0.00	29.52	30.34	0.00	0.41	895.000	520.42
139	0.00	28.71	29.52	0.00	0.40	870.000	520.41
140	0.00	27.92	28.71	0.00	0.40	846.000	520.40
141	0.00	27.13	27.92	0.00	0.39	822.000	520.39
142	0.00	26.35	27.13	0.00	0.39	799.000	520.38
143	0.00	25.58	26.35	0.00	0.38	776.000	520.37
144	0.00	24.82	25.58	0.00	0.38	754.000	520.36
145	0.00	24.07	24.82	0.00	0.37	732.000	520.35
146	0.00	23.34	24.07	0.00	0.37	711.000	520.34
147	0.00	22.61	23.34	0.00	0.36	688.000	520.33
148	0.00	21.89	22.61	0.00	0.36	665.000	520.32
149	0.00	21.19	21.89	0.00	0.35	643.000	520.31
150	0.00	20.50	21.19	0.00	0.35	622.000	520.30
151	0.00	19.82	20.50	0.00	0.34	601.000	520.29
152	0.00	19.15	19.82	0.00	0.33	581.000	520.28
153	0.00	18.49	19.15	0.00	0.33	562.000	520.27
154	0.00	17.84	18.49	0.00	0.32	543.000	520.26
155	0.00	17.20	17.84	0.00	0.32	524.000	520.25
156	0.00	16.58	17.20	0.00	0.31	507.000	520.24
157	0.00	15.97	16.58	0.00	0.30	487.000	520.23
158	0.00	15.39	15.97	0.00	0.29	468.000	520.22
159	0.00	14.84	15.39	0.00	0.28	451.000	520.21
160	0.00	14.31	14.84	0.00	0.27	434.000	520.20

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Subsection: Pond Routed Hydrograph (total out)   Return Event: 15 years
Label: Basin 1 (OUT)   Storm Event:

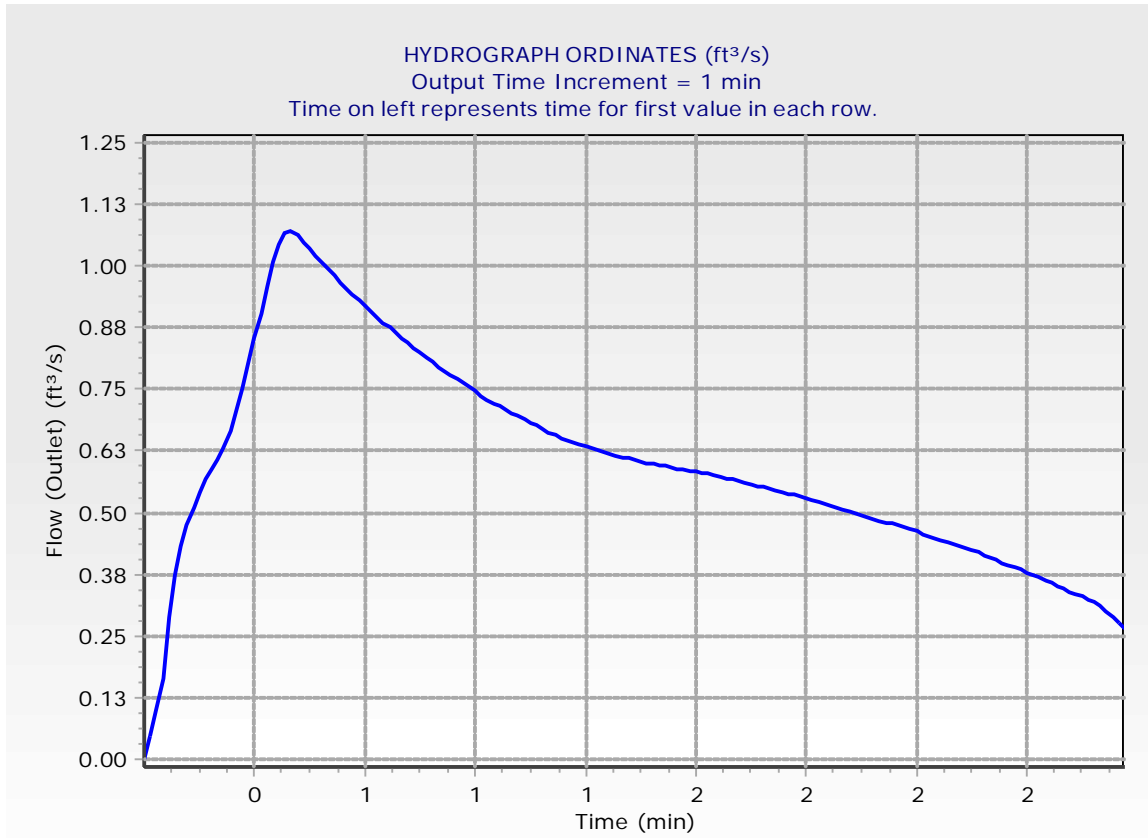| Peak Discharge	1.07 ft³/s
Time to Peak	24 min
Hydrograph Volume	5,790.926 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.05	0.10	0.16	0.29
5	0.37	0.43	0.47	0.51	0.54
10	0.57	0.59	0.61	0.63	0.66
15	0.71	0.75	0.80	0.85	0.90
20	0.96	1.01	1.04	1.07	1.07
25	1.06	1.05	1.03	1.02	1.01
30	0.99	0.98	0.97	0.95	0.94
35	0.93	0.92	0.91	0.90	0.88
40	0.87	0.86	0.85	0.84	0.83
45	0.82	0.81	0.80	0.80	0.79
50	0.78	0.77	0.76	0.75	0.75
55	0.74	0.73	0.72	0.72	0.71
60	0.70	0.70	0.69	0.68	0.68
65	0.67	0.66	0.66	0.65	0.65
70	0.64	0.64	0.63	0.63	0.63
75	0.62	0.62	0.62	0.61	0.61
80	0.61	0.60	0.60	0.60	0.60
85	0.59	0.59	0.59	0.59	0.59
90	0.58	0.58	0.58	0.58	0.57
95	0.57	0.57	0.56	0.56	0.56
100	0.55	0.55	0.55	0.55	0.54
105	0.54	0.54	0.53	0.53	0.52
110	0.52	0.52	0.51	0.51	0.51
115	0.50	0.50	0.50	0.49	0.49
120	0.48	0.48	0.48	0.47	0.47
125	0.47	0.46	0.46	0.45	0.45
130	0.44	0.44	0.44	0.43	0.43
135	0.42	0.42	0.41	0.41	0.40
140	0.40	0.39	0.39	0.38	0.38
145	0.37	0.37	0.36	0.36	0.35
150	0.35	0.34	0.33	0.33	0.32
155	0.32	0.31	0.30	0.29	0.28
160	0.27	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	519.74
1	1.28	1.18	1.28	0.00	0.05	30.000	519.91
2	2.56	4.79	5.02	0.00	0.11	143.000	520.02
3	3.84	10.81	11.19	0.00	0.19	330.000	520.14
4	5.12	19.10	19.77	0.00	0.33	580.000	520.28
5	6.40	29.80	30.62	0.00	0.41	904.000	520.42
6	6.40	41.66	42.60	0.00	0.47	1,262.000	520.55
7	6.40	53.43	54.46	0.00	0.51	1,615.000	520.67
8	6.40	65.13	66.23	0.00	0.55	1,967.000	520.77
9	6.40	76.77	77.93	0.00	0.58	2,318.000	520.86
10	6.40	88.36	89.57	0.00	0.60	2,668.000	520.94
11	6.40	99.89	101.16	0.00	0.64	3,016.000	521.01
12	6.40	111.32	112.69	0.00	0.68	3,359.000	521.09
13	6.40	122.64	124.12	0.00	0.74	3,701.000	521.16
14	6.40	133.85	135.44	0.00	0.80	4,039.000	521.23
15	6.40	144.92	146.65	0.00	0.87	4,372.000	521.29
16	6.40	155.85	157.72	0.00	0.93	4,703.000	521.36
17	6.40	166.64	168.65	0.00	1.00	5,029.000	521.42
18	6.40	177.28	179.44	0.00	1.08	5,350.000	521.49
19	6.40	187.77	190.08	0.00	1.15	5,667.000	521.55
20	6.40	198.11	200.57	0.00	1.23	5,979.000	521.61
21	5.12	207.02	209.63	0.00	1.31	6,249.000	521.66
22	3.84	213.24	215.98	0.00	1.37	6,437.000	521.69
23	2.56	216.83	219.64	0.00	1.40	6,546.000	521.71
24	1.28	217.84	220.67	0.00	1.41	6,577.000	521.72
25	0.00	216.32	219.12	0.00	1.40	6,531.000	521.71
26	0.00	213.58	216.32	0.00	1.37	6,447.000	521.69
27	0.00	210.89	213.58	0.00	1.34	6,366.000	521.68
28	0.00	208.25	210.89	0.00	1.32	6,286.000	521.66
29	0.00	205.67	208.25	0.00	1.29	6,208.000	521.65
30	0.00	203.13	205.67	0.00	1.27	6,132.000	521.64
31	0.00	200.63	203.13	0.00	1.25	6,056.000	521.62
32	0.00	198.17	200.63	0.00	1.23	5,981.000	521.61
33	0.00	195.74	198.17	0.00	1.21	5,907.000	521.59
34	0.00	193.34	195.74	0.00	1.20	5,835.000	521.58
35	0.00	190.99	193.34	0.00	1.18	5,764.000	521.57
36	0.00	188.66	190.99	0.00	1.16	5,694.000	521.55
37	0.00	186.37	188.66	0.00	1.14	5,626.000	521.54
38	0.00	184.12	186.37	0.00	1.13	5,557.000	521.53
39	0.00	181.89	184.12	0.00	1.11	5,489.000	521.51
40	0.00	179.70	181.89	0.00	1.10	5,423.000	521.50
41	0.00	177.54	179.70	0.00	1.08	5,357.000	521.49
42	0.00	175.41	177.54	0.00	1.07	5,293.000	521.48
43	0.00	173.30	175.41	0.00	1.05	5,230.000	521.46

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	171.23	173.30	0.00	1.04	5,168.000	521.45
45	0.00	169.19	171.23	0.00	1.02	5,106.000	521.44
46	0.00	167.17	169.19	0.00	1.01	5,045.000	521.43
47	0.00	165.18	167.17	0.00	0.99	4,984.000	521.41
48	0.00	163.22	165.18	0.00	0.98	4,925.000	521.40
49	0.00	161.28	163.22	0.00	0.97	4,866.000	521.39
50	0.00	159.37	161.28	0.00	0.96	4,809.000	521.38
51	0.00	157.48	159.37	0.00	0.94	4,752.000	521.37
52	0.00	155.62	157.48	0.00	0.93	4,696.000	521.36
53	0.00	153.78	155.62	0.00	0.92	4,641.000	521.35
54	0.00	151.97	153.78	0.00	0.91	4,586.000	521.34
55	0.00	150.17	151.97	0.00	0.90	4,531.000	521.33
56	0.00	148.40	150.17	0.00	0.89	4,478.000	521.31
57	0.00	146.65	148.40	0.00	0.88	4,425.000	521.30
58	0.00	144.92	146.65	0.00	0.87	4,372.000	521.29
59	0.00	143.21	144.92	0.00	0.85	4,321.000	521.28
60	0.00	141.52	143.21	0.00	0.84	4,270.000	521.27
61	0.00	139.85	141.52	0.00	0.83	4,220.000	521.26
62	0.00	138.20	139.85	0.00	0.82	4,170.000	521.25
63	0.00	136.57	138.20	0.00	0.81	4,122.000	521.24
64	0.00	134.96	136.57	0.00	0.81	4,073.000	521.23
65	0.00	133.37	134.96	0.00	0.80	4,024.000	521.22
66	0.00	131.79	133.37	0.00	0.79	3,976.000	521.21
67	0.00	130.23	131.79	0.00	0.78	3,929.000	521.20
68	0.00	128.69	130.23	0.00	0.77	3,883.000	521.19
69	0.00	127.16	128.69	0.00	0.76	3,837.000	521.18
70	0.00	125.65	127.16	0.00	0.75	3,791.000	521.18
71	0.00	124.16	125.65	0.00	0.75	3,746.000	521.17
72	0.00	122.68	124.16	0.00	0.74	3,702.000	521.16
73	0.00	121.22	122.68	0.00	0.73	3,658.000	521.15
74	0.00	119.77	121.22	0.00	0.72	3,615.000	521.14
75	0.00	118.34	119.77	0.00	0.72	3,571.000	521.13
76	0.00	116.92	118.34	0.00	0.71	3,528.000	521.12
77	0.00	115.52	116.92	0.00	0.70	3,486.000	521.11
78	0.00	114.13	115.52	0.00	0.70	3,444.000	521.10
79	0.00	112.75	114.13	0.00	0.69	3,402.000	521.09
80	0.00	111.38	112.75	0.00	0.68	3,361.000	521.09
81	0.00	110.02	111.38	0.00	0.68	3,320.000	521.08
82	0.00	108.68	110.02	0.00	0.67	3,280.000	521.07
83	0.00	107.35	108.68	0.00	0.66	3,240.000	521.06
84	0.00	106.04	107.35	0.00	0.66	3,200.000	521.05
85	0.00	104.73	106.04	0.00	0.65	3,161.000	521.04
86	0.00	103.44	104.73	0.00	0.65	3,123.000	521.04
87	0.00	102.15	103.44	0.00	0.64	3,084.000	521.03

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	100.88	102.15	0.00	0.64	3,045.000	521.02
89	0.00	99.61	100.88	0.00	0.63	3,007.000	521.01
90	0.00	98.35	99.61	0.00	0.63	2,969.000	521.00
91	0.00	97.09	98.35	0.00	0.63	2,931.000	521.00
92	0.00	95.85	97.09	0.00	0.62	2,893.000	520.99
93	0.00	94.60	95.85	0.00	0.62	2,855.000	520.98
94	0.00	93.37	94.60	0.00	0.62	2,818.000	520.97
95	0.00	92.14	93.37	0.00	0.61	2,781.000	520.96
96	0.00	90.92	92.14	0.00	0.61	2,745.000	520.95
97	0.00	89.71	90.92	0.00	0.61	2,709.000	520.95
98	0.00	88.50	89.71	0.00	0.60	2,673.000	520.94
99	0.00	87.30	88.50	0.00	0.60	2,635.000	520.93
100	0.00	86.10	87.30	0.00	0.60	2,598.000	520.92
101	0.00	84.90	86.10	0.00	0.60	2,561.000	520.91
102	0.00	83.72	84.90	0.00	0.59	2,525.000	520.90
103	0.00	82.53	83.72	0.00	0.59	2,489.000	520.90
104	0.00	81.35	82.53	0.00	0.59	2,453.000	520.89
105	0.00	80.18	81.35	0.00	0.59	2,418.000	520.88
106	0.00	79.00	80.18	0.00	0.59	2,383.000	520.87
107	0.00	77.84	79.00	0.00	0.58	2,349.000	520.86
108	0.00	76.68	77.84	0.00	0.58	2,315.000	520.85
109	0.00	75.52	76.68	0.00	0.58	2,282.000	520.85
110	0.00	74.37	75.52	0.00	0.58	2,248.000	520.84
111	0.00	73.22	74.37	0.00	0.57	2,212.000	520.83
112	0.00	72.08	73.22	0.00	0.57	2,176.000	520.82
113	0.00	70.95	72.08	0.00	0.57	2,141.000	520.81
114	0.00	69.82	70.95	0.00	0.56	2,107.000	520.80
115	0.00	68.70	69.82	0.00	0.56	2,073.000	520.79
116	0.00	67.58	68.70	0.00	0.56	2,039.000	520.78
117	0.00	66.47	67.58	0.00	0.55	2,006.000	520.78
118	0.00	65.37	66.47	0.00	0.55	1,974.000	520.77
119	0.00	64.27	65.37	0.00	0.55	1,942.000	520.76
120	0.00	63.18	64.27	0.00	0.55	1,910.000	520.75
121	0.00	62.09	63.18	0.00	0.54	1,879.000	520.74
122	0.00	61.01	62.09	0.00	0.54	1,845.000	520.73
123	0.00	59.94	61.01	0.00	0.54	1,812.000	520.72
124	0.00	58.88	59.94	0.00	0.53	1,779.000	520.71
125	0.00	57.82	58.88	0.00	0.53	1,746.000	520.70
126	0.00	56.77	57.82	0.00	0.53	1,714.000	520.69
127	0.00	55.72	56.77	0.00	0.52	1,683.000	520.69
128	0.00	54.69	55.72	0.00	0.52	1,652.000	520.68
129	0.00	53.66	54.69	0.00	0.51	1,621.000	520.67
130	0.00	52.64	53.66	0.00	0.51	1,592.000	520.66
131	0.00	51.62	52.64	0.00	0.51	1,562.000	520.65

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	50.61	51.62	0.00	0.50	1,533.000	520.64
133	0.00	49.61	50.61	0.00	0.50	1,502.000	520.63
134	0.00	48.62	49.61	0.00	0.50	1,471.000	520.62
135	0.00	47.63	48.62	0.00	0.49	1,440.000	520.61
136	0.00	46.65	47.63	0.00	0.49	1,410.000	520.60
137	0.00	45.68	46.65	0.00	0.49	1,381.000	520.59
138	0.00	44.72	45.68	0.00	0.48	1,352.000	520.58
139	0.00	43.76	44.72	0.00	0.48	1,323.000	520.57
140	0.00	42.82	43.76	0.00	0.47	1,295.000	520.56
141	0.00	41.88	42.82	0.00	0.47	1,268.000	520.55
142	0.00	40.94	41.88	0.00	0.47	1,241.000	520.55
143	0.00	40.02	40.94	0.00	0.46	1,214.000	520.54
144	0.00	39.10	40.02	0.00	0.46	1,185.000	520.53
145	0.00	38.20	39.10	0.00	0.45	1,156.000	520.52
146	0.00	37.30	38.20	0.00	0.45	1,129.000	520.51
147	0.00	36.41	37.30	0.00	0.44	1,102.000	520.50
148	0.00	35.53	36.41	0.00	0.44	1,075.000	520.49
149	0.00	34.66	35.53	0.00	0.44	1,049.000	520.48
150	0.00	33.79	34.66	0.00	0.43	1,023.000	520.47
151	0.00	32.94	33.79	0.00	0.43	999.000	520.46
152	0.00	32.09	32.94	0.00	0.42	974.000	520.45
153	0.00	31.25	32.09	0.00	0.42	950.000	520.44
154	0.00	30.42	31.25	0.00	0.41	923.000	520.43
155	0.00	29.61	30.42	0.00	0.41	898.000	520.42
156	0.00	28.80	29.61	0.00	0.40	873.000	520.41
157	0.00	28.00	28.80	0.00	0.40	848.000	520.40
158	0.00	27.21	28.00	0.00	0.39	824.000	520.39
159	0.00	26.43	27.21	0.00	0.39	801.000	520.38
160	0.00	25.66	26.43	0.00	0.38	778.000	520.37

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Subsection: Pond Routed Hydrograph (total out)
Label: Basin 1 (OUT)

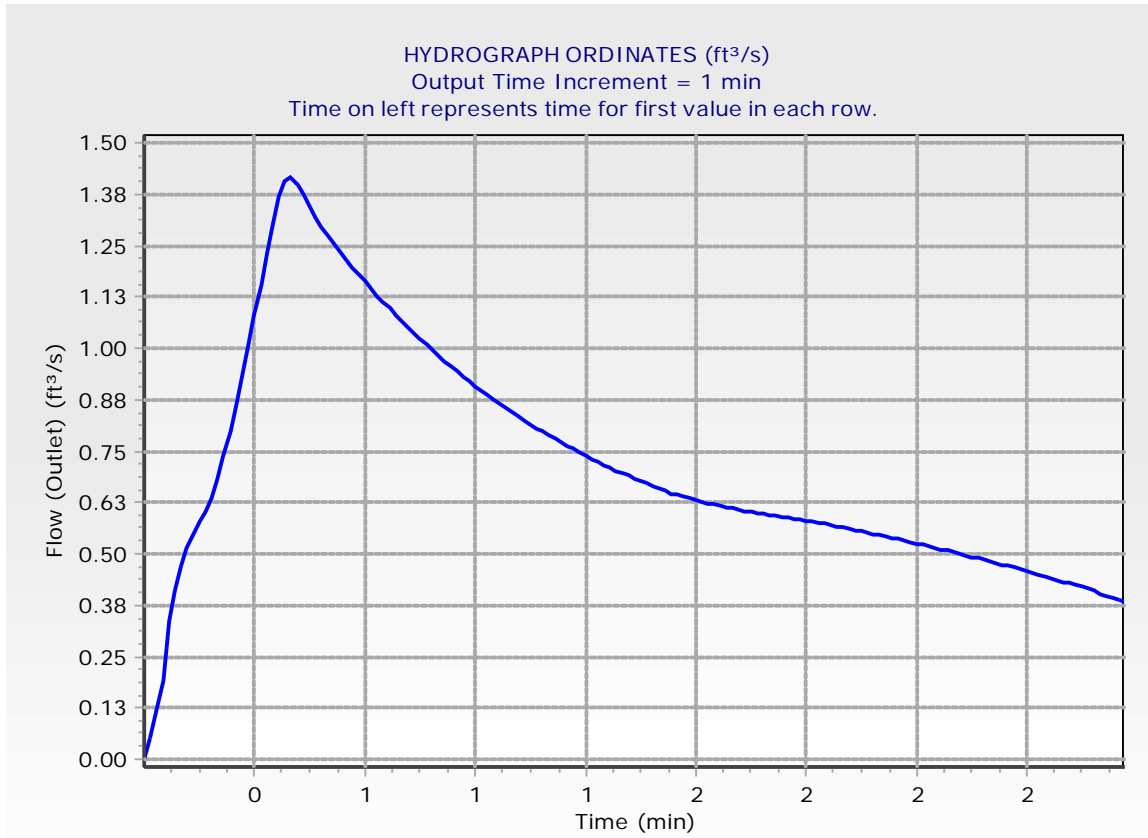|		
Peak Discharge	1.41 ft³/s
Time to Peak	24 min
Hydrograph Volume	6,898.576 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.05	0.11	0.19	0.33
5	0.41	0.47	0.51	0.55	0.58
10	0.60	0.64	0.68	0.74	0.80
15	0.87	0.93	1.00	1.08	1.15
20	1.23	1.31	1.37	1.40	1.41
25	1.40	1.37	1.34	1.32	1.29
30	1.27	1.25	1.23	1.21	1.20
35	1.18	1.16	1.14	1.13	1.11
40	1.10	1.08	1.07	1.05	1.04
45	1.02	1.01	0.99	0.98	0.97
50	0.96	0.94	0.93	0.92	0.91
55	0.90	0.89	0.88	0.87	0.85
60	0.84	0.83	0.82	0.81	0.81
65	0.80	0.79	0.78	0.77	0.76
70	0.75	0.75	0.74	0.73	0.72
75	0.72	0.71	0.70	0.70	0.69
80	0.68	0.68	0.67	0.66	0.66
85	0.65	0.65	0.64	0.64	0.63
90	0.63	0.63	0.62	0.62	0.62
95	0.61	0.61	0.61	0.60	0.60
100	0.60	0.60	0.59	0.59	0.59
105	0.59	0.59	0.58	0.58	0.58
110	0.58	0.57	0.57	0.57	0.56
115	0.56	0.56	0.55	0.55	0.55
120	0.55	0.54	0.54	0.54	0.53
125	0.53	0.53	0.52	0.52	0.51
130	0.51	0.51	0.50	0.50	0.50
135	0.49	0.49	0.49	0.48	0.48
140	0.47	0.47	0.47	0.46	0.46
145	0.45	0.45	0.44	0.44	0.44
150	0.43	0.43	0.42	0.42	0.41
155	0.41	0.40	0.40	0.39	0.39
160	0.38	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	519.74
1	1.64	1.52	1.64	0.00	0.06	44.000	519.93
2	3.28	6.17	6.44	0.00	0.13	188.000	520.05
3	4.91	13.85	14.36	0.00	0.26	420.000	520.19
4	6.55	24.55	25.31	0.00	0.38	746.000	520.35
5	8.19	38.39	39.29	0.00	0.45	1,162.000	520.52
6	8.19	53.74	54.77	0.00	0.52	1,624.000	520.67
7	8.19	68.99	70.12	0.00	0.56	2,082.000	520.80
8	8.19	84.18	85.37	0.00	0.60	2,539.000	520.91
9	8.19	99.29	100.56	0.00	0.63	2,998.000	521.01
10	8.19	114.28	115.67	0.00	0.70	3,448.000	521.10
11	8.19	129.11	130.66	0.00	0.77	3,895.000	521.20
12	8.19	143.78	145.49	0.00	0.86	4,338.000	521.29
13	8.19	158.26	160.16	0.00	0.95	4,775.000	521.37
14	8.19	172.55	174.64	0.00	1.05	5,207.000	521.46
15	8.19	186.63	188.93	0.00	1.15	5,633.000	521.54
16	8.19	200.52	203.01	0.00	1.25	6,052.000	521.62
17	8.19	214.14	216.90	0.00	1.38	6,464.000	521.70
18	8.19	227.55	230.52	0.00	1.49	6,870.000	521.77
19	8.19	240.81	243.93	0.00	1.56	7,271.000	521.85
20	8.19	253.94	257.19	0.00	1.62	7,666.000	521.92
21	6.55	265.33	268.68	0.00	1.68	8,009.000	521.98
22	4.91	273.36	276.79	0.00	1.71	8,252.000	522.02
23	3.28	278.09	281.55	0.00	1.73	8,395.000	522.04
24	1.64	279.53	283.01	0.00	1.74	8,438.000	522.05
25	0.00	277.70	281.17	0.00	1.73	8,383.000	522.04
26	0.00	274.27	277.70	0.00	1.72	8,279.000	522.02
27	0.00	270.86	274.27	0.00	1.70	8,176.000	522.01
28	0.00	267.49	270.86	0.00	1.69	8,074.000	521.99
29	0.00	264.14	267.49	0.00	1.67	7,974.000	521.97
30	0.00	260.83	264.14	0.00	1.66	7,874.000	521.95
31	0.00	257.55	260.83	0.00	1.64	7,775.000	521.94
32	0.00	254.30	257.55	0.00	1.63	7,677.000	521.92
33	0.00	251.08	254.30	0.00	1.61	7,579.000	521.90
34	0.00	247.89	251.08	0.00	1.59	7,483.000	521.88
35	0.00	244.74	247.89	0.00	1.58	7,388.000	521.87
36	0.00	241.61	244.74	0.00	1.56	7,295.000	521.85
37	0.00	238.52	241.61	0.00	1.55	7,202.000	521.83
38	0.00	235.46	238.52	0.00	1.53	7,109.000	521.82
39	0.00	232.43	235.46	0.00	1.51	7,017.000	521.80
40	0.00	229.44	232.43	0.00	1.50	6,927.000	521.78
41	0.00	226.48	229.44	0.00	1.48	6,838.000	521.77
42	0.00	223.55	226.48	0.00	1.46	6,750.000	521.75
43	0.00	220.67	223.55	0.00	1.44	6,663.000	521.73

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	217.84	220.67	0.00	1.41	6,577.000	521.72
45	0.00	215.06	217.84	0.00	1.39	6,492.000	521.70
46	0.00	212.34	215.06	0.00	1.36	6,410.000	521.69
47	0.00	209.68	212.34	0.00	1.33	6,329.000	521.67
48	0.00	207.07	209.68	0.00	1.31	6,250.000	521.66
49	0.00	204.51	207.07	0.00	1.28	6,173.000	521.64
50	0.00	201.98	204.51	0.00	1.26	6,097.000	521.63
51	0.00	199.50	201.98	0.00	1.24	6,021.000	521.61
52	0.00	197.05	199.50	0.00	1.22	5,947.000	521.60
53	0.00	194.64	197.05	0.00	1.21	5,874.000	521.59
54	0.00	192.26	194.64	0.00	1.19	5,802.000	521.57
55	0.00	189.92	192.26	0.00	1.17	5,732.000	521.56
56	0.00	187.62	189.92	0.00	1.15	5,663.000	521.55
57	0.00	185.34	187.62	0.00	1.14	5,594.000	521.53
58	0.00	183.10	185.34	0.00	1.12	5,526.000	521.52
59	0.00	180.89	183.10	0.00	1.11	5,459.000	521.51
60	0.00	178.71	180.89	0.00	1.09	5,393.000	521.49
61	0.00	176.56	178.71	0.00	1.07	5,328.000	521.48
62	0.00	174.44	176.56	0.00	1.06	5,264.000	521.47
63	0.00	172.36	174.44	0.00	1.04	5,201.000	521.46
64	0.00	170.30	172.36	0.00	1.03	5,140.000	521.45
65	0.00	168.27	170.30	0.00	1.02	5,078.000	521.43
66	0.00	166.26	168.27	0.00	1.00	5,017.000	521.42
67	0.00	164.28	166.26	0.00	0.99	4,957.000	521.41
68	0.00	162.33	164.28	0.00	0.98	4,898.000	521.40
69	0.00	160.41	162.33	0.00	0.96	4,840.000	521.39
70	0.00	158.51	160.41	0.00	0.95	4,783.000	521.38
71	0.00	156.63	158.51	0.00	0.94	4,726.000	521.36
72	0.00	154.78	156.63	0.00	0.93	4,671.000	521.35
73	0.00	152.95	154.78	0.00	0.91	4,616.000	521.34
74	0.00	151.15	152.95	0.00	0.90	4,561.000	521.33
75	0.00	149.36	151.15	0.00	0.89	4,507.000	521.32
76	0.00	147.60	149.36	0.00	0.88	4,453.000	521.31
77	0.00	145.86	147.60	0.00	0.87	4,401.000	521.30
78	0.00	144.14	145.86	0.00	0.86	4,349.000	521.29
79	0.00	142.44	144.14	0.00	0.85	4,297.000	521.28
80	0.00	140.76	142.44	0.00	0.84	4,247.000	521.27
81	0.00	139.10	140.76	0.00	0.83	4,197.000	521.26
82	0.00	137.46	139.10	0.00	0.82	4,148.000	521.25
83	0.00	135.84	137.46	0.00	0.81	4,099.000	521.24
84	0.00	134.23	135.84	0.00	0.80	4,051.000	521.23
85	0.00	132.65	134.23	0.00	0.79	4,002.000	521.22
86	0.00	131.08	132.65	0.00	0.78	3,955.000	521.21
87	0.00	129.52	131.08	0.00	0.78	3,908.000	521.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	127.99	129.52	0.00	0.77	3,861.000	521.19
89	0.00	126.47	127.99	0.00	0.76	3,816.000	521.18
90	0.00	124.97	126.47	0.00	0.75	3,771.000	521.17
91	0.00	123.48	124.97	0.00	0.74	3,726.000	521.16
92	0.00	122.01	123.48	0.00	0.73	3,682.000	521.15
93	0.00	120.56	122.01	0.00	0.73	3,638.000	521.14
94	0.00	119.12	120.56	0.00	0.72	3,595.000	521.13
95	0.00	117.69	119.12	0.00	0.71	3,552.000	521.13
96	0.00	116.28	117.69	0.00	0.71	3,509.000	521.12
97	0.00	114.88	116.28	0.00	0.70	3,466.000	521.11
98	0.00	113.49	114.88	0.00	0.69	3,424.000	521.10
99	0.00	112.12	113.49	0.00	0.69	3,383.000	521.09
100	0.00	110.76	112.12	0.00	0.68	3,342.000	521.08
101	0.00	109.41	110.76	0.00	0.67	3,301.000	521.07
102	0.00	108.08	109.41	0.00	0.67	3,261.000	521.07
103	0.00	106.75	108.08	0.00	0.66	3,222.000	521.06
104	0.00	105.44	106.75	0.00	0.66	3,183.000	521.05
105	0.00	104.14	105.44	0.00	0.65	3,144.000	521.04
106	0.00	102.85	104.14	0.00	0.65	3,105.000	521.03
107	0.00	101.57	102.85	0.00	0.64	3,066.000	521.02
108	0.00	100.30	101.57	0.00	0.64	3,028.000	521.02
109	0.00	99.03	100.30	0.00	0.63	2,990.000	521.01
110	0.00	97.77	99.03	0.00	0.63	2,952.000	521.00
111	0.00	96.52	97.77	0.00	0.63	2,913.000	520.99
112	0.00	95.28	96.52	0.00	0.62	2,875.000	520.98
113	0.00	94.04	95.28	0.00	0.62	2,838.000	520.98
114	0.00	92.81	94.04	0.00	0.62	2,801.000	520.97
115	0.00	91.59	92.81	0.00	0.61	2,764.000	520.96
116	0.00	90.37	91.59	0.00	0.61	2,728.000	520.95
117	0.00	89.16	90.37	0.00	0.61	2,693.000	520.94
118	0.00	87.95	89.16	0.00	0.60	2,656.000	520.93
119	0.00	86.75	87.95	0.00	0.60	2,618.000	520.93
120	0.00	85.55	86.75	0.00	0.60	2,581.000	520.92
121	0.00	84.36	85.55	0.00	0.60	2,544.000	520.91
122	0.00	83.17	84.36	0.00	0.59	2,508.000	520.90
123	0.00	81.99	83.17	0.00	0.59	2,472.000	520.89
124	0.00	80.81	81.99	0.00	0.59	2,437.000	520.88
125	0.00	79.64	80.81	0.00	0.59	2,402.000	520.88
126	0.00	78.47	79.64	0.00	0.58	2,368.000	520.87
127	0.00	77.31	78.47	0.00	0.58	2,334.000	520.86
128	0.00	76.15	77.31	0.00	0.58	2,300.000	520.85
129	0.00	74.99	76.15	0.00	0.58	2,267.000	520.84
130	0.00	73.84	74.99	0.00	0.57	2,231.000	520.83
131	0.00	72.70	73.84	0.00	0.57	2,196.000	520.82

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	71.56	72.70	0.00	0.57	2,160.000	520.82
133	0.00	70.43	71.56	0.00	0.57	2,126.000	520.81
134	0.00	69.31	70.43	0.00	0.56	2,091.000	520.80
135	0.00	68.19	69.31	0.00	0.56	2,057.000	520.79
136	0.00	67.08	68.19	0.00	0.56	2,024.000	520.78
137	0.00	65.97	67.08	0.00	0.55	1,991.000	520.77
138	0.00	64.87	65.97	0.00	0.55	1,959.000	520.76
139	0.00	63.77	64.87	0.00	0.55	1,927.000	520.75
140	0.00	62.68	63.77	0.00	0.54	1,896.000	520.75
141	0.00	61.60	62.68	0.00	0.54	1,864.000	520.74
142	0.00	60.52	61.60	0.00	0.54	1,830.000	520.73
143	0.00	59.46	60.52	0.00	0.53	1,796.000	520.72
144	0.00	58.39	59.46	0.00	0.53	1,764.000	520.71
145	0.00	57.34	58.39	0.00	0.53	1,731.000	520.70
146	0.00	56.29	57.34	0.00	0.52	1,700.000	520.69
147	0.00	55.25	56.29	0.00	0.52	1,669.000	520.68
148	0.00	54.22	55.25	0.00	0.52	1,638.000	520.67
149	0.00	53.19	54.22	0.00	0.51	1,608.000	520.66
150	0.00	52.17	53.19	0.00	0.51	1,578.000	520.65
151	0.00	51.16	52.17	0.00	0.51	1,549.000	520.65
152	0.00	50.15	51.16	0.00	0.50	1,519.000	520.64
153	0.00	49.16	50.15	0.00	0.50	1,487.000	520.63
154	0.00	48.17	49.16	0.00	0.49	1,457.000	520.62
155	0.00	47.18	48.17	0.00	0.49	1,426.000	520.61
156	0.00	46.21	47.18	0.00	0.49	1,397.000	520.60
157	0.00	45.24	46.21	0.00	0.48	1,367.000	520.59
158	0.00	44.28	45.24	0.00	0.48	1,339.000	520.58
159	0.00	43.33	44.28	0.00	0.48	1,311.000	520.57
160	0.00	42.39	43.33	0.00	0.47	1,283.000	520.56

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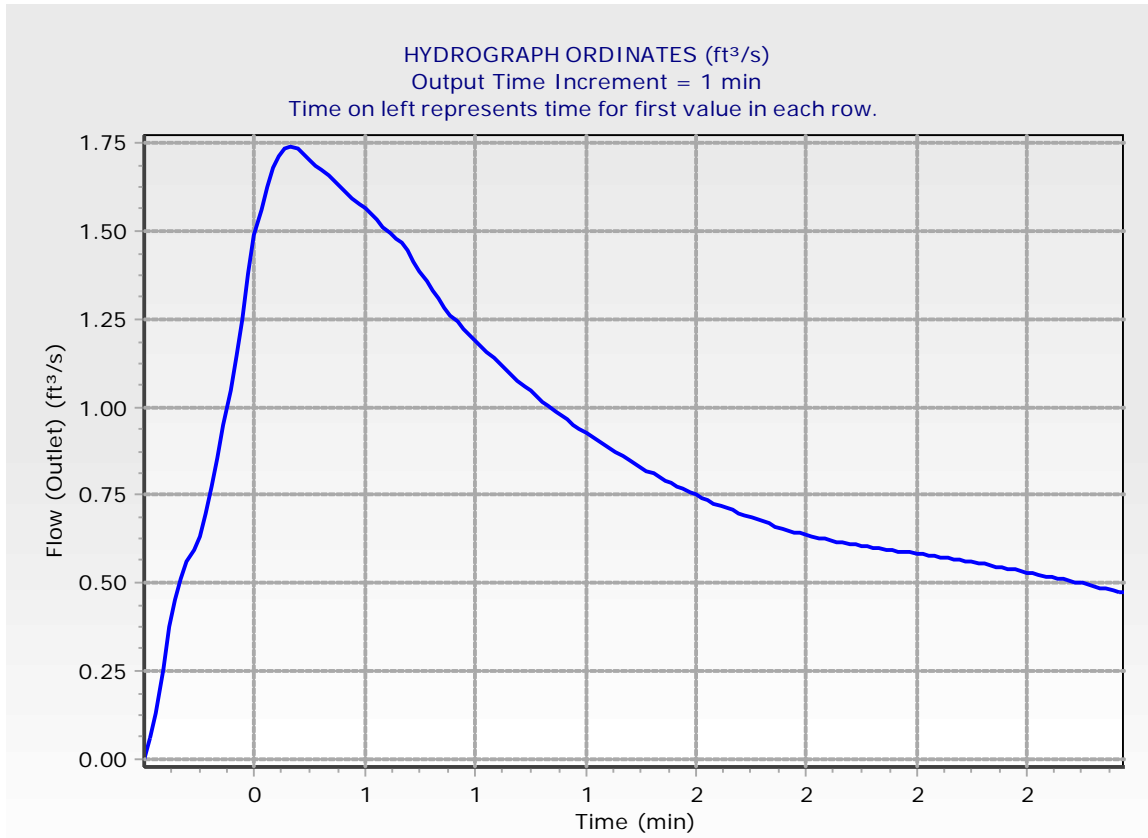| Peak Discharge | 1.74 ft³/s |
| Time to Peak | 24 min |
| Hydrograph Volume | 8,542.219 ft³ |

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.06	0.13	0.26	0.38
5	0.45	0.52	0.56	0.60	0.63
10	0.70	0.77	0.86	0.95	1.05
15	1.15	1.25	1.38	1.49	1.56
20	1.62	1.68	1.71	1.73	1.74
25	1.73	1.72	1.70	1.69	1.67
30	1.66	1.64	1.63	1.61	1.59
35	1.58	1.56	1.55	1.53	1.51
40	1.50	1.48	1.46	1.44	1.41
45	1.39	1.36	1.33	1.31	1.28
50	1.26	1.24	1.22	1.21	1.19
55	1.17	1.15	1.14	1.12	1.11
60	1.09	1.07	1.06	1.04	1.03
65	1.02	1.00	0.99	0.98	0.96
70	0.95	0.94	0.93	0.91	0.90
75	0.89	0.88	0.87	0.86	0.85
80	0.84	0.83	0.82	0.81	0.80
85	0.79	0.78	0.78	0.77	0.76
90	0.75	0.74	0.73	0.73	0.72
95	0.71	0.71	0.70	0.69	0.69
100	0.68	0.67	0.67	0.66	0.66
105	0.65	0.65	0.64	0.64	0.63
110	0.63	0.63	0.62	0.62	0.62
115	0.61	0.61	0.61	0.60	0.60
120	0.60	0.60	0.59	0.59	0.59
125	0.59	0.58	0.58	0.58	0.58
130	0.57	0.57	0.57	0.57	0.56
135	0.56	0.56	0.55	0.55	0.55
140	0.54	0.54	0.54	0.53	0.53
145	0.53	0.52	0.52	0.52	0.51
150	0.51	0.51	0.50	0.50	0.49
155	0.49	0.49	0.48	0.48	0.48
160	0.47	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	112.90	131.57	0.00	9.34	11,001.000	522.50
3	4.91	109.85	117.81	0.00	3.98	10,244.000	522.37
6	8.19	111.24	122.95	0.00	5.86	10,538.000	522.42
9	8.19	112.23	127.62	0.00	7.69	10,793.000	522.46
12	8.19	112.40	128.61	0.00	8.11	10,845.000	522.47
15	8.19	112.43	128.78	0.00	8.18	10,854.000	522.47
18	8.19	112.43	128.81	0.00	8.19	10,856.000	522.47
21	6.55	112.16	127.17	0.00	7.51	10,770.000	522.46
24	1.64	110.53	120.35	0.00	4.91	10,390.000	522.39
27	0.00	107.86	112.17	0.00	2.16	9,901.000	522.31
30	0.00	105.98	107.86	0.00	0.94	9,622.000	522.26
33	0.00	105.12	105.98	0.00	0.43	9,499.000	522.24
36	0.00	104.52	105.12	0.00	0.30	9,433.000	522.23
39	0.00	104.10	104.52	0.00	0.21	9,388.000	522.22
42	0.00	103.80	104.10	0.00	0.15	9,356.000	522.21
45	0.00	103.60	103.80	0.00	0.10	9,333.000	522.21
48	0.00	103.46	103.60	0.00	0.07	9,318.000	522.21
51	0.00	103.36	103.46	0.00	0.05	9,307.000	522.20
54	0.00	103.29	103.36	0.00	0.03	9,299.000	522.20
57	0.00	103.24	103.29	0.00	0.02	9,294.000	522.20
60	0.00	103.20	103.24	0.00	0.02	9,290.000	522.20
63	0.00	103.18	103.20	0.00	0.01	9,287.000	522.20
66	0.00	103.16	103.18	0.00	0.01	9,285.000	522.20
69	0.00	103.15	103.16	0.00	0.01	9,284.000	522.20
72	0.00	103.14	103.15	0.00	0.00	9,283.000	522.20
75	0.00	103.14	103.14	0.00	0.00	9,283.000	522.20
78	0.00	103.13	103.14	0.00	0.00	9,282.000	522.20
81	0.00	103.13	103.13	0.00	0.00	9,282.000	522.20
84	0.00	103.13	103.13	0.00	0.00	9,282.000	522.20
87	0.00	103.13	103.13	0.00	0.00	9,282.000	522.20
90	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
93	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
96	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
99	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
102	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
105	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
108	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
111	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
114	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
117	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
120	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
123	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
126	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
129	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
135	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
138	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
141	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
144	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
147	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
150	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
153	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
156	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
159	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
162	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
165	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
168	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
171	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
174	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
177	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
180	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
183	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
186	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
189	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
192	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
195	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
198	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
201	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
204	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
207	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
210	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
213	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
216	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
219	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
222	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
225	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
228	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
231	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
234	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
237	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
240	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
243	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
246	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
249	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
252	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
255	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
258	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
261	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
264	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
267	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
270	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
273	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
276	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
279	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
282	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
285	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
288	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
291	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
294	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
297	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
300	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
303	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
306	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
309	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
312	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
315	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
318	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
321	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
324	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
327	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
330	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
333	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
336	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
339	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
342	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
345	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
348	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
351	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
354	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
357	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
360	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
363	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
366	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
369	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
372	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
375	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
378	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
381	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
384	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
387	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
390	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
393	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
396	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
399	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
402	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
405	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
408	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
411	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
414	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
417	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
420	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
423	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
426	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
429	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
432	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
435	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
438	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
441	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
444	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
447	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
450	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
453	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
456	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
459	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
462	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
465	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
468	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
471	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
474	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
477	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
480	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
483	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
486	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
489	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
492	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
495	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
498	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
501	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
504	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
507	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
510	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
513	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
516	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
519	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
522	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
525	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
528	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
531	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
534	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
537	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
540	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
543	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
546	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
549	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
552	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
555	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
558	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
561	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
564	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
567	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
570	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
573	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
576	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
579	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
582	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
585	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
588	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
591	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
594	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
597	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
600	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
603	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
606	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
609	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
612	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
615	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
618	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
621	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
624	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
627	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
630	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
633	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
636	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
639	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
642	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
645	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
648	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
651	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
654	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
657	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
660	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
663	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
666	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
669	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
672	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
675	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
678	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
681	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
684	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
687	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
690	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
693	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
696	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
699	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
702	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
705	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
708	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
711	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
714	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
717	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
720	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
723	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
726	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
729	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
732	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
735	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
738	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
741	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
744	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
747	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
750	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
753	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
756	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
759	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
762	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
765	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
768	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
771	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
774	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
777	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
780	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
783	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
786	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
789	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
792	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
795	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
798	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
801	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
804	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
807	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
810	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
813	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
816	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
819	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
822	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
825	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
828	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
831	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
834	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
837	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
840	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
843	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
846	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
849	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
852	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
855	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
858	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
861	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
864	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
867	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
870	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
873	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
876	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
879	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
882	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
885	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
888	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
891	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
894	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
897	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
900	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
903	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
906	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
909	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
912	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
915	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
918	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
921	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
924	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
927	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
930	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
933	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
936	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
939	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
942	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
945	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
948	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
951	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
954	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
957	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
960	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
963	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
966	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
969	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
972	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
975	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
978	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
981	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
984	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
987	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
990	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
993	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
996	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
999	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,002	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,005	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,008	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,011	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,014	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,017	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,020	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,023	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,026	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,029	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,032	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,035	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,038	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,041	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,044	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,047	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,050	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,053	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
1,056	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,059	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,062	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,065	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,068	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,071	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,074	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,077	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,080	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,083	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,086	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,089	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,092	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,095	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,098	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,101	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,104	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,107	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,110	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,113	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,116	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,119	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,122	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,125	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,128	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,131	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,134	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,137	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,140	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,143	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,146	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,149	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,152	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,155	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,158	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,161	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,164	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,167	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,170	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,173	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,176	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,179	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,182	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,185	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
1,188	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,191	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,194	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,197	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,200	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,203	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,206	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,209	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,212	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,215	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,218	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,221	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,224	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,227	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,230	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,233	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,236	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,239	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,242	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,245	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,248	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,251	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,254	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,257	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,260	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,263	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,266	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,269	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,272	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,275	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,278	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,281	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,284	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,287	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,290	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,293	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,296	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,299	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,302	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,305	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,308	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,311	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,314	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,317	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
1,320	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,323	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,326	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,329	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,332	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,335	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,338	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,341	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,344	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,347	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,350	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,353	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,356	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,359	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,362	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,365	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,368	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,371	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,374	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,377	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,380	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,383	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,386	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,389	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,392	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,395	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,398	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,401	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,404	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,407	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,410	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,413	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,416	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,419	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,422	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,425	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,428	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,431	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,434	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,437	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20
1,440	0.00	103.13	103.13	0.00	0.00	9,281.000	522.20

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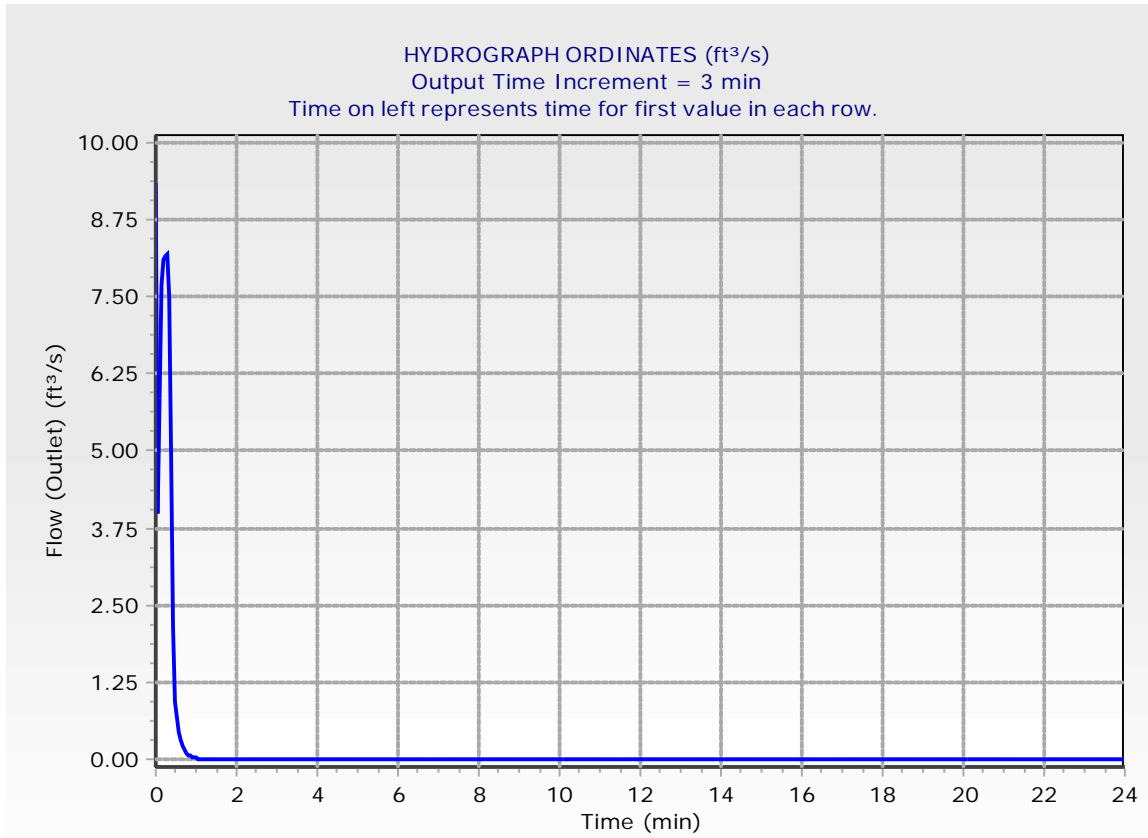|	
Peak Discharge	9.34 ft³/s
Time to Peak	0 min
Hydrograph Volume	11,448.535 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 3 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	9.34	3.98	5.86	7.69	8.11
15	8.18	8.19	7.51	4.91	2.16
30	0.94	0.43	0.30	0.21	0.15
45	0.10	0.07	0.05	0.03	0.02
60	0.02	0.01	0.01	0.01	0.00
75	0.00	0.00	0.00	0.00	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 3 min
Time on left represents time for first value in each row.

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Summary for Hydrograph Addition at 'Basin 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 1	3,864.000	5	3.22
Flow (In)	Basin 1	3,864.000	5	3.22

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Summary for Hydrograph Addition at 'Basin 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 1	6,228.120	5	5.19
Flow (In)	Basin 1	6,228.120	5	5.19

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Summary for Hydrograph Addition at 'Basin 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 1	7,680.000	5	6.40
Flow (In)	Basin 1	7,680.000	5	6.40

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Summary for Hydrograph Addition at 'Basin 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 1	9,828.000	5	8.19
Flow (In)	Basin 1	9,828.000	5	8.19

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Summary for Hydrograph Addition at 'Basin 1'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 1

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 1	9,828.000	5	8.19
Flow (In)	Basin 1	9,729.000	6	8.19

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Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	511.00 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	6.73 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	0.87 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	513.94 ft
Volume (Peak)	7,090.330 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	8,076.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	6,874.000 ft³
Volume (Retained)	1,168.000 ft³
Volume (Unrouted)	-34.000 ft³
Error (Mass Balance)	0.4 %

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Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	511.00 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	10.86 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	1.36 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	514.98 ft
Volume (Peak)	11,816.771 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	13,032.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	8,697.000 ft³
Volume (Retained)	4,289.000 ft³
Volume (Unrouted)	-47.000 ft³
Error (Mass Balance)	0.4 %

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Infiltration

Infiltration Method (Computed)	No Infiltration

Initial Conditions

Elevation (Water Surface, Initial)	511.00 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary

Flow (Peak In)	13.40 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	1.77 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	515.59 ft
Volume (Peak)	14,614.508 ft³

Mass Balance (ft³)

Volume (Initial)	0.000 ft³
Volume (Total Inflow)	16,080.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	10,347.000 ft³
Volume (Retained)	5,684.000 ft³
Volume (Unrouted)	-49.000 ft³
Error (Mass Balance)	0.3 %

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Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	511.00 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	17.15 ft³/s	Time to Peak (Flow, In)	5 min
Flow (Peak Outlet)	2.16 ft³/s	Time to Peak (Flow, Outlet)	24 min

Elevation (Water Surface, Peak)	516.48 ft
Volume (Peak)	18,772.669 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	20,580.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	13,038.000 ft³
Volume (Retained)	7,489.000 ft³
Volume (Unrouted)	-53.000 ft³
Error (Mass Balance)	0.3 %

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Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	516.50 ft
Volume (Initial)	18,862.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	3 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	17.15 ft³/s	Time to Peak (Flow, In)	6 min
Flow (Peak Outlet)	17.18 ft³/s	Time to Peak (Flow, Outlet)	12 min

Elevation (Water Surface, Peak)	517.45 ft
Volume (Peak)	23,407.745 ft³

Mass Balance (ft³)	
Volume (Initial)	18,862.000 ft³
Volume (Total Inflow)	20,374.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	17,999.000 ft³
Volume (Retained)	21,238.000 ft³
Volume (Unrouted)	0.000 ft³
Error (Mass Balance)	0.0 %

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	511.00
1	1.35	1.01	1.35	0.00	0.17	34.000	511.38
2	2.69	4.38	5.05	0.00	0.33	141.000	511.60
3	4.04	10.30	11.11	0.00	0.40	320.000	511.79
4	5.38	18.81	19.72	0.00	0.46	574.000	511.96
5	6.73	29.90	30.92	0.00	0.51	911.000	512.13
6	6.73	42.25	43.36	0.00	0.55	1,284.000	512.30
7	6.73	54.54	55.71	0.00	0.59	1,652.000	512.45
8	6.73	66.76	68.00	0.00	0.62	2,020.000	512.58
9	6.73	78.92	80.22	0.00	0.65	2,387.000	512.71
10	6.73	91.04	92.38	0.00	0.67	2,750.000	512.82
11	6.73	103.11	104.50	0.00	0.69	3,112.000	512.93
12	6.73	115.14	116.57	0.00	0.71	3,475.000	513.03
13	6.73	127.13	128.60	0.00	0.73	3,835.000	513.13
14	6.73	139.09	140.59	0.00	0.75	4,194.000	513.23
15	6.73	151.01	152.55	0.00	0.77	4,553.000	513.32
16	6.73	162.90	164.47	0.00	0.79	4,910.000	513.41
17	6.73	174.75	176.36	0.00	0.80	5,267.000	513.50
18	6.73	186.58	188.21	0.00	0.82	5,622.000	513.59
19	6.73	198.38	200.04	0.00	0.83	5,975.000	513.68
20	6.73	210.15	211.84	0.00	0.85	6,329.000	513.76
21	5.38	220.54	222.26	0.00	0.86	6,641.000	513.83
22	4.04	228.23	229.96	0.00	0.87	6,872.000	513.89
23	2.69	233.22	234.96	0.00	0.87	7,022.000	513.92
24	1.35	235.51	237.26	0.00	0.87	7,090.000	513.94
25	0.00	235.11	236.86	0.00	0.87	7,078.000	513.93
26	0.00	233.36	235.11	0.00	0.87	7,026.000	513.92
27	0.00	231.62	233.36	0.00	0.87	6,974.000	513.91
28	0.00	229.89	231.62	0.00	0.87	6,923.000	513.90
29	0.00	228.16	229.89	0.00	0.87	6,870.000	513.89
30	0.00	226.43	228.16	0.00	0.86	6,818.000	513.87
31	0.00	224.70	226.43	0.00	0.86	6,766.000	513.86
32	0.00	222.98	224.70	0.00	0.86	6,714.000	513.85
33	0.00	221.27	222.98	0.00	0.86	6,663.000	513.84
34	0.00	219.55	221.27	0.00	0.86	6,611.000	513.83
35	0.00	217.84	219.55	0.00	0.85	6,560.000	513.81
36	0.00	216.14	217.84	0.00	0.85	6,510.000	513.80
37	0.00	214.44	216.14	0.00	0.85	6,458.000	513.79
38	0.00	212.74	214.44	0.00	0.85	6,407.000	513.78
39	0.00	211.05	212.74	0.00	0.85	6,356.000	513.77
40	0.00	209.36	211.05	0.00	0.84	6,305.000	513.76
41	0.00	207.67	209.36	0.00	0.84	6,254.000	513.74
42	0.00	205.99	207.67	0.00	0.84	6,204.000	513.73
43	0.00	204.31	205.99	0.00	0.84	6,154.000	513.72

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	202.64	204.31	0.00	0.84	6,104.000	513.71
45	0.00	200.97	202.64	0.00	0.83	6,054.000	513.70
46	0.00	199.31	200.97	0.00	0.83	6,004.000	513.68
47	0.00	197.65	199.31	0.00	0.83	5,953.000	513.67
48	0.00	195.99	197.65	0.00	0.83	5,903.000	513.66
49	0.00	194.34	195.99	0.00	0.83	5,854.000	513.65
50	0.00	192.69	194.34	0.00	0.82	5,804.000	513.64
51	0.00	191.04	192.69	0.00	0.82	5,755.000	513.62
52	0.00	189.40	191.04	0.00	0.82	5,706.000	513.61
53	0.00	187.76	189.40	0.00	0.82	5,657.000	513.60
54	0.00	186.13	187.76	0.00	0.82	5,608.000	513.59
55	0.00	184.50	186.13	0.00	0.81	5,559.000	513.58
56	0.00	182.88	184.50	0.00	0.81	5,510.000	513.56
57	0.00	181.26	182.88	0.00	0.81	5,461.000	513.55
58	0.00	179.64	181.26	0.00	0.81	5,412.000	513.54
59	0.00	178.03	179.64	0.00	0.81	5,364.000	513.53
60	0.00	176.42	178.03	0.00	0.80	5,316.000	513.52
61	0.00	174.82	176.42	0.00	0.80	5,268.000	513.50
62	0.00	173.22	174.82	0.00	0.80	5,220.000	513.49
63	0.00	171.62	173.22	0.00	0.80	5,172.000	513.48
64	0.00	170.03	171.62	0.00	0.80	5,124.000	513.47
65	0.00	168.45	170.03	0.00	0.79	5,076.000	513.46
66	0.00	166.86	168.45	0.00	0.79	5,029.000	513.44
67	0.00	165.29	166.86	0.00	0.79	4,981.000	513.43
68	0.00	163.71	165.29	0.00	0.79	4,934.000	513.42
69	0.00	162.14	163.71	0.00	0.78	4,887.000	513.41
70	0.00	160.58	162.14	0.00	0.78	4,841.000	513.40
71	0.00	159.02	160.58	0.00	0.78	4,793.000	513.38
72	0.00	157.46	159.02	0.00	0.78	4,746.000	513.37
73	0.00	155.91	157.46	0.00	0.78	4,699.000	513.36
74	0.00	154.36	155.91	0.00	0.77	4,653.000	513.35
75	0.00	152.81	154.36	0.00	0.77	4,607.000	513.34
76	0.00	151.27	152.81	0.00	0.77	4,561.000	513.32
77	0.00	149.74	151.27	0.00	0.77	4,515.000	513.31
78	0.00	148.21	149.74	0.00	0.77	4,469.000	513.30
79	0.00	146.68	148.21	0.00	0.76	4,423.000	513.29
80	0.00	145.16	146.68	0.00	0.76	4,377.000	513.28
81	0.00	143.64	145.16	0.00	0.76	4,331.000	513.26
82	0.00	142.13	143.64	0.00	0.76	4,285.000	513.25
83	0.00	140.62	142.13	0.00	0.75	4,240.000	513.24
84	0.00	139.11	140.62	0.00	0.75	4,195.000	513.23
85	0.00	137.61	139.11	0.00	0.75	4,150.000	513.22
86	0.00	136.11	137.61	0.00	0.75	4,106.000	513.20
87	0.00	134.62	136.11	0.00	0.75	4,061.000	513.19

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	133.13	134.62	0.00	0.74	4,016.000	513.18
89	0.00	131.65	133.13	0.00	0.74	3,971.000	513.17
90	0.00	130.17	131.65	0.00	0.74	3,926.000	513.16
91	0.00	128.70	130.17	0.00	0.74	3,882.000	513.14
92	0.00	127.23	128.70	0.00	0.73	3,838.000	513.13
93	0.00	125.77	127.23	0.00	0.73	3,794.000	513.12
94	0.00	124.31	125.77	0.00	0.73	3,751.000	513.11
95	0.00	122.86	124.31	0.00	0.73	3,707.000	513.10
96	0.00	121.41	122.86	0.00	0.72	3,663.000	513.08
97	0.00	119.96	121.41	0.00	0.72	3,620.000	513.07
98	0.00	118.52	119.96	0.00	0.72	3,576.000	513.06
99	0.00	117.09	118.52	0.00	0.72	3,533.000	513.05
100	0.00	115.66	117.09	0.00	0.72	3,490.000	513.04
101	0.00	114.23	115.66	0.00	0.71	3,448.000	513.03
102	0.00	112.81	114.23	0.00	0.71	3,405.000	513.01
103	0.00	111.39	112.81	0.00	0.71	3,363.000	513.00
104	0.00	109.98	111.39	0.00	0.71	3,320.000	512.99
105	0.00	108.57	109.98	0.00	0.70	3,277.000	512.98
106	0.00	107.17	108.57	0.00	0.70	3,234.000	512.97
107	0.00	105.77	107.17	0.00	0.70	3,192.000	512.95
108	0.00	104.38	105.77	0.00	0.70	3,150.000	512.94
109	0.00	102.99	104.38	0.00	0.69	3,109.000	512.93
110	0.00	101.61	102.99	0.00	0.69	3,068.000	512.92
111	0.00	100.23	101.61	0.00	0.69	3,027.000	512.91
112	0.00	98.86	100.23	0.00	0.69	2,986.000	512.89
113	0.00	97.49	98.86	0.00	0.68	2,944.000	512.88
114	0.00	96.12	97.49	0.00	0.68	2,902.000	512.87
115	0.00	94.77	96.12	0.00	0.68	2,861.000	512.86
116	0.00	93.41	94.77	0.00	0.68	2,820.000	512.84
117	0.00	92.06	93.41	0.00	0.67	2,780.000	512.83
118	0.00	90.72	92.06	0.00	0.67	2,740.000	512.82
119	0.00	89.38	90.72	0.00	0.67	2,701.000	512.81
120	0.00	88.05	89.38	0.00	0.67	2,661.000	512.79
121	0.00	86.72	88.05	0.00	0.66	2,620.000	512.78
122	0.00	85.40	86.72	0.00	0.66	2,580.000	512.77
123	0.00	84.09	85.40	0.00	0.66	2,540.000	512.76
124	0.00	82.78	84.09	0.00	0.66	2,501.000	512.74
125	0.00	81.47	82.78	0.00	0.65	2,462.000	512.73
126	0.00	80.17	81.47	0.00	0.65	2,423.000	512.72
127	0.00	78.88	80.17	0.00	0.65	2,385.000	512.71
128	0.00	77.59	78.88	0.00	0.64	2,347.000	512.69
129	0.00	76.31	77.59	0.00	0.64	2,307.000	512.68
130	0.00	75.03	76.31	0.00	0.64	2,268.000	512.67
131	0.00	73.76	75.03	0.00	0.64	2,230.000	512.65

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	72.49	73.76	0.00	0.63	2,192.000	512.64
133	0.00	71.23	72.49	0.00	0.63	2,154.000	512.63
134	0.00	69.98	71.23	0.00	0.63	2,117.000	512.62
135	0.00	68.73	69.98	0.00	0.63	2,080.000	512.60
136	0.00	67.48	68.73	0.00	0.62	2,042.000	512.59
137	0.00	66.24	67.48	0.00	0.62	2,004.000	512.58
138	0.00	65.01	66.24	0.00	0.62	1,967.000	512.56
139	0.00	63.79	65.01	0.00	0.61	1,930.000	512.55
140	0.00	62.57	63.79	0.00	0.61	1,893.000	512.54
141	0.00	61.35	62.57	0.00	0.61	1,857.000	512.52
142	0.00	60.15	61.35	0.00	0.60	1,822.000	512.51
143	0.00	58.94	60.15	0.00	0.60	1,786.000	512.50
144	0.00	57.75	58.94	0.00	0.60	1,749.000	512.48
145	0.00	56.56	57.75	0.00	0.59	1,713.000	512.47
146	0.00	55.38	56.56	0.00	0.59	1,677.000	512.46
147	0.00	54.21	55.38	0.00	0.59	1,642.000	512.44
148	0.00	53.04	54.21	0.00	0.58	1,607.000	512.43
149	0.00	51.88	53.04	0.00	0.58	1,573.000	512.41
150	0.00	50.72	51.88	0.00	0.58	1,539.000	512.40
151	0.00	49.57	50.72	0.00	0.57	1,503.000	512.39
152	0.00	48.43	49.57	0.00	0.57	1,468.000	512.37
153	0.00	47.29	48.43	0.00	0.57	1,434.000	512.36
154	0.00	46.16	47.29	0.00	0.56	1,400.000	512.35
155	0.00	45.04	46.16	0.00	0.56	1,366.000	512.33
156	0.00	43.93	45.04	0.00	0.56	1,333.000	512.32
157	0.00	42.82	43.93	0.00	0.55	1,301.000	512.30
158	0.00	41.72	42.82	0.00	0.55	1,267.000	512.29
159	0.00	40.62	41.72	0.00	0.55	1,234.000	512.28
160	0.00	39.54	40.62	0.00	0.54	1,201.000	512.26

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Subsection: Pond Routed Hydrograph (total out)   Return Event: 2 years
Label: Basin 2 (OUT)   Storm Event:

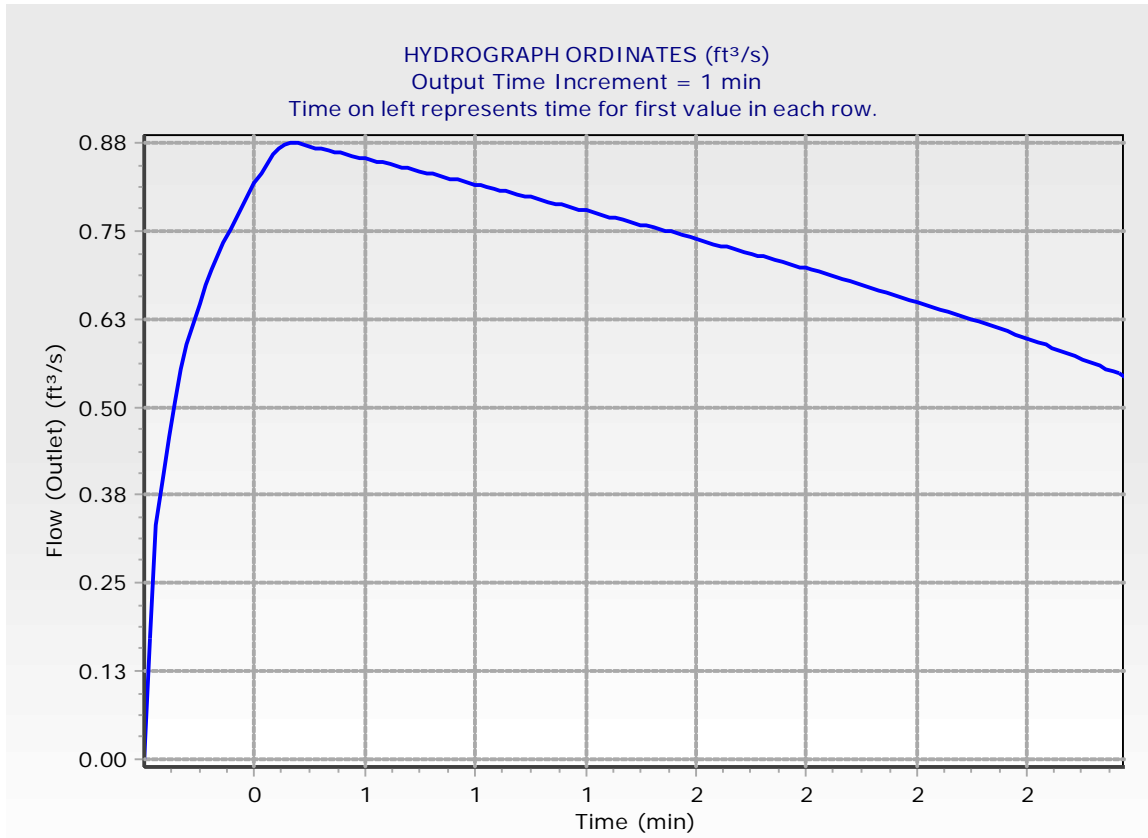|	
Peak Discharge	0.87 ft³/s
Time to Peak	24 min
Hydrograph Volume	6,873.618 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.17	0.33	0.40	0.46
5	0.51	0.55	0.59	0.62	0.65
10	0.67	0.69	0.71	0.73	0.75
15	0.77	0.79	0.80	0.82	0.83
20	0.85	0.86	0.87	0.87	0.87
25	0.87	0.87	0.87	0.87	0.87
30	0.86	0.86	0.86	0.86	0.86
35	0.85	0.85	0.85	0.85	0.85
40	0.84	0.84	0.84	0.84	0.84
45	0.83	0.83	0.83	0.83	0.83
50	0.82	0.82	0.82	0.82	0.82
55	0.81	0.81	0.81	0.81	0.81
60	0.80	0.80	0.80	0.80	0.80
65	0.79	0.79	0.79	0.79	0.78
70	0.78	0.78	0.78	0.78	0.77
75	0.77	0.77	0.77	0.77	0.76
80	0.76	0.76	0.76	0.75	0.75
85	0.75	0.75	0.75	0.74	0.74
90	0.74	0.74	0.73	0.73	0.73
95	0.73	0.72	0.72	0.72	0.72
100	0.72	0.71	0.71	0.71	0.71
105	0.70	0.70	0.70	0.70	0.69
110	0.69	0.69	0.69	0.68	0.68
115	0.68	0.68	0.67	0.67	0.67
120	0.67	0.66	0.66	0.66	0.66
125	0.65	0.65	0.65	0.64	0.64
130	0.64	0.64	0.63	0.63	0.63
135	0.63	0.62	0.62	0.62	0.61
140	0.61	0.61	0.60	0.60	0.60
145	0.59	0.59	0.59	0.58	0.58
150	0.58	0.57	0.57	0.57	0.56
155	0.56	0.56	0.55	0.55	0.55
160	0.54	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	511.00
1	2.17	1.71	2.17	0.00	0.23	56.000	511.44
2	4.34	7.47	8.22	0.00	0.38	234.000	511.71
3	6.52	17.43	18.33	0.00	0.45	532.000	511.94
4	8.69	31.61	32.64	0.00	0.51	962.000	512.16
5	10.86	50.00	51.16	0.00	0.58	1,517.000	512.39
6	10.86	70.47	71.72	0.00	0.63	2,131.000	512.62
7	10.86	90.84	92.19	0.00	0.67	2,744.000	512.82
8	10.86	111.15	112.56	0.00	0.71	3,356.000	513.00
9	10.86	131.39	132.87	0.00	0.74	3,963.000	513.17
10	10.86	151.56	153.11	0.00	0.77	4,569.000	513.33
11	10.86	171.69	173.28	0.00	0.80	5,174.000	513.48
12	10.86	191.76	193.41	0.00	0.82	5,777.000	513.63
13	10.86	211.79	213.48	0.00	0.85	6,378.000	513.77
14	10.86	231.77	233.51	0.00	0.87	6,979.000	513.91
15	10.86	251.70	253.49	0.00	0.89	7,578.000	514.05
16	10.86	271.60	273.42	0.00	0.91	8,175.000	514.18
17	10.86	291.45	293.32	0.00	0.93	8,772.000	514.31
18	10.86	311.27	313.17	0.00	0.95	9,367.000	514.44
19	10.86	331.01	332.99	0.00	0.99	9,960.000	514.58
20	10.86	350.59	352.73	0.00	1.07	10,550.000	514.71
21	8.69	367.81	370.14	0.00	1.16	11,069.000	514.82
22	6.52	380.54	383.02	0.00	1.24	11,453.000	514.90
23	4.34	388.75	391.40	0.00	1.32	11,702.000	514.96
24	2.17	392.53	395.26	0.00	1.36	11,817.000	514.98
25	0.00	391.99	394.70	0.00	1.36	11,800.000	514.98
26	0.00	389.33	391.99	0.00	1.33	11,720.000	514.96
27	0.00	386.72	389.33	0.00	1.30	11,641.000	514.95
28	0.00	384.16	386.72	0.00	1.28	11,563.000	514.93
29	0.00	381.66	384.16	0.00	1.25	11,487.000	514.91
30	0.00	379.19	381.66	0.00	1.23	11,413.000	514.90
31	0.00	376.76	379.19	0.00	1.22	11,339.000	514.88
32	0.00	374.35	376.76	0.00	1.20	11,267.000	514.86
33	0.00	371.98	374.35	0.00	1.19	11,195.000	514.85
34	0.00	369.63	371.98	0.00	1.17	11,124.000	514.83
35	0.00	367.31	369.63	0.00	1.16	11,054.000	514.82
36	0.00	365.01	367.31	0.00	1.15	10,985.000	514.80
37	0.00	362.74	365.01	0.00	1.13	10,916.000	514.79
38	0.00	360.50	362.74	0.00	1.12	10,849.000	514.77
39	0.00	358.28	360.50	0.00	1.11	10,781.000	514.76
40	0.00	356.08	358.28	0.00	1.10	10,715.000	514.74
41	0.00	353.90	356.08	0.00	1.09	10,650.000	514.73
42	0.00	351.75	353.90	0.00	1.08	10,585.000	514.71
43	0.00	349.63	351.75	0.00	1.06	10,521.000	514.70

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	347.51	349.63	0.00	1.06	10,457.000	514.68
45	0.00	345.42	347.51	0.00	1.05	10,394.000	514.67
46	0.00	343.34	345.42	0.00	1.04	10,331.000	514.66
47	0.00	341.28	343.34	0.00	1.03	10,269.000	514.64
48	0.00	339.24	341.28	0.00	1.02	10,208.000	514.63
49	0.00	337.22	339.24	0.00	1.01	10,147.000	514.62
50	0.00	335.21	337.22	0.00	1.00	10,086.000	514.60
51	0.00	333.21	335.21	0.00	1.00	10,026.000	514.59
52	0.00	331.22	333.21	0.00	0.99	9,966.000	514.58
53	0.00	329.25	331.22	0.00	0.99	9,907.000	514.56
54	0.00	327.28	329.25	0.00	0.98	9,848.000	514.55
55	0.00	325.33	327.28	0.00	0.98	9,789.000	514.54
56	0.00	323.39	325.33	0.00	0.97	9,731.000	514.52
57	0.00	321.46	323.39	0.00	0.97	9,673.000	514.51
58	0.00	319.54	321.46	0.00	0.96	9,615.000	514.50
59	0.00	317.62	319.54	0.00	0.96	9,557.000	514.49
60	0.00	315.71	317.62	0.00	0.96	9,500.000	514.47
61	0.00	313.80	315.71	0.00	0.95	9,443.000	514.46
62	0.00	311.89	313.80	0.00	0.95	9,385.000	514.45
63	0.00	309.99	311.89	0.00	0.95	9,328.000	514.44
64	0.00	308.09	309.99	0.00	0.95	9,271.000	514.42
65	0.00	306.20	308.09	0.00	0.95	9,214.000	514.41
66	0.00	304.31	306.20	0.00	0.95	9,158.000	514.40
67	0.00	302.42	304.31	0.00	0.94	9,101.000	514.39
68	0.00	300.54	302.42	0.00	0.94	9,044.000	514.37
69	0.00	298.66	300.54	0.00	0.94	8,988.000	514.36
70	0.00	296.78	298.66	0.00	0.94	8,931.000	514.35
71	0.00	294.91	296.78	0.00	0.94	8,875.000	514.34
72	0.00	293.04	294.91	0.00	0.93	8,819.000	514.32
73	0.00	291.18	293.04	0.00	0.93	8,763.000	514.31
74	0.00	289.32	291.18	0.00	0.93	8,707.000	514.30
75	0.00	287.46	289.32	0.00	0.93	8,652.000	514.29
76	0.00	285.61	287.46	0.00	0.93	8,596.000	514.27
77	0.00	283.76	285.61	0.00	0.92	8,540.000	514.26
78	0.00	281.91	283.76	0.00	0.92	8,485.000	514.25
79	0.00	280.07	281.91	0.00	0.92	8,430.000	514.24
80	0.00	278.23	280.07	0.00	0.92	8,374.000	514.22
81	0.00	276.40	278.23	0.00	0.92	8,319.000	514.21
82	0.00	274.57	276.40	0.00	0.92	8,264.000	514.20
83	0.00	272.74	274.57	0.00	0.91	8,210.000	514.19
84	0.00	270.92	272.74	0.00	0.91	8,155.000	514.17
85	0.00	269.10	270.92	0.00	0.91	8,100.000	514.16
86	0.00	267.28	269.10	0.00	0.91	8,046.000	514.15
87	0.00	265.47	267.28	0.00	0.91	7,991.000	514.14

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	263.66	265.47	0.00	0.90	7,937.000	514.13
89	0.00	261.86	263.66	0.00	0.90	7,883.000	514.11
90	0.00	260.06	261.86	0.00	0.90	7,829.000	514.10
91	0.00	258.26	260.06	0.00	0.90	7,775.000	514.09
92	0.00	256.47	258.26	0.00	0.90	7,721.000	514.08
93	0.00	254.68	256.47	0.00	0.89	7,667.000	514.07
94	0.00	252.90	254.68	0.00	0.89	7,614.000	514.05
95	0.00	251.11	252.90	0.00	0.89	7,560.000	514.04
96	0.00	249.34	251.11	0.00	0.89	7,507.000	514.03
97	0.00	247.56	249.34	0.00	0.89	7,453.000	514.02
98	0.00	245.79	247.56	0.00	0.89	7,400.000	514.01
99	0.00	244.02	245.79	0.00	0.88	7,347.000	513.99
100	0.00	242.26	244.02	0.00	0.88	7,293.000	513.98
101	0.00	240.50	242.26	0.00	0.88	7,240.000	513.97
102	0.00	238.74	240.50	0.00	0.88	7,187.000	513.96
103	0.00	236.99	238.74	0.00	0.88	7,135.000	513.95
104	0.00	235.24	236.99	0.00	0.87	7,082.000	513.93
105	0.00	233.49	235.24	0.00	0.87	7,030.000	513.92
106	0.00	231.75	233.49	0.00	0.87	6,978.000	513.91
107	0.00	230.02	231.75	0.00	0.87	6,927.000	513.90
108	0.00	228.28	230.02	0.00	0.87	6,874.000	513.89
109	0.00	226.56	228.28	0.00	0.86	6,822.000	513.88
110	0.00	224.83	226.56	0.00	0.86	6,770.000	513.86
111	0.00	223.11	224.83	0.00	0.86	6,718.000	513.85
112	0.00	221.39	223.11	0.00	0.86	6,666.000	513.84
113	0.00	219.68	221.39	0.00	0.86	6,615.000	513.83
114	0.00	217.97	219.68	0.00	0.85	6,564.000	513.82
115	0.00	216.27	217.97	0.00	0.85	6,513.000	513.80
116	0.00	214.56	216.27	0.00	0.85	6,462.000	513.79
117	0.00	212.87	214.56	0.00	0.85	6,411.000	513.78
118	0.00	211.17	212.87	0.00	0.85	6,360.000	513.77
119	0.00	209.48	211.17	0.00	0.84	6,309.000	513.76
120	0.00	207.80	209.48	0.00	0.84	6,258.000	513.74
121	0.00	206.12	207.80	0.00	0.84	6,208.000	513.73
122	0.00	204.44	206.12	0.00	0.84	6,158.000	513.72
123	0.00	202.77	204.44	0.00	0.84	6,108.000	513.71
124	0.00	201.10	202.77	0.00	0.83	6,058.000	513.70
125	0.00	199.43	201.10	0.00	0.83	6,007.000	513.68
126	0.00	197.77	199.43	0.00	0.83	5,957.000	513.67
127	0.00	196.11	197.77	0.00	0.83	5,907.000	513.66
128	0.00	194.46	196.11	0.00	0.83	5,857.000	513.65
129	0.00	192.81	194.46	0.00	0.82	5,808.000	513.64
130	0.00	191.16	192.81	0.00	0.82	5,759.000	513.62
131	0.00	189.52	191.16	0.00	0.82	5,710.000	513.61

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	187.89	189.52	0.00	0.82	5,661.000	513.60
133	0.00	186.25	187.89	0.00	0.82	5,612.000	513.59
134	0.00	184.62	186.25	0.00	0.81	5,562.000	513.58
135	0.00	183.00	184.62	0.00	0.81	5,513.000	513.56
136	0.00	181.38	183.00	0.00	0.81	5,465.000	513.55
137	0.00	179.76	181.38	0.00	0.81	5,416.000	513.54
138	0.00	178.15	179.76	0.00	0.81	5,368.000	513.53
139	0.00	176.54	178.15	0.00	0.80	5,320.000	513.52
140	0.00	174.94	176.54	0.00	0.80	5,272.000	513.50
141	0.00	173.34	174.94	0.00	0.80	5,224.000	513.49
142	0.00	171.74	173.34	0.00	0.80	5,176.000	513.48
143	0.00	170.15	171.74	0.00	0.80	5,127.000	513.47
144	0.00	168.56	170.15	0.00	0.79	5,080.000	513.46
145	0.00	166.98	168.56	0.00	0.79	5,032.000	513.44
146	0.00	165.40	166.98	0.00	0.79	4,985.000	513.43
147	0.00	163.83	165.40	0.00	0.79	4,938.000	513.42
148	0.00	162.26	163.83	0.00	0.79	4,891.000	513.41
149	0.00	160.69	162.26	0.00	0.78	4,844.000	513.40
150	0.00	159.13	160.69	0.00	0.78	4,797.000	513.38
151	0.00	157.57	159.13	0.00	0.78	4,750.000	513.37
152	0.00	156.02	157.57	0.00	0.78	4,703.000	513.36
153	0.00	154.47	156.02	0.00	0.77	4,656.000	513.35
154	0.00	152.93	154.47	0.00	0.77	4,610.000	513.34
155	0.00	151.39	152.93	0.00	0.77	4,564.000	513.32
156	0.00	149.85	151.39	0.00	0.77	4,518.000	513.31
157	0.00	148.32	149.85	0.00	0.77	4,473.000	513.30
158	0.00	146.80	148.32	0.00	0.76	4,426.000	513.29
159	0.00	145.27	146.80	0.00	0.76	4,380.000	513.28
160	0.00	143.75	145.27	0.00	0.76	4,334.000	513.26

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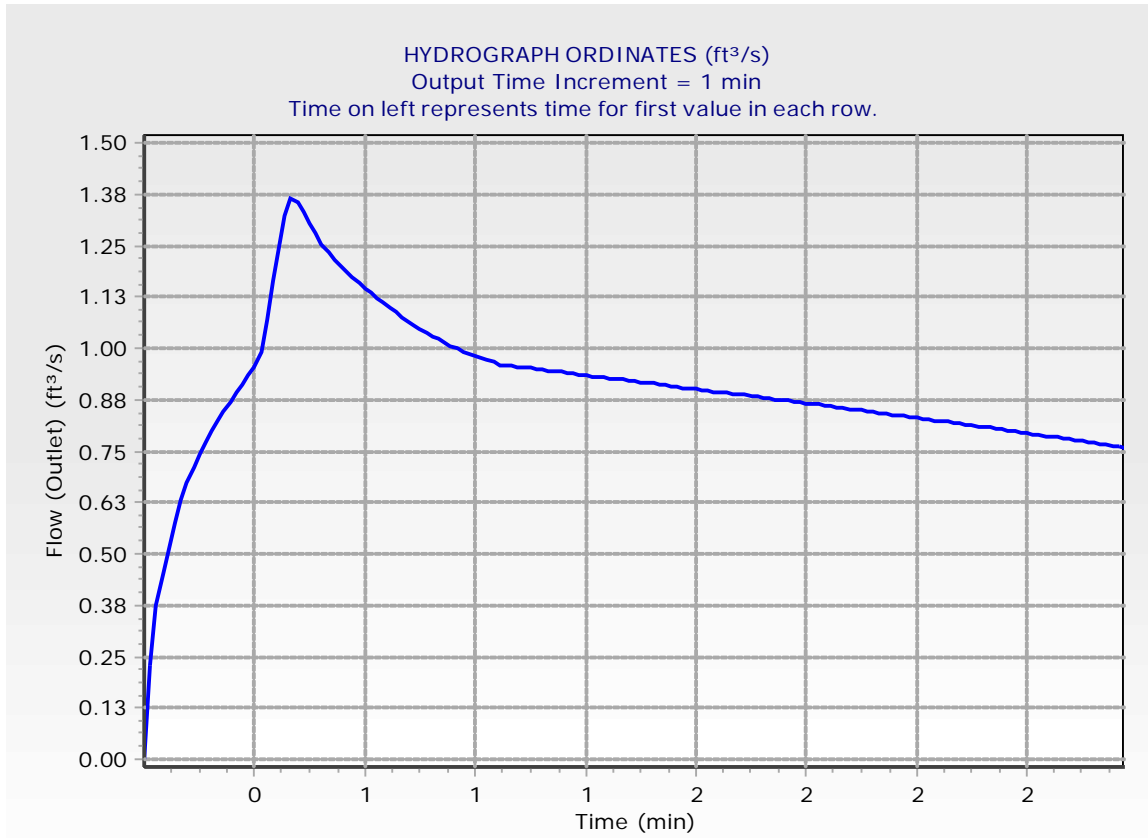| Peak Discharge	1.36 ft³/s
Time to Peak	24 min
Hydrograph Volume	8,696.582 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.23	0.38	0.45	0.51
5	0.58	0.63	0.67	0.71	0.74
10	0.77	0.80	0.82	0.85	0.87
15	0.89	0.91	0.93	0.95	0.99
20	1.07	1.16	1.24	1.32	1.36
25	1.36	1.33	1.30	1.28	1.25
30	1.23	1.22	1.20	1.19	1.17
35	1.16	1.15	1.13	1.12	1.11
40	1.10	1.09	1.08	1.06	1.06
45	1.05	1.04	1.03	1.02	1.01
50	1.00	1.00	0.99	0.99	0.98
55	0.98	0.97	0.97	0.96	0.96
60	0.96	0.95	0.95	0.95	0.95
65	0.95	0.95	0.94	0.94	0.94
70	0.94	0.94	0.93	0.93	0.93
75	0.93	0.93	0.92	0.92	0.92
80	0.92	0.92	0.92	0.91	0.91
85	0.91	0.91	0.91	0.90	0.90
90	0.90	0.90	0.90	0.89	0.89
95	0.89	0.89	0.89	0.89	0.88
100	0.88	0.88	0.88	0.88	0.87
105	0.87	0.87	0.87	0.87	0.86
110	0.86	0.86	0.86	0.86	0.85
115	0.85	0.85	0.85	0.85	0.84
120	0.84	0.84	0.84	0.84	0.83
125	0.83	0.83	0.83	0.83	0.82
130	0.82	0.82	0.82	0.82	0.81
135	0.81	0.81	0.81	0.81	0.80
140	0.80	0.80	0.80	0.80	0.79
145	0.79	0.79	0.79	0.79	0.78
150	0.78	0.78	0.78	0.77	0.77
155	0.77	0.77	0.77	0.76	0.76
160	0.76	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

O'Fallon Senior Living Center Pondpack Final.ppc
9/21/2016

Bentley Systems, Inc. Haestad Methods Solution
Center
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Bentley PondPack V8i
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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	511.00
1	2.68	2.15	2.68	0.00	0.27	71.000	511.48
2	5.36	9.40	10.19	0.00	0.40	291.000	511.77
3	8.04	21.85	22.80	0.00	0.47	669.000	512.01
4	10.72	39.52	40.61	0.00	0.54	1,200.000	512.26
5	13.40	62.43	63.64	0.00	0.61	1,889.000	512.53
6	13.40	87.89	89.23	0.00	0.67	2,656.000	512.79
7	13.40	113.27	114.69	0.00	0.71	3,419.000	513.02
8	13.40	138.57	140.07	0.00	0.75	4,179.000	513.22
9	13.40	163.79	165.37	0.00	0.79	4,937.000	513.42
10	13.40	188.95	190.59	0.00	0.82	5,693.000	513.61
11	13.40	214.05	215.75	0.00	0.85	6,447.000	513.79
12	13.40	239.10	240.85	0.00	0.88	7,198.000	513.96
13	13.40	264.09	265.90	0.00	0.90	7,950.000	514.13
14	13.40	289.03	290.89	0.00	0.93	8,699.000	514.30
15	13.40	313.92	315.83	0.00	0.95	9,446.000	514.46
16	13.40	338.68	340.72	0.00	1.02	10,191.000	514.63
17	13.40	363.21	365.48	0.00	1.14	10,930.000	514.79
18	13.40	387.38	390.01	0.00	1.31	11,661.000	514.95
19	13.40	411.23	414.18	0.00	1.48	12,381.000	515.11
20	13.40	434.87	438.03	0.00	1.58	13,093.000	515.26
21	10.72	455.66	458.99	0.00	1.66	13,720.000	515.40
22	8.04	470.99	474.42	0.00	1.72	14,181.000	515.50
23	5.36	480.88	484.39	0.00	1.75	14,479.000	515.56
24	2.68	485.38	488.92	0.00	1.77	14,615.000	515.59
25	0.00	484.53	488.06	0.00	1.77	14,589.000	515.59
26	0.00	481.02	484.53	0.00	1.75	14,483.000	515.56
27	0.00	477.54	481.02	0.00	1.74	14,378.000	515.54
28	0.00	474.08	477.54	0.00	1.73	14,274.000	515.52
29	0.00	470.65	474.08	0.00	1.72	14,171.000	515.50
30	0.00	467.24	470.65	0.00	1.70	14,068.000	515.47
31	0.00	463.85	467.24	0.00	1.69	13,966.000	515.45
32	0.00	460.49	463.85	0.00	1.68	13,865.000	515.43
33	0.00	457.15	460.49	0.00	1.67	13,764.000	515.41
34	0.00	453.83	457.15	0.00	1.66	13,665.000	515.39
35	0.00	450.55	453.83	0.00	1.64	13,566.000	515.36
36	0.00	447.28	450.55	0.00	1.63	13,467.000	515.34
37	0.00	444.05	447.28	0.00	1.62	13,370.000	515.32
38	0.00	440.84	444.05	0.00	1.60	13,273.000	515.30
39	0.00	437.66	440.84	0.00	1.59	13,177.000	515.28
40	0.00	434.51	437.66	0.00	1.58	13,082.000	515.26
41	0.00	431.38	434.51	0.00	1.56	12,988.000	515.24
42	0.00	428.27	431.38	0.00	1.55	12,895.000	515.22
43	0.00	425.19	428.27	0.00	1.54	12,802.000	515.20

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	422.14	425.19	0.00	1.53	12,710.000	515.18
45	0.00	419.12	422.14	0.00	1.51	12,619.000	515.16
46	0.00	416.12	419.12	0.00	1.50	12,528.000	515.14
47	0.00	413.15	416.12	0.00	1.48	12,439.000	515.12
48	0.00	410.21	413.15	0.00	1.47	12,350.000	515.10
49	0.00	407.30	410.21	0.00	1.46	12,263.000	515.08
50	0.00	404.42	407.30	0.00	1.44	12,176.000	515.06
51	0.00	401.58	404.42	0.00	1.42	12,090.000	515.04
52	0.00	398.76	401.58	0.00	1.41	12,005.000	515.02
53	0.00	395.98	398.76	0.00	1.39	11,921.000	515.01
54	0.00	393.24	395.98	0.00	1.37	11,838.000	514.99
55	0.00	390.55	393.24	0.00	1.34	11,757.000	514.97
56	0.00	387.92	390.55	0.00	1.32	11,677.000	514.95
57	0.00	385.34	387.92	0.00	1.29	11,599.000	514.94
58	0.00	382.81	385.34	0.00	1.26	11,522.000	514.92
59	0.00	380.33	382.81	0.00	1.24	11,447.000	514.90
60	0.00	377.88	380.33	0.00	1.22	11,373.000	514.89
61	0.00	375.46	377.88	0.00	1.21	11,300.000	514.87
62	0.00	373.07	375.46	0.00	1.20	11,228.000	514.85
63	0.00	370.71	373.07	0.00	1.18	11,157.000	514.84
64	0.00	368.38	370.71	0.00	1.17	11,086.000	514.82
65	0.00	366.07	368.38	0.00	1.15	11,017.000	514.81
66	0.00	363.79	366.07	0.00	1.14	10,948.000	514.79
67	0.00	361.53	363.79	0.00	1.13	10,880.000	514.78
68	0.00	359.30	361.53	0.00	1.12	10,812.000	514.76
69	0.00	357.09	359.30	0.00	1.10	10,746.000	514.75
70	0.00	354.91	357.09	0.00	1.09	10,680.000	514.73
71	0.00	352.75	354.91	0.00	1.08	10,615.000	514.72
72	0.00	350.61	352.75	0.00	1.07	10,550.000	514.71
73	0.00	348.49	350.61	0.00	1.06	10,486.000	514.69
74	0.00	346.39	348.49	0.00	1.05	10,423.000	514.68
75	0.00	344.30	346.39	0.00	1.04	10,360.000	514.66
76	0.00	342.23	344.30	0.00	1.03	10,298.000	514.65
77	0.00	340.18	342.23	0.00	1.03	10,236.000	514.64
78	0.00	338.15	340.18	0.00	1.02	10,175.000	514.62
79	0.00	336.13	338.15	0.00	1.01	10,114.000	514.61
80	0.00	334.13	336.13	0.00	1.00	10,054.000	514.60
81	0.00	332.14	334.13	0.00	1.00	9,994.000	514.58
82	0.00	330.16	332.14	0.00	0.99	9,934.000	514.57
83	0.00	328.19	330.16	0.00	0.98	9,875.000	514.56
84	0.00	326.23	328.19	0.00	0.98	9,816.000	514.54
85	0.00	324.29	326.23	0.00	0.97	9,758.000	514.53
86	0.00	322.35	324.29	0.00	0.97	9,699.000	514.52
87	0.00	320.43	322.35	0.00	0.96	9,642.000	514.51

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	318.51	320.43	0.00	0.96	9,584.000	514.49
89	0.00	316.59	318.51	0.00	0.96	9,526.000	514.48
90	0.00	314.68	316.59	0.00	0.96	9,469.000	514.47
91	0.00	312.77	314.68	0.00	0.95	9,412.000	514.45
92	0.00	310.87	312.77	0.00	0.95	9,355.000	514.44
93	0.00	308.97	310.87	0.00	0.95	9,298.000	514.43
94	0.00	307.07	308.97	0.00	0.95	9,241.000	514.42
95	0.00	305.18	307.07	0.00	0.95	9,184.000	514.40
96	0.00	303.29	305.18	0.00	0.94	9,127.000	514.39
97	0.00	301.41	303.29	0.00	0.94	9,070.000	514.38
98	0.00	299.53	301.41	0.00	0.94	9,014.000	514.37
99	0.00	297.65	299.53	0.00	0.94	8,957.000	514.35
100	0.00	295.78	297.65	0.00	0.94	8,901.000	514.34
101	0.00	293.91	295.78	0.00	0.93	8,845.000	514.33
102	0.00	292.04	293.91	0.00	0.93	8,789.000	514.32
103	0.00	290.18	292.04	0.00	0.93	8,733.000	514.30
104	0.00	288.32	290.18	0.00	0.93	8,677.000	514.29
105	0.00	286.47	288.32	0.00	0.93	8,622.000	514.28
106	0.00	284.61	286.47	0.00	0.93	8,566.000	514.27
107	0.00	282.77	284.61	0.00	0.92	8,511.000	514.25
108	0.00	280.92	282.77	0.00	0.92	8,455.000	514.24
109	0.00	279.08	280.92	0.00	0.92	8,400.000	514.23
110	0.00	277.25	279.08	0.00	0.92	8,345.000	514.22
111	0.00	275.41	277.25	0.00	0.92	8,290.000	514.20
112	0.00	273.58	275.41	0.00	0.91	8,235.000	514.19
113	0.00	271.76	273.58	0.00	0.91	8,180.000	514.18
114	0.00	269.94	271.76	0.00	0.91	8,125.000	514.17
115	0.00	268.12	269.94	0.00	0.91	8,071.000	514.16
116	0.00	266.31	268.12	0.00	0.91	8,016.000	514.14
117	0.00	264.50	266.31	0.00	0.90	7,962.000	514.13
118	0.00	262.69	264.50	0.00	0.90	7,908.000	514.12
119	0.00	260.89	262.69	0.00	0.90	7,854.000	514.11
120	0.00	259.09	260.89	0.00	0.90	7,800.000	514.10
121	0.00	257.30	259.09	0.00	0.90	7,746.000	514.08
122	0.00	255.51	257.30	0.00	0.90	7,692.000	514.07
123	0.00	253.72	255.51	0.00	0.89	7,638.000	514.06
124	0.00	251.94	253.72	0.00	0.89	7,585.000	514.05
125	0.00	250.16	251.94	0.00	0.89	7,531.000	514.04
126	0.00	248.38	250.16	0.00	0.89	7,478.000	514.02
127	0.00	246.61	248.38	0.00	0.89	7,425.000	514.01
128	0.00	244.84	246.61	0.00	0.89	7,372.000	514.00
129	0.00	243.07	244.84	0.00	0.88	7,318.000	513.99
130	0.00	241.31	243.07	0.00	0.88	7,265.000	513.98
131	0.00	239.55	241.31	0.00	0.88	7,212.000	513.96

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	237.80	239.55	0.00	0.88	7,159.000	513.95
133	0.00	236.05	237.80	0.00	0.88	7,106.000	513.94
134	0.00	234.30	236.05	0.00	0.87	7,054.000	513.93
135	0.00	232.56	234.30	0.00	0.87	7,002.000	513.92
136	0.00	230.82	232.56	0.00	0.87	6,950.000	513.90
137	0.00	229.08	230.82	0.00	0.87	6,898.000	513.89
138	0.00	227.35	229.08	0.00	0.87	6,846.000	513.88
139	0.00	225.63	227.35	0.00	0.86	6,794.000	513.87
140	0.00	223.90	225.63	0.00	0.86	6,742.000	513.86
141	0.00	222.19	223.90	0.00	0.86	6,690.000	513.84
142	0.00	220.47	222.19	0.00	0.86	6,639.000	513.83
143	0.00	218.76	220.47	0.00	0.86	6,588.000	513.82
144	0.00	217.05	218.76	0.00	0.85	6,537.000	513.81
145	0.00	215.35	217.05	0.00	0.85	6,486.000	513.80
146	0.00	213.65	215.35	0.00	0.85	6,434.000	513.79
147	0.00	211.96	213.65	0.00	0.85	6,383.000	513.77
148	0.00	210.26	211.96	0.00	0.85	6,332.000	513.76
149	0.00	208.58	210.26	0.00	0.84	6,281.000	513.75
150	0.00	206.89	208.58	0.00	0.84	6,231.000	513.74
151	0.00	205.21	206.89	0.00	0.84	6,181.000	513.73
152	0.00	203.54	205.21	0.00	0.84	6,131.000	513.71
153	0.00	201.87	203.54	0.00	0.84	6,081.000	513.70
154	0.00	200.20	201.87	0.00	0.83	6,031.000	513.69
155	0.00	198.54	200.20	0.00	0.83	5,980.000	513.68
156	0.00	196.88	198.54	0.00	0.83	5,930.000	513.67
157	0.00	195.22	196.88	0.00	0.83	5,880.000	513.65
158	0.00	193.57	195.22	0.00	0.83	5,831.000	513.64
159	0.00	191.92	193.57	0.00	0.82	5,781.000	513.63
160	0.00	190.28	191.92	0.00	0.82	5,732.000	513.62

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Peak Discharge	1.77 ft³/s
Time to Peak	24 min
Hydrograph Volume	10,346.938 ft³

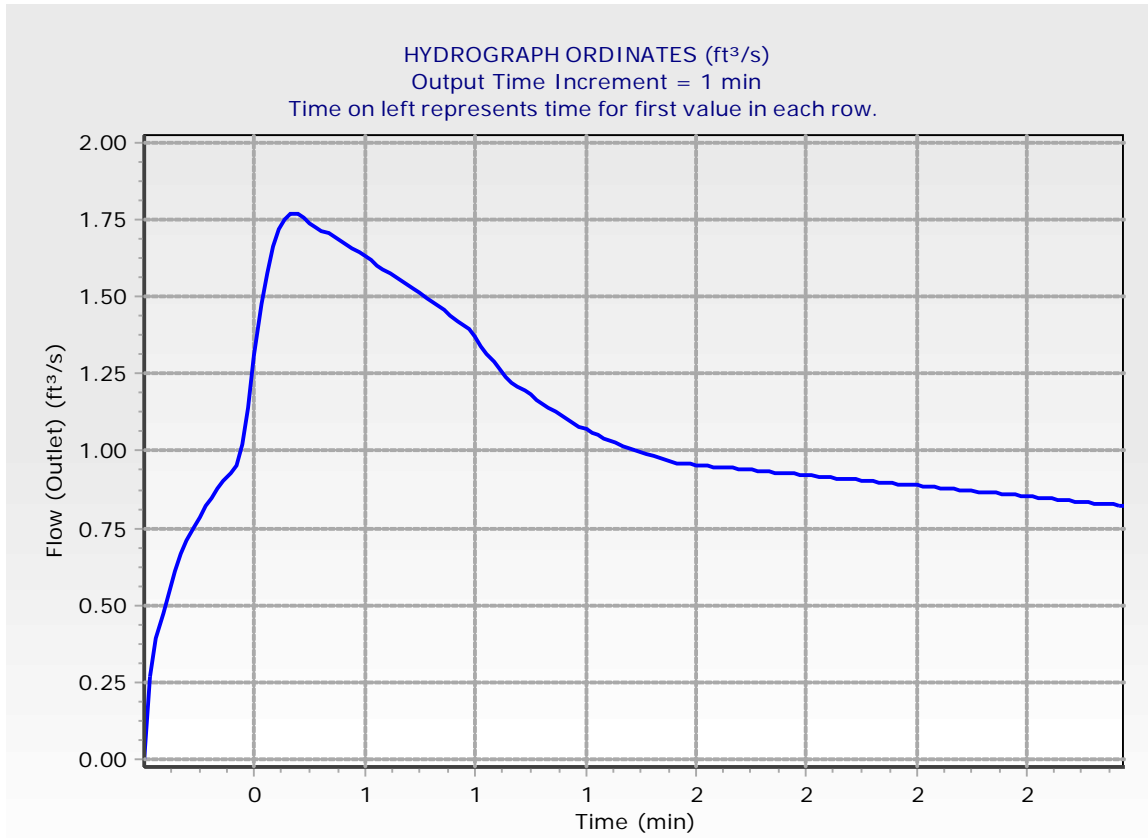### HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.27	0.40	0.47	0.54
5	0.61	0.67	0.71	0.75	0.79
10	0.82	0.85	0.88	0.90	0.93
15	0.95	1.02	1.14	1.31	1.48
20	1.58	1.66	1.72	1.75	1.77
25	1.77	1.75	1.74	1.73	1.72
30	1.70	1.69	1.68	1.67	1.66
35	1.64	1.63	1.62	1.60	1.59
40	1.58	1.56	1.55	1.54	1.53
45	1.51	1.50	1.48	1.47	1.46
50	1.44	1.42	1.41	1.39	1.37
55	1.34	1.32	1.29	1.26	1.24
60	1.22	1.21	1.20	1.18	1.17
65	1.15	1.14	1.13	1.12	1.10
70	1.09	1.08	1.07	1.06	1.05
75	1.04	1.03	1.03	1.02	1.01
80	1.00	1.00	0.99	0.98	0.98
85	0.97	0.97	0.96	0.96	0.96
90	0.96	0.95	0.95	0.95	0.95
95	0.95	0.94	0.94	0.94	0.94
100	0.94	0.93	0.93	0.93	0.93
105	0.93	0.93	0.92	0.92	0.92
110	0.92	0.92	0.91	0.91	0.91
115	0.91	0.91	0.90	0.90	0.90
120	0.90	0.90	0.90	0.89	0.89
125	0.89	0.89	0.89	0.89	0.88
130	0.88	0.88	0.88	0.88	0.87
135	0.87	0.87	0.87	0.87	0.86
140	0.86	0.86	0.86	0.86	0.85
145	0.85	0.85	0.85	0.85	0.84
150	0.84	0.84	0.84	0.84	0.83
155	0.83	0.83	0.83	0.83	0.82
160	0.82	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	0.00	0.00	0.00	0.00	0.000	511.00
1	3.43	2.84	3.43	0.00	0.30	92.000	511.52
2	6.86	12.29	13.13	0.00	0.42	377.000	511.84
3	10.29	28.44	29.44	0.00	0.50	867.000	512.11
4	13.72	51.29	52.45	0.00	0.58	1,555.000	512.41
5	17.15	80.85	82.16	0.00	0.65	2,444.000	512.72
6	17.15	113.73	115.15	0.00	0.71	3,433.000	513.02
7	17.15	146.50	148.03	0.00	0.76	4,418.000	513.29
8	17.15	179.19	180.80	0.00	0.81	5,399.000	513.54
9	17.15	211.79	213.49	0.00	0.85	6,378.000	513.77
10	17.15	244.33	246.09	0.00	0.88	7,356.000	514.00
11	17.15	276.79	278.63	0.00	0.92	8,331.000	514.21
12	17.15	309.19	311.09	0.00	0.95	9,304.000	514.43
13	17.15	341.43	343.49	0.00	1.03	10,274.000	514.64
14	17.15	373.34	375.73	0.00	1.20	11,236.000	514.86
15	17.15	404.75	407.64	0.00	1.44	12,186.000	515.06
16	17.15	435.89	439.05	0.00	1.58	13,124.000	515.27
17	17.15	466.78	470.19	0.00	1.70	14,054.000	515.47
18	17.15	497.46	501.08	0.00	1.81	14,978.000	515.67
19	17.15	527.95	531.76	0.00	1.91	15,896.000	515.87
20	17.15	558.26	562.25	0.00	1.99	16,808.000	516.06
21	13.72	585.00	589.13	0.00	2.07	17,612.000	516.23
22	10.29	604.78	609.01	0.00	2.12	18,207.000	516.36
23	6.86	617.63	621.93	0.00	2.15	18,593.000	516.44
24	3.43	623.60	627.92	0.00	2.16	18,773.000	516.48
25	0.00	622.71	627.03	0.00	2.16	18,746.000	516.48
26	0.00	618.41	622.71	0.00	2.15	18,617.000	516.45
27	0.00	614.13	618.41	0.00	2.14	18,488.000	516.42
28	0.00	609.86	614.13	0.00	2.13	18,360.000	516.39
29	0.00	605.63	609.86	0.00	2.12	18,232.000	516.37
30	0.00	601.41	605.63	0.00	2.11	18,105.000	516.34
31	0.00	597.21	601.41	0.00	2.10	17,979.000	516.31
32	0.00	593.04	597.21	0.00	2.09	17,854.000	516.29
33	0.00	588.88	593.04	0.00	2.08	17,729.000	516.26
34	0.00	584.75	588.88	0.00	2.07	17,604.000	516.23
35	0.00	580.64	584.75	0.00	2.05	17,481.000	516.21
36	0.00	576.55	580.64	0.00	2.04	17,358.000	516.18
37	0.00	572.49	576.55	0.00	2.03	17,236.000	516.15
38	0.00	568.44	572.49	0.00	2.02	17,114.000	516.13
39	0.00	564.42	568.44	0.00	2.01	16,993.000	516.10
40	0.00	560.42	564.42	0.00	2.00	16,873.000	516.08
41	0.00	556.45	560.42	0.00	1.99	16,753.000	516.05
42	0.00	552.49	556.45	0.00	1.98	16,634.000	516.03
43	0.00	548.56	552.49	0.00	1.97	16,516.000	516.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
44	0.00	544.65	548.56	0.00	1.95	16,398.000	515.98
45	0.00	540.76	544.65	0.00	1.94	16,281.000	515.95
46	0.00	536.90	540.76	0.00	1.93	16,165.000	515.93
47	0.00	533.06	536.90	0.00	1.92	16,049.000	515.90
48	0.00	529.24	533.06	0.00	1.91	15,934.000	515.88
49	0.00	525.44	529.24	0.00	1.90	15,820.000	515.85
50	0.00	521.67	525.44	0.00	1.89	15,707.000	515.83
51	0.00	517.92	521.67	0.00	1.87	15,594.000	515.80
52	0.00	514.19	517.92	0.00	1.86	15,482.000	515.78
53	0.00	510.49	514.19	0.00	1.85	15,370.000	515.75
54	0.00	506.82	510.49	0.00	1.84	15,260.000	515.73
55	0.00	503.16	506.82	0.00	1.83	15,150.000	515.71
56	0.00	499.53	503.16	0.00	1.82	15,040.000	515.68
57	0.00	495.92	499.53	0.00	1.80	14,932.000	515.66
58	0.00	492.34	495.92	0.00	1.79	14,824.000	515.64
59	0.00	488.78	492.34	0.00	1.78	14,717.000	515.61
60	0.00	485.24	488.78	0.00	1.77	14,610.000	515.59
61	0.00	481.72	485.24	0.00	1.76	14,504.000	515.57
62	0.00	478.23	481.72	0.00	1.74	14,399.000	515.55
63	0.00	474.77	478.23	0.00	1.73	14,295.000	515.52
64	0.00	471.33	474.77	0.00	1.72	14,192.000	515.50
65	0.00	467.92	471.33	0.00	1.71	14,089.000	515.48
66	0.00	464.53	467.92	0.00	1.70	13,987.000	515.46
67	0.00	461.16	464.53	0.00	1.68	13,885.000	515.43
68	0.00	457.82	461.16	0.00	1.67	13,785.000	515.41
69	0.00	454.50	457.82	0.00	1.66	13,685.000	515.39
70	0.00	451.20	454.50	0.00	1.65	13,585.000	515.37
71	0.00	447.94	451.20	0.00	1.63	13,487.000	515.35
72	0.00	444.70	447.94	0.00	1.62	13,389.000	515.33
73	0.00	441.49	444.70	0.00	1.61	13,293.000	515.31
74	0.00	438.30	441.49	0.00	1.59	13,197.000	515.28
75	0.00	435.14	438.30	0.00	1.58	13,101.000	515.26
76	0.00	432.00	435.14	0.00	1.57	13,007.000	515.24
77	0.00	428.89	432.00	0.00	1.55	12,913.000	515.22
78	0.00	425.81	428.89	0.00	1.54	12,821.000	515.20
79	0.00	422.75	425.81	0.00	1.53	12,728.000	515.18
80	0.00	419.72	422.75	0.00	1.51	12,637.000	515.16
81	0.00	416.72	419.72	0.00	1.50	12,547.000	515.14
82	0.00	413.75	416.72	0.00	1.49	12,457.000	515.12
83	0.00	410.80	413.75	0.00	1.47	12,368.000	515.10
84	0.00	407.89	410.80	0.00	1.46	12,280.000	515.09
85	0.00	405.00	407.89	0.00	1.44	12,193.000	515.07
86	0.00	402.15	405.00	0.00	1.43	12,107.000	515.05
87	0.00	399.33	402.15	0.00	1.41	12,022.000	515.03

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
88	0.00	396.53	399.33	0.00	1.40	11,938.000	515.01
89	0.00	393.78	396.53	0.00	1.38	11,855.000	514.99
90	0.00	391.09	393.78	0.00	1.35	11,773.000	514.97
91	0.00	388.44	391.09	0.00	1.32	11,693.000	514.96
92	0.00	385.85	388.44	0.00	1.30	11,614.000	514.94
93	0.00	383.31	385.85	0.00	1.27	11,537.000	514.92
94	0.00	380.82	383.31	0.00	1.24	11,462.000	514.91
95	0.00	378.37	380.82	0.00	1.23	11,388.000	514.89
96	0.00	375.95	378.37	0.00	1.21	11,315.000	514.87
97	0.00	373.55	375.95	0.00	1.20	11,242.000	514.86
98	0.00	371.18	373.55	0.00	1.18	11,171.000	514.84
99	0.00	368.84	371.18	0.00	1.17	11,100.000	514.83
100	0.00	366.53	368.84	0.00	1.16	11,031.000	514.81
101	0.00	364.25	366.53	0.00	1.14	10,962.000	514.80
102	0.00	361.99	364.25	0.00	1.13	10,893.000	514.78
103	0.00	359.75	361.99	0.00	1.12	10,826.000	514.77
104	0.00	357.53	359.75	0.00	1.11	10,759.000	514.75
105	0.00	355.34	357.53	0.00	1.09	10,693.000	514.74
106	0.00	353.18	355.34	0.00	1.08	10,628.000	514.72
107	0.00	351.04	353.18	0.00	1.07	10,563.000	514.71
108	0.00	348.91	351.04	0.00	1.06	10,499.000	514.69
109	0.00	346.81	348.91	0.00	1.05	10,436.000	514.68
110	0.00	344.72	346.81	0.00	1.04	10,373.000	514.67
111	0.00	342.65	344.72	0.00	1.04	10,310.000	514.65
112	0.00	340.59	342.65	0.00	1.03	10,249.000	514.64
113	0.00	338.56	340.59	0.00	1.02	10,187.000	514.63
114	0.00	336.54	338.56	0.00	1.01	10,126.000	514.61
115	0.00	334.53	336.54	0.00	1.00	10,066.000	514.60
116	0.00	332.54	334.53	0.00	1.00	10,006.000	514.59
117	0.00	330.56	332.54	0.00	0.99	9,946.000	514.57
118	0.00	328.59	330.56	0.00	0.99	9,887.000	514.56
119	0.00	326.63	328.59	0.00	0.98	9,828.000	514.55
120	0.00	324.68	326.63	0.00	0.97	9,769.000	514.53
121	0.00	322.74	324.68	0.00	0.97	9,711.000	514.52
122	0.00	320.81	322.74	0.00	0.96	9,653.000	514.51
123	0.00	318.89	320.81	0.00	0.96	9,596.000	514.49
124	0.00	316.98	318.89	0.00	0.96	9,538.000	514.48
125	0.00	315.07	316.98	0.00	0.96	9,481.000	514.47
126	0.00	313.16	315.07	0.00	0.95	9,423.000	514.46
127	0.00	311.25	313.16	0.00	0.95	9,366.000	514.44
128	0.00	309.35	311.25	0.00	0.95	9,309.000	514.43
129	0.00	307.46	309.35	0.00	0.95	9,252.000	514.42
130	0.00	305.56	307.46	0.00	0.95	9,195.000	514.41
131	0.00	303.67	305.56	0.00	0.94	9,138.000	514.39

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	301.79	303.67	0.00	0.94	9,082.000	514.38
133	0.00	299.90	301.79	0.00	0.94	9,025.000	514.37
134	0.00	298.03	299.90	0.00	0.94	8,969.000	514.36
135	0.00	296.15	298.03	0.00	0.94	8,913.000	514.34
136	0.00	294.28	296.15	0.00	0.94	8,856.000	514.33
137	0.00	292.42	294.28	0.00	0.93	8,800.000	514.32
138	0.00	290.55	292.42	0.00	0.93	8,744.000	514.31
139	0.00	288.69	290.55	0.00	0.93	8,689.000	514.29
140	0.00	286.84	288.69	0.00	0.93	8,633.000	514.28
141	0.00	284.99	286.84	0.00	0.93	8,577.000	514.27
142	0.00	283.14	284.99	0.00	0.92	8,522.000	514.26
143	0.00	281.29	283.14	0.00	0.92	8,466.000	514.24
144	0.00	279.45	281.29	0.00	0.92	8,411.000	514.23
145	0.00	277.61	279.45	0.00	0.92	8,356.000	514.22
146	0.00	275.78	277.61	0.00	0.92	8,301.000	514.21
147	0.00	273.95	275.78	0.00	0.92	8,246.000	514.20
148	0.00	272.12	273.95	0.00	0.91	8,191.000	514.18
149	0.00	270.30	272.12	0.00	0.91	8,136.000	514.17
150	0.00	268.48	270.30	0.00	0.91	8,082.000	514.16
151	0.00	266.67	268.48	0.00	0.91	8,027.000	514.15
152	0.00	264.86	266.67	0.00	0.91	7,973.000	514.13
153	0.00	263.05	264.86	0.00	0.90	7,919.000	514.12
154	0.00	261.25	263.05	0.00	0.90	7,865.000	514.11
155	0.00	259.45	261.25	0.00	0.90	7,811.000	514.10
156	0.00	257.66	259.45	0.00	0.90	7,757.000	514.09
157	0.00	255.87	257.66	0.00	0.90	7,703.000	514.07
158	0.00	254.08	255.87	0.00	0.89	7,649.000	514.06
159	0.00	252.30	254.08	0.00	0.89	7,596.000	514.05
160	0.00	250.51	252.30	0.00	0.89	7,542.000	514.04

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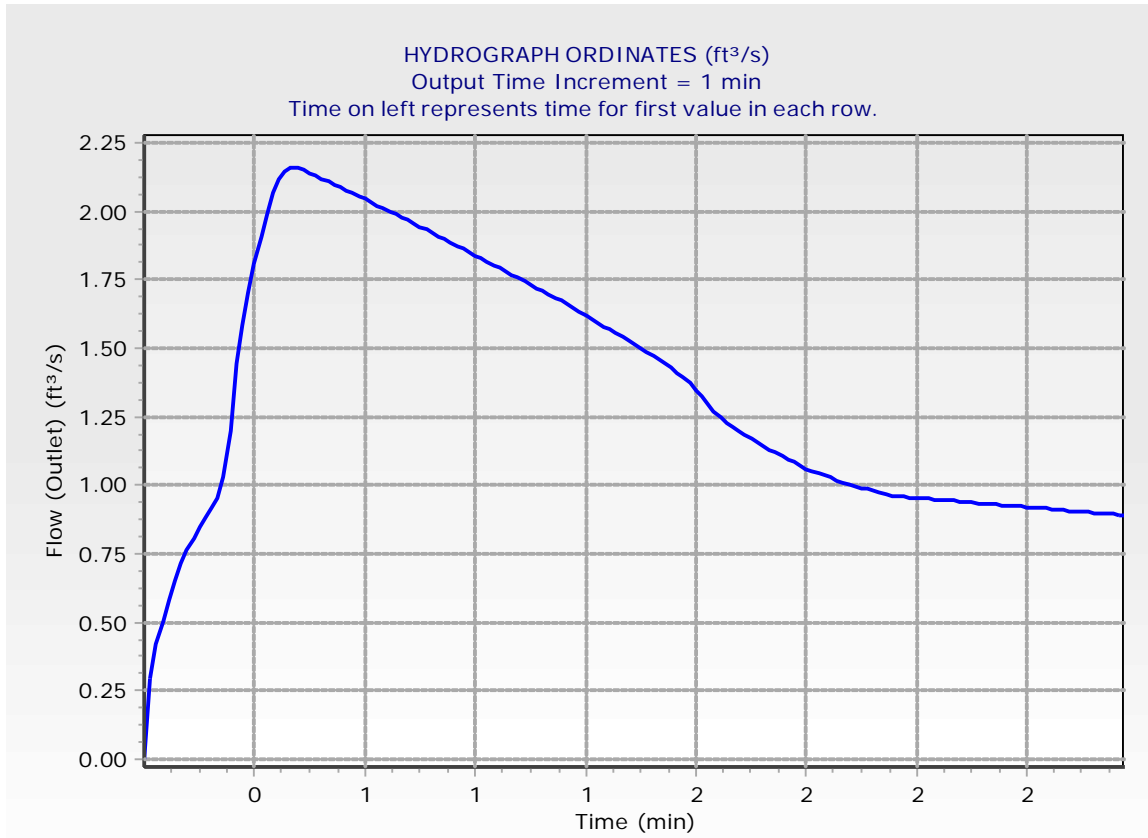|	
Peak Discharge	2.16 ft³/s
Time to Peak	24 min
Hydrograph Volume	13,037.853 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
0	0.00	0.30	0.42	0.50	0.58
5	0.65	0.71	0.76	0.81	0.85
10	0.88	0.92	0.95	1.03	1.20
15	1.44	1.58	1.70	1.81	1.91
20	1.99	2.07	2.12	2.15	2.16
25	2.16	2.15	2.14	2.13	2.12
30	2.11	2.10	2.09	2.08	2.07
35	2.05	2.04	2.03	2.02	2.01
40	2.00	1.99	1.98	1.97	1.95
45	1.94	1.93	1.92	1.91	1.90
50	1.89	1.87	1.86	1.85	1.84
55	1.83	1.82	1.80	1.79	1.78
60	1.77	1.76	1.74	1.73	1.72
65	1.71	1.70	1.68	1.67	1.66
70	1.65	1.63	1.62	1.61	1.59
75	1.58	1.57	1.55	1.54	1.53
80	1.51	1.50	1.49	1.47	1.46
85	1.44	1.43	1.41	1.40	1.38
90	1.35	1.32	1.30	1.27	1.24
95	1.23	1.21	1.20	1.18	1.17
100	1.16	1.14	1.13	1.12	1.11
105	1.09	1.08	1.07	1.06	1.05
110	1.04	1.04	1.03	1.02	1.01
115	1.00	1.00	0.99	0.99	0.98
120	0.97	0.97	0.96	0.96	0.96
125	0.96	0.95	0.95	0.95	0.95
130	0.95	0.94	0.94	0.94	0.94
135	0.94	0.94	0.93	0.93	0.93
140	0.93	0.93	0.92	0.92	0.92
145	0.92	0.92	0.92	0.91	0.91
150	0.91	0.91	0.91	0.90	0.90
155	0.90	0.90	0.90	0.89	0.89
160	0.89	(N/A)	(N/A)	(N/A)	(N/A)

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HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1 min
Time on left represents time for first value in each row.

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
0	0.00	209.58	209.58	0.00	0.00	18,862.000	516.50
3	10.29	219.87	219.87	0.00	0.00	19,788.000	516.70
6	17.15	240.53	247.31	0.00	3.39	21,953.000	517.15
9	17.15	242.97	274.83	0.00	15.93	23,301.000	517.43
12	17.15	242.90	277.27	0.00	17.18	23,408.000	517.45
15	17.15	242.91	277.20	0.00	17.15	23,405.000	517.45
18	17.15	242.91	277.21	0.00	17.15	23,405.000	517.45
21	13.72	243.00	273.78	0.00	15.39	23,255.000	517.42
24	3.43	242.58	260.15	0.00	8.79	22,623.000	517.29
27	0.00	240.22	246.01	0.00	2.90	21,880.000	517.13
30	0.00	238.09	240.22	0.00	1.06	21,524.000	517.06
33	0.00	237.03	238.09	0.00	0.53	21,380.000	517.03
36	0.00	236.50	237.03	0.00	0.26	21,309.000	517.01
39	0.00	236.24	236.50	0.00	0.13	21,273.000	517.01
42	0.00	236.10	236.24	0.00	0.07	21,255.000	517.00
45	0.00	236.04	236.10	0.00	0.03	21,246.000	517.00
48	0.00	236.01	236.04	0.00	0.02	21,242.000	517.00
51	0.00	235.99	236.01	0.00	0.01	21,240.000	517.00
54	0.00	235.98	235.99	0.00	0.00	21,239.000	517.00
57	0.00	235.98	235.98	0.00	0.00	21,238.000	517.00
60	0.00	235.98	235.98	0.00	0.00	21,238.000	517.00
63	0.00	235.97	235.98	0.00	0.00	21,238.000	517.00
66	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
69	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
72	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
75	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
78	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
81	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
84	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
87	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
90	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
93	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
96	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
99	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
102	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
105	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
108	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
111	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
114	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
117	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
120	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
123	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
126	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
129	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
132	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
135	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
138	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
141	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
144	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
147	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
150	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
153	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
156	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
159	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
162	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
165	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
168	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
171	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
174	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
177	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
180	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
183	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
186	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
189	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
192	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
195	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
198	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
201	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
204	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
207	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
210	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
213	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
216	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
219	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
222	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
225	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
228	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
231	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
234	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
237	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
240	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
243	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
246	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
249	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
252	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
255	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
258	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
261	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
264	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
267	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
270	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
273	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
276	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
279	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
282	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
285	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
288	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
291	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
294	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
297	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
300	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
303	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
306	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
309	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
312	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
315	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
318	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
321	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
324	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
327	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
330	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
333	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
336	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
339	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
342	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
345	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
348	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
351	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
354	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
357	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
360	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
363	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
366	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
369	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
372	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
375	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
378	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
381	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
384	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
387	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
390	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
393	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
396	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
399	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
402	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
405	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
408	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
411	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
414	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
417	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
420	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
423	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
426	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
429	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
432	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
435	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
438	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
441	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
444	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
447	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
450	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
453	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
456	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
459	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
462	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
465	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
468	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
471	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
474	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
477	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
480	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
483	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
486	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
489	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
492	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
495	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
498	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
501	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
504	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
507	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
510	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
513	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
516	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
519	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
522	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
525	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
528	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
531	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
534	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
537	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
540	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
543	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
546	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
549	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
552	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
555	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
558	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
561	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
564	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
567	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
570	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
573	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
576	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
579	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
582	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
585	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
588	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
591	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
594	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
597	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
600	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
603	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
606	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
609	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
612	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
615	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
618	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
621	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
624	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
627	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
630	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
633	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
636	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
639	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
642	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
645	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
648	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
651	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
654	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
657	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
660	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
663	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
666	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
669	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
672	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
675	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
678	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
681	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
684	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
687	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
690	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
693	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
696	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
699	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
702	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
705	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
708	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
711	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
714	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
717	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
720	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
723	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
726	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
729	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
732	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
735	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
738	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
741	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
744	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
747	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
750	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
753	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
756	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
759	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
762	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
765	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
768	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
771	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
774	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
777	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
780	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
783	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
786	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
789	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

O'Fallon Senior Living Center Pondpack Final.ppc
9/21/2016

Bentley Systems, Inc. Haestad Methods Solution Center
27 Siemon Company Drive Suite 200 W
Watertown, CT 06795 USA +1-203-755-1666

Bentley PondPack V8i
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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
792	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
795	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
798	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
801	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
804	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
807	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
810	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
813	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
816	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
819	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
822	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
825	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
828	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
831	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
834	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
837	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
840	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
843	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
846	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
849	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
852	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
855	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
858	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
861	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
864	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
867	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
870	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
873	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
876	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
879	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
882	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
885	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
888	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
891	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
894	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
897	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
900	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
903	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
906	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
909	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
912	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
915	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
918	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
921	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
924	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
927	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
930	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
933	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
936	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
939	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
942	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
945	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
948	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
951	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
954	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
957	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
960	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
963	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
966	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
969	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
972	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
975	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
978	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
981	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
984	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
987	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
990	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
993	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
996	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
999	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,002	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,005	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,008	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,011	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,014	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,017	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,020	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,023	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,026	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,029	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,032	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,035	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,038	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,041	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,044	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,047	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,050	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,053	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
1,056	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,059	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,062	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,065	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,068	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,071	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,074	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,077	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,080	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,083	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,086	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,089	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,092	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,095	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,098	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,101	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,104	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,107	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,110	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,113	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,116	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,119	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,122	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,125	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,128	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,131	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,134	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,137	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,140	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,143	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,146	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,149	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,152	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,155	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,158	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,161	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,164	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,167	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,170	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,173	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,176	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,179	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,182	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,185	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
1,188	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,191	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,194	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,197	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,200	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,203	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,206	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,209	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,212	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,215	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,218	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,221	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,224	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,227	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,230	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,233	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,236	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,239	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,242	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,245	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,248	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,251	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,254	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,257	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,260	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,263	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,266	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,269	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,272	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,275	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,278	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,281	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,284	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,287	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,290	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,293	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,296	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,299	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,302	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,305	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,308	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,311	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,314	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,317	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

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Pond Routing Calculations (Total Out)

Time (min)	Flow (Total In) (ft³/s)	2S/t - O (ft³/s)	2S/t + O (ft³/s)	Infiltration (ft³/s)	Flow (Outlet) (ft³/s)	Volume (ft³)	Elevation (ft)
1,320	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,323	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,326	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,329	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,332	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,335	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,338	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,341	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,344	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,347	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,350	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,353	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,356	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,359	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,362	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,365	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,368	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,371	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,374	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,377	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,380	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,383	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,386	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,389	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,392	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,395	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,398	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,401	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,404	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,407	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,410	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,413	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,416	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,419	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,422	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,425	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,428	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,431	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,434	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,437	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00
1,440	0.00	235.97	235.97	0.00	0.00	21,238.000	517.00

O'Fallon Senior Living Center Pondpack Final.ppc
9/21/2016

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Center
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[08.11.01.56]
Page 127 of 134

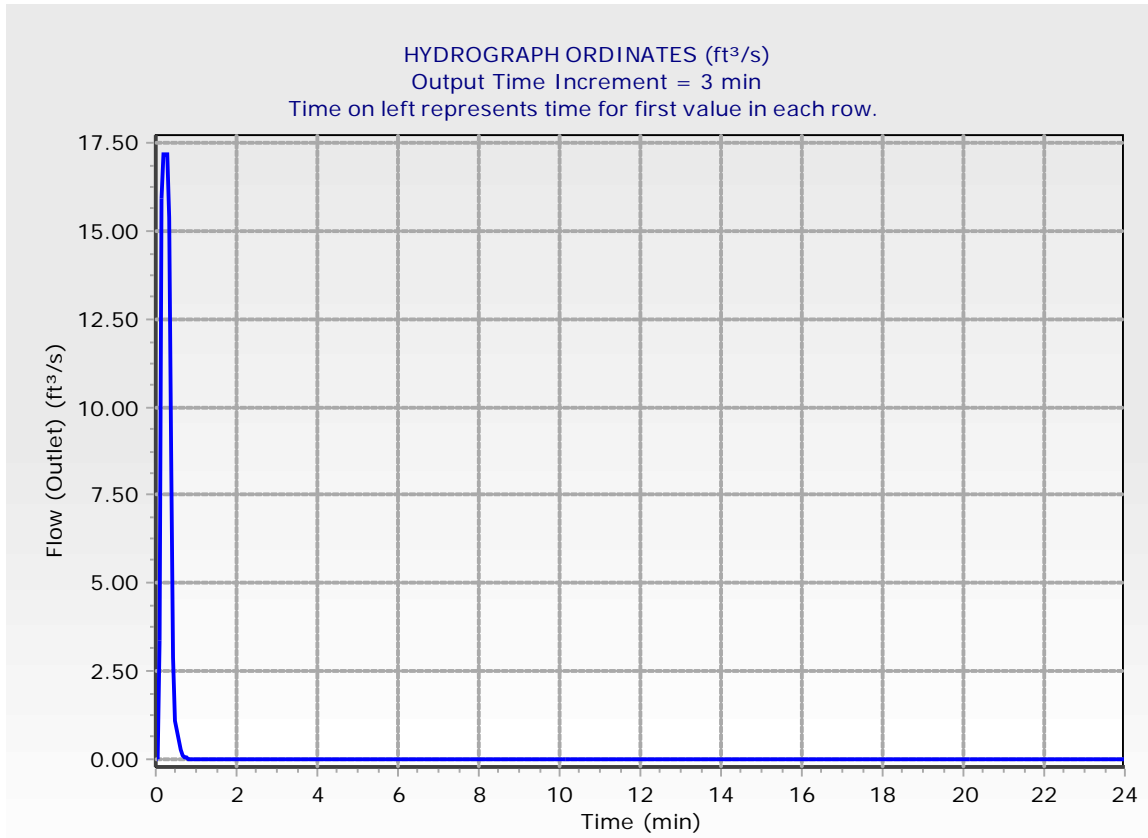|	
Peak Discharge	17.18 ft³/s
Time to Peak	12 min
Hydrograph Volume	17,998.627 ft³

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 3 min
Time on left represents time for first value in each row.

Time (min)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3	0.00	3.39	15.93	17.18	17.15
18	17.15	15.39	8.79	2.90	1.06
33	0.53	0.26	0.13	0.07	0.03
48	0.02	0.01	0.00	0.00	0.00

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[08.11.01.56]
Page 128 of 134

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 3 min
Time on left represents time for first value in each row.

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[08.11.01.56]
Page 129 of 134

Summary for Hydrograph Addition at 'Basin 2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 2

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 2	8,076.000	5	6.73
Flow (In)	Basin 2	8,076.000	5	6.73

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Page 130 of 134

Summary for Hydrograph Addition at 'Basin 2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 2

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 2	13,032.000	5	10.86
Flow (In)	Basin 2	13,032.000	5	10.86

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[08.11.01.56]
Page 131 of 134

Summary for Hydrograph Addition at 'Basin 2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 2

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 2	16,080.000	5	13.40
Flow (In)	Basin 2	16,080.000	5	13.40

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[08.11.01.56]
Page 132 of 134

Summary for Hydrograph Addition at 'Basin 2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 2

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 2	20,580.000	5	17.15
Flow (In)	Basin 2	20,580.000	5	17.15

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[08.11.01.56]
Page 133 of 134

Summary for Hydrograph Addition at 'Basin 2'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Site Runoff 2

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Site Runoff 2	20,580.000	5	17.15
Flow (In)	Basin 2	20,374.200	6	17.15

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[08.11.01.56]
Page 134 of 134

N

GRAPHIC SCALE

30   0   15   30

(IN FEET)
1 inch = 30 ft.

BAX
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PLANNING
SURVEYING
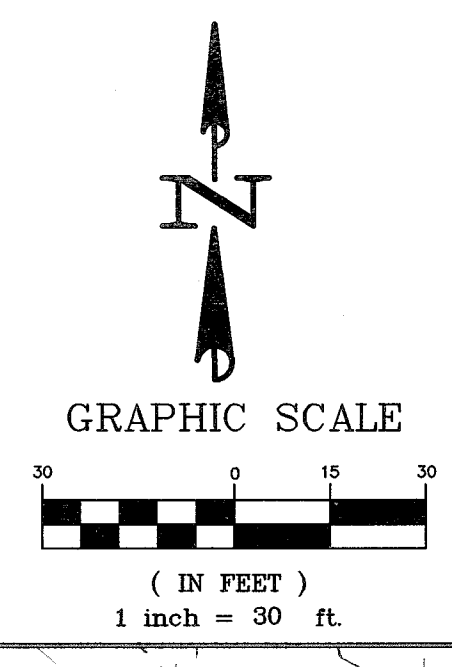
221 Point West Blvd.
St. Charles, MO   63301
636-928-5552
FAX 928-1718
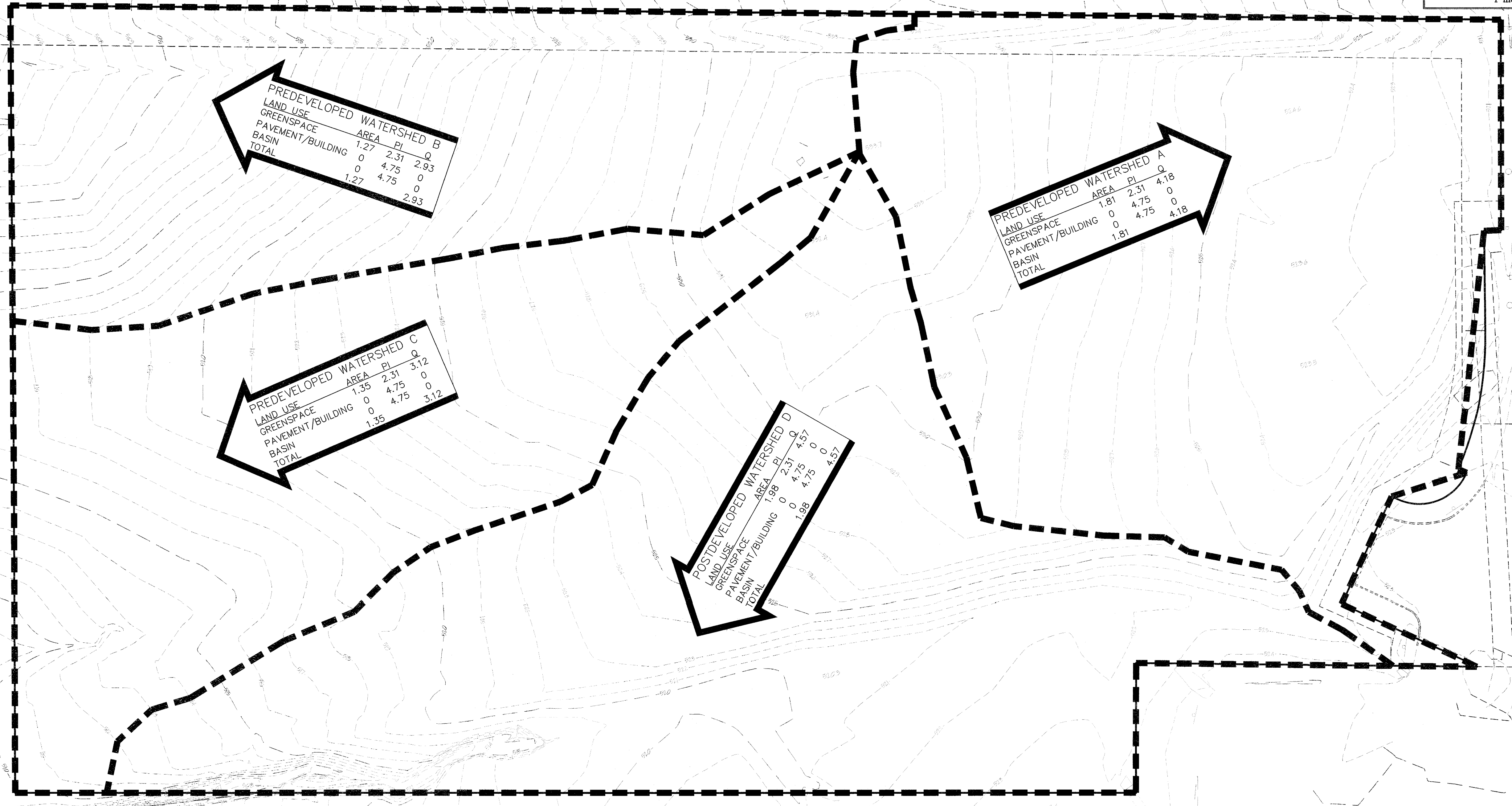
PREDEVELOPED WATERSHED B

LAND USE	AREA	PI	Q
GREENSPACE	1.27	2.31	2.93
PAVEMENT/BUILDING	0	4.75	0
BASIN			
TOTAL	1.27	4.75	2.93

PREDEVELOPED WATERSHED A

LAND USE	AREA	PI	Q
GREENSPACE	1.81	2.31	4.18
PAVEMENT/BUILDING	0	4.75	0
BASIN	0	4.75	4.18
TOTAL	1.81		4.18

PREDEVELOPED WATERSHED C

LAND USE	AREA	PI	Q
GREENSPACE	1.35	2.31	3.12
PAVEMENT/BUILDING	0	4.75	0
BASIN	0	4.75	3.12
TOTAL	1.35		3.12

POST DEVELOPED WATERSHED D

LAND USE	AREA	PI	Q
GREENSPACE	1.98	2.31	4.57
PAVEMENT/BUILDING	0	4.75	0
BASIN	0	4.75	0
TOTAL	1.98	1.75	4.57

U.S. SURVEY 1636
U.S. SURVEY 1669

N ROAD

Todd C. Flauaus
Civil Engineer
Engineers License # 2005000982

STATE OF MISSOURI
TODD C.
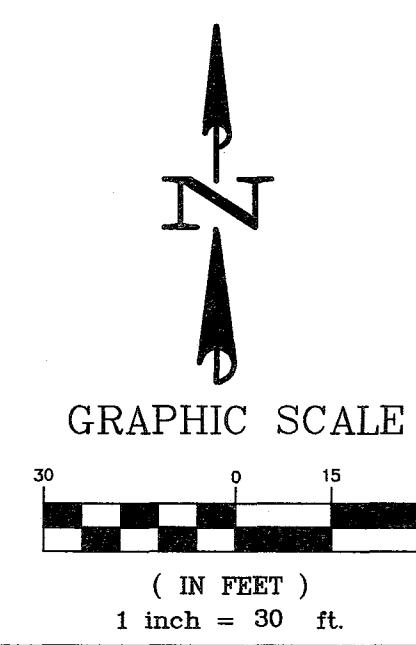FLAUAUS
NUMBER
PE-2005000982
PROFESSIONAL ENGINEER
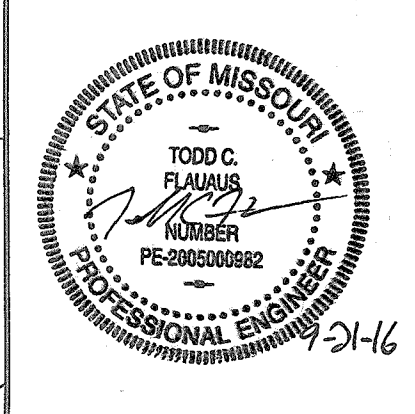
UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

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636-928-5552
FAX 928-1718

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

POSTDEVELOPED WATERSHED A

LAND USE	AREA	PI	Q
GREENSPACE	0.68	2.31	1.57
PAVEMENT/BUILDING	1.42	4.75	6.75
BASIN	0.16	4.75	0.76
TOTAL	2.26		9.08

POSTDEVELOPED WATERSHED B

LAND USE	AREA	PI	Q
GREENSPACE	1.41	2.31	3.26
PAVEMENT/BUILDING	2.17	4.75	10.31
BASIN	0.14	4.75	0.67
TOTAL	3.72		14.24

POSTDEVELOPED WATERSHED C

LAND USE	AREA	PI	Q
GREENSPACE	0.09	2.31	0.21
PAVEMENT/BUILDING	0	4.75	0
BASIN	0	4.75	0
TOTAL	0.09		0.21

POSTDEVELOPED WATERSHED D

LAND USE	AREA	PI	Q
GREENSPACE	0.35	2.31	0.81
PAVEMENT/BUILDING	0	4.75	0
BASIN	0	4.75	0
TOTAL	0.35		0.81

S26°14'36"E
186.82'

S26°14'36"E 755.07'

S63°13'16"W
107.03'

N27°27'54"W
8.58'

S62°32'06"W
50.85'

R=175.00'
L=71.78'

S03°57'45"E
4.50'

R=26.00'
L=41.82'

S01°51'12"E
3.40'

S88°08'48"W
60.00'

N26°14'00"W 172.92'

N26°47'08"W 567.48'

S63°15'44"W
65.59'

S63°15'44"W 134.44'

PROPOSED 12' STORM
SEWER AND DRAINAGE
EASEMENT

STORM DISCHARGE
AND RIP-RAP AREA
(OFFSITE EASEMENT
REQUIRED)

TRANSFORMER
PAD

GENERATOR

DECORATIVE
GREENISH WALL

CURB INLET (TYPICAL)
TO BE CHANGED TO
GRATE INLET WITH
ROADWAY WIDENING

CURB INLET (TYPICAL)
TO BE CHANGED TO
GRATE INLET WITH
ROADWAY WIDENING

STATE OF MISSOURI
TODD C. FLAUAUS
PE-2005000982
PROFESSIONAL ENGINEER

9-21-16

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Civil Engineer
Engineers License # 2005000982
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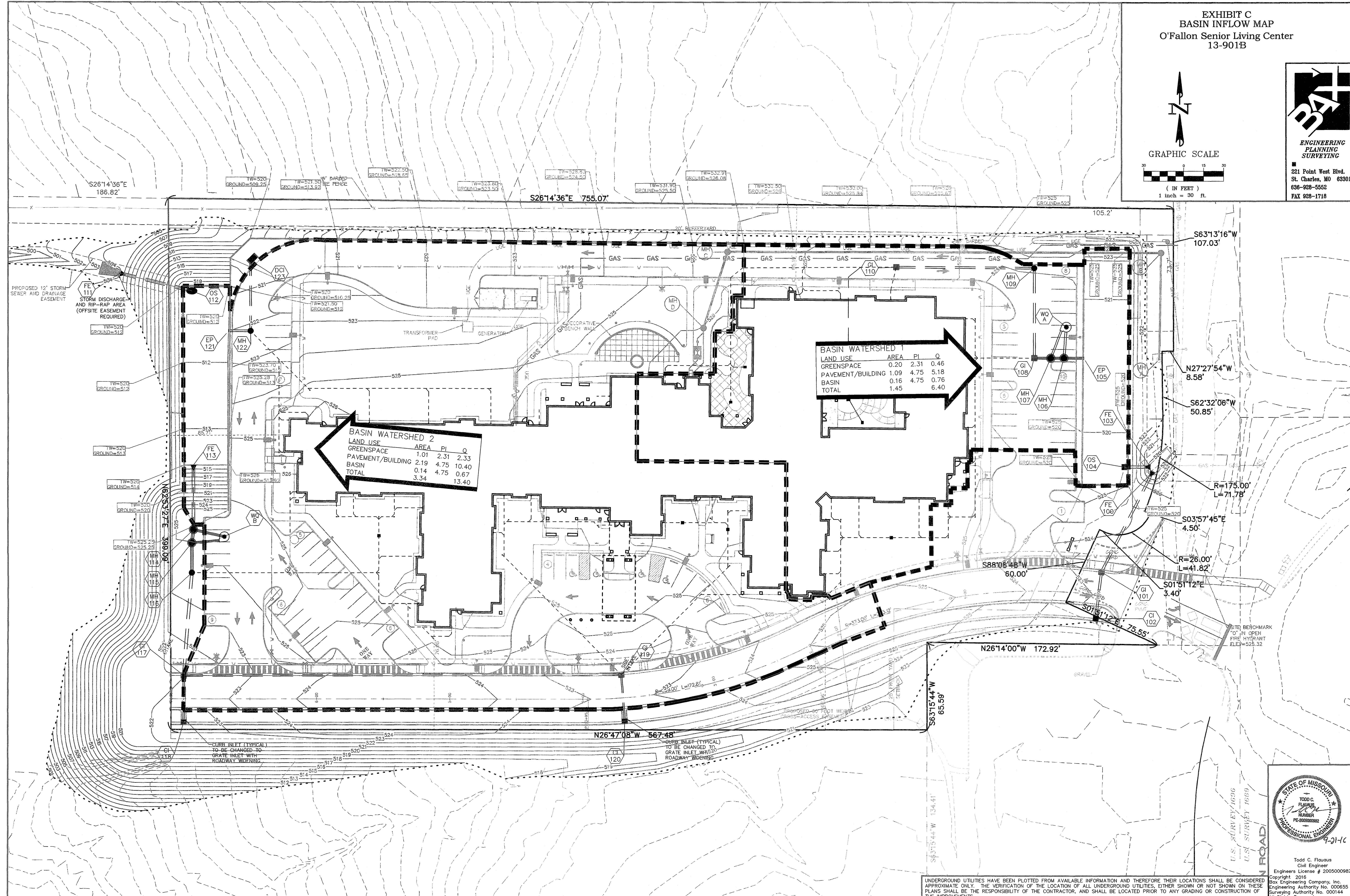All Rights Reserved

EXHIBIT C
BASIN INFLOW MAP
O'Fallon Senior Living Center
13-901B

N

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

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BASIN WATERSHED 1

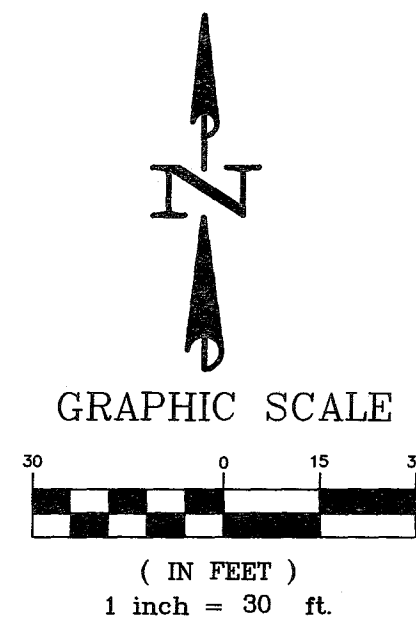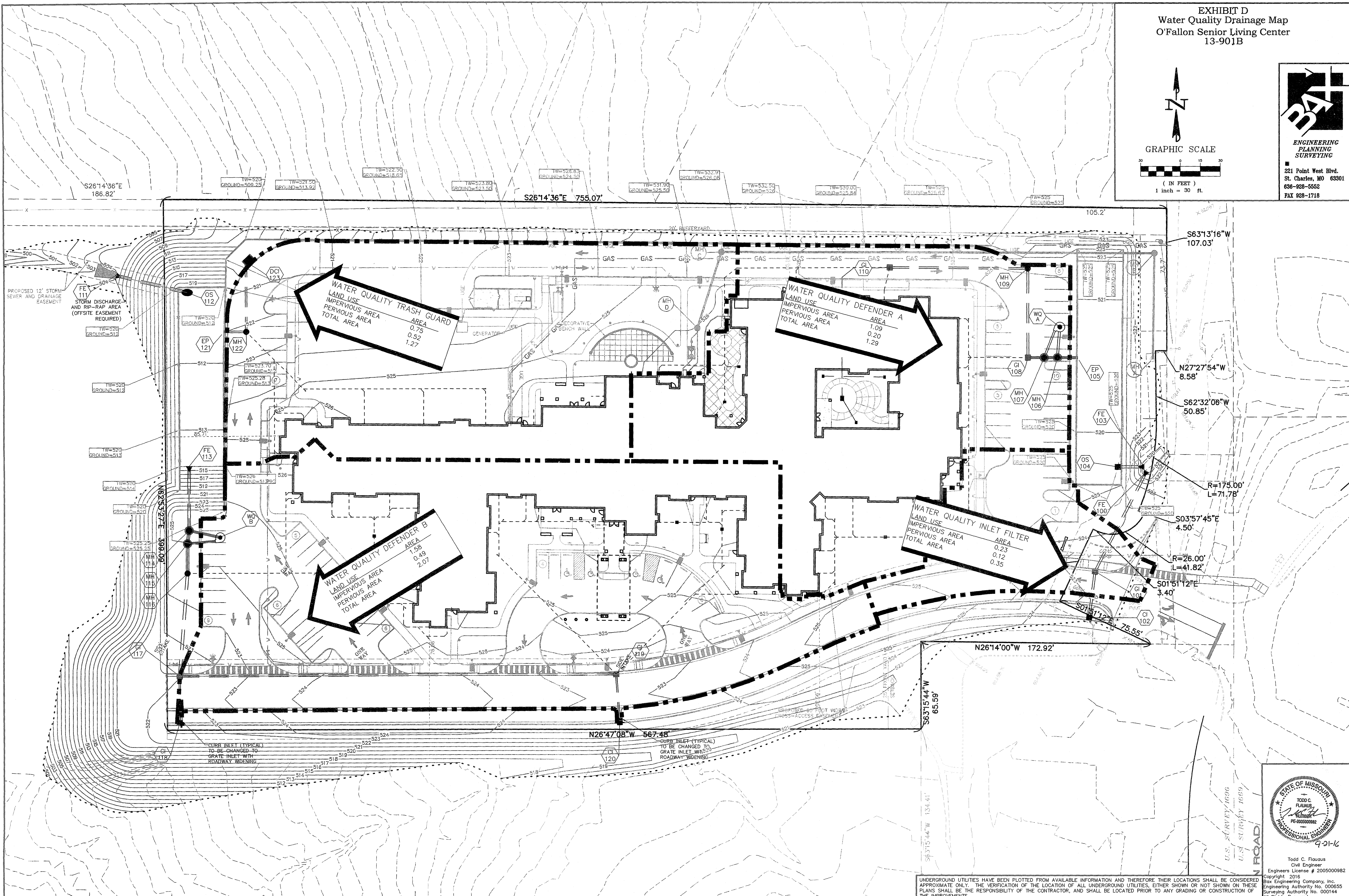| LAND USE	AREA	PI	Q
GREENSPACE	0.20	2.31	0.46
PAVEMENT/BUILDING	1.09	4.75	5.18
BASIN	0.16	4.75	0.76
TOTAL	1.45		6.40

BASIN WATERSHED 2

LAND USE	AREA	PI	Q
GREENSPACE	1.01	2.31	2.33
PAVEMENT/BUILDING	2.19	4.75	10.40
BASIN	0.14	4.75	0.67
TOTAL	3.34		13.40

S26°14'36"E 186.82'

S26°14'36"E 755.07'

105.2'

S63°13'16"W 107.03'

N27°27'54"W 8.58'

S62°32'06"W 50.85'

R=175.00'
L=71.78'

S03°57'45"E 4.50'

R=26.00'
L=41.82'

S01°51'12"E 3.40'

S88°08'48"W 60.00'

S01°51'12"E 75.55'

N26°14'00"W 172.92'

S63°15'44"W 65.59'

N26°47'08"W 567.48'

S63°15'44"W 134.41'

N62°57'27"E 398.00'

PROPOSED 12' STORM
SEWER AND DRAINAGE
EASEMENT

STORM DISCHARGE
AND RIP-RAP AREA
(OFFSITE EASEMENT
REQUIRED)

TRANSFORMER PAD

GENERATOR

DECORATIVE
GARDEN & WALL

20' BUFFERYARD

6" BARBED FENCE

ONE WAY

STATE BENCHMARK "X" IN OPEN
FIRE HYDRANT
ELEV=525.32

U.S. SURVEY 1636
U.S. SURVEY 1689

ROAD

CURB INLET (TYPICAL)
TO BE CHANGED TO
GRATE INLET WITH
ROADWAY WIDENING

CURB INLET (TYPICAL)
TO BE CHANGED TO
GRATE INLET WITH
ROADWAY WIDENING

STATE OF MISSOURI
TODD C.
FLAUAUS
NUMBER
PE-2005000982
PROFESSIONAL ENGINEER
7-21-16

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

ENGINEERING PLANNING SURVEYING

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FAX 928-1718

N

WATER QUALITY TRASH GUARD

LAND USE	AREA
IMPERVIOUS AREA	0.75
PERVIOUS AREA	0.52
TOTAL AREA	1.27

WATER QUALITY DEFENDER A

LAND USE	AREA
IMPERVIOUS AREA	1.09
PERVIOUS AREA	0.20
TOTAL AREA	1.29

WATER QUALITY DEFENDER B

LAND USE	AREA
IMPERVIOUS AREA	1.58
PERVIOUS AREA	0.49
TOTAL AREA	2.07

WATER QUALITY INLET FILTER

LAND USE	AREA
IMPERVIOUS AREA	0.23
PERVIOUS AREA	0.12
TOTAL AREA	0.35

S26'14'36"E 186.82'
S26'14'36"E 755.07'
S63'13'16"W 107.03'
N27'27'54"W 8.58'
S62'32'06"W 50.85'
R=175.00' L=71.78'
S03'57'45"E 4.50'
R=26.00' L=41.82'
S01'51'12"E 3.40'
S01'51'12"E 75.55'
N26'14'00"W 172.92'
N26'47'08"W 567.48'
S63'15'44"W 65.59'
N62'53'27"E 399.09'

PROPOSED 12" STORM SEWER AND DRAINAGE EASEMENT

STORM DISCHARGE AND RIP-RAP AREA (OFFSITE EASEMENT REQUIRED)

20' BUFFERYARD

GENERATOR

DECORATIVE SCREEN WALL

CURB INLET (TYPICAL) TO BE CHANGED TO GRATE INLET WITH ROADWAY WIDENING

ONE WAY

STATE OF MISSOURI
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PROFESSIONAL ENGINEER

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