A STORMWATER MANAGMENT ANALYSIS

OF THE PROPOSED DEVELOPMENT OF

SHADY CREEK COMMERCIAL

IN THE

CITY OF O'FALLON, MISSOURI

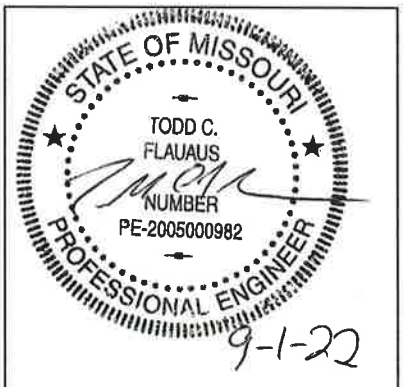
FOR

JOANN GRIFFITH
AND
GARY KOPADT

BAX PROJECT NO. 20-18154A

September 1, 2022

Prepared by:
Bax Engineering Co., INC.
221 Point West Blvd.
Saint Charles, MO 63301
(636) 928-5552



Todd C Flauaus
Civil Engineer
2005000982

Bax Engineering Co
Missouri State
Certificate of Authority
Engineering Authority No. 000655

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221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
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INTRODUCTION

The currently undeveloped site is located in the City of O'Fallon, Missouri and is comprised of 7.34 acres of land. The site shall be analyzed for the construction of the proposed future commercial lots disturbing approximately 4.81 acres of land. A dry detention basin is proposed to provide the Stormwater Detention required by the City of O'Fallon Design Standards for the proposed development. The storage volume and outflow rates are proportioned to ensure that the peak rate of runoff leaving the tract under Postdeveloped conditions is less than or equal to the peak rate of runoff under Predeveloped conditions for the 2, 15, 25, and 100 Year 20 Minute Design Storms. In addition safe passage of the 100 Year 20 Minute Design Storm is analyzed assuming the low flow slot is blocked.

Water Quality treatment is provided with the site design of each individual lot.

GENERAL SITE DATA AND RUNOFF CALCULATIONS

The Runoff Factors used for the analysis for the Predeveloped, Postdeveloped, and Basin Inflow scenario are:

%Impervious	Cover	PI (2yr 20min)	PI (15yr 20min)	PI (25yr 20min)	PI (100yr 20min)
5%	Greenspace/Parks	1.15	1.70	2.00	2.29
40%	10,000sf or Less	1.61	2.39	2.81	3.22
48%	48% Impervious	1.71	2.55	2.98	3.42
72%	Transportation Space	2.02	3.00	3.52	4.04
100%	Pavement/Buildings	2.39	3.54	4.16	4.77

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DETENTION CALCULATIONS

PREDEVELOPED CONDITIONS:

The Predeveloped site has one discharge point to be analyzed for the total runoff from the site. Using the rational method, the Predeveloped Peak Runoff rate is determined for the watershed. The Predeveloped Runoff for the 2, 15, 25, and 100 year 20 minute design storms is calculated for comparison to the Postdeveloped Runoff to determine the quantity of detention required.

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Watershed A

Stormwater Runoff in Watershed A flows overland and discharges into the eastern area of the site.

2 Year				
Onsite Greenspace		7.98 ac x	1.15 cfs/ac =	9.18 cfs
Offsite 10,000sf Lots		0.34 ac x	1.61 cfs/ac =	0.55 cfs
Offsite Greenspace		2.54 ac x	1.15 cfs/ac =	2.92 cfs
Offsite Pavement/Building		0.61 ac x	2.39 cfs/ac =	1.46 cfs
Offsite Transportation Space		0.43 ac x	2.02 cfs/ac =	0.87 cfs
	Total =	11.90 ac	Total =	14.98 cfs
15 Year				
Onsite Greenspace		7.98 ac x	1.70 cfs/ac =	13.57 cfs
Offsite 10,000sf Lots		0.34 ac x	2.39 cfs/ac =	0.81 cfs
Offsite Greenspace		2.54 ac x	1.70 cfs/ac =	4.32 cfs
Offsite Pavement/Building		0.61 ac x	3.54 cfs/ac =	2.16 cfs
Offsite Transportation Space		0.43 ac x	3.00 cfs/ac =	1.29 cfs
	Total =	11.90 ac	Total =	22.15 cfs
25 Year				
Onsite Greenspace		7.98 ac x	2.00 cfs/ac =	15.96 cfs
Offsite 10,000sf Lots		0.34 ac x	2.81 cfs/ac =	0.96 cfs
Offsite Greenspace		2.54 ac x	2.00 cfs/ac =	5.08 cfs
Offsite Pavement/Building		0.61 ac x	4.16 cfs/ac =	2.54 cfs
Offsite Transportation Space		0.43 ac x	3.52 cfs/ac =	1.51 cfs
	Total =	11.90 ac	Total =	24.54 cfs
100 Year				
Onsite Greenspace		7.98 ac x	2.29 cfs/ac =	18.27 cfs
Offsite 10,000sf Lots		0.34 ac x	3.22 cfs/ac =	1.09 cfs
Offsite Greenspace		2.54 ac x	2.29 cfs/ac =	5.82 cfs
Offsite Pavement/Building		0.61 ac x	4.77 cfs/ac =	2.91 cfs
Offsite Transportation Space		0.43 ac x	4.04 cfs/ac =	1.74 cfs
	Total =	11.90 ac	Total =	24.01 cfs

2 year-20 minute storm:	14.98 cfs
15 year-20 minute storm:	22.15 cfs
25 year-20 minute storm:	24.54 cfs
100 year-20 minute storm:	24.01 cfs

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POSTDEVELOPED CONDITIONS:

The Postdeveloped site maintains the same discharge point as in the Predeveloped analysis. The total runoff from the watersheds is calculated using the rational method to determine the Postdeveloped Peak Runoff rates for the watershed. For this analysis, the Postdeveloped runoff for the 2, 15, 25, and 100 year 20 minute design storms area calculated for comparison to the previously calculated Predeveloped Runoff to determine the quantity of detention required for the development. The land use was determined by examining the boundaries of each future lot. The assumption was made that 90 percent of each future lot would be pavement or building. Using that assumption as well as incorporating the other areas such as the roads getting flow on to the site, this determined the breakdown of the total area.

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Watershed A

2 Year				
Onsite Water at Surface		0.44 ac x	2.39 cfs/ac =	1.05 cfs
Onsite Pavement/Building		6.22 ac x	2.39 cfs/ac =	14.87 cfs
Onsite Greenspace		1.32 ac x	1.15 cfs/ac =	1.52 cfs
Offsite 10,000sf Lots		0.34 ac x	1.61 cfs/ac =	0.55 cfs
Offsite Greenspace		2.54 ac x	1.15 cfs/ac =	2.92 cfs
Offsite Pavement/Building		0.61 ac x	2.39 cfs/ac =	1.46 cfs
Offsite Transportation Space		0.43 ac x	2.02 cfs/ac =	0.87 cfs
	Total =	11.90 ac	Total =	23.24 cfs
15 Year				
Onsite Water at Surface		0.44 ac x	3.54 cfs/ac =	1.56 cfs
Onsite Pavement/Building		6.22 ac x	3.54 cfs/ac =	22.02 cfs
Onsite Greenspace		1.32 ac x	1.70 cfs/ac =	2.24 cfs
Offsite 10,000sf Lots		0.34 ac x	2.39 cfs/ac =	0.81 cfs
Offsite Greenspace		2.54 ac x	1.70 cfs/ac =	4.32 cfs
Offsite Pavement/Building		0.61 ac x	3.54 cfs/ac =	2.16 cfs
Offsite Transportation Space		0.43 ac x	3.00 cfs/ac =	1.29 cfs
	Total =	11.90 ac	Total =	32.84 cfs
25 Year				
Onsite Water at Surface		0.44 ac x	4.16 cfs/ac =	1.83 cfs
Onsite Pavement/Building		6.22 ac x	4.16 cfs/ac =	25.88 cfs
Onsite Greenspace		1.32 ac x	2.00 cfs/ac =	2.64 cfs
Offsite 10,000sf Lots		0.34 ac x	2.81 cfs/ac =	0.96 cfs
Offsite Greenspace		2.54 ac x	2.00 cfs/ac =	5.08 cfs
Offsite Pavement/Building		0.61 ac x	4.16 cfs/ac =	2.54 cfs
Offsite Transportation Space		0.43 ac x	3.52 cfs/ac =	1.51 cfs
	Total =	11.90 ac	Total =	38.93 cfs
100 Year				
Onsite Water at Surface		0.44 ac x	4.77 cfs/ac =	2.1 cfs
Onsite Pavement/Building		6.22 ac x	4.77 cfs/ac =	29.67 cfs
Onsite Greenspace		1.32 ac x	2.29 cfs/ac =	3.02 cfs
Offsite 10,000sf Lots		0.34 ac x	3.22 cfs/ac =	1.09 cfs
Offsite Greenspace		2.54 ac x	2.29 cfs/ac =	5.82 cfs
Offsite Pavement/Building		0.61 ac x	4.77 cfs/ac =	2.91 cfs
Offsite Transportation Space		0.43 ac x	4.04 cfs/ac =	1.74 cfs
	Total =	11.90 ac	Total =	40.53 cfs

2 year-20 minute storm:	23.24 cfs
15 year-20 minute storm:	32.84 cfs
25 year-20 minute storm:	38.93 cfs
100 year-20 minute storm:	40.53 cfs

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DIFFERENTIAL RUNOFF

The differential runoff for the discharge point is determined by subtracting the Predeveloped Runoff rate from the Postdeveloped Runoff rate. A differential runoff of more than 0 cfs requires stormwater detention within that watershed.

Watershed A

Design Storm	Postdeveloped Runoff (cfs)	Predeveloped Runoff (cfs)	Differential Runoff (cfs)
2 Year 20 minute	23.24	14.98	8.26
15 Year 20 minute	32.84	22.15	10.69
25 Year 20 minute	38.93	24.54	14.39
100 Year 20 minute	40.53	24.01	16.52

Detention is required in Watershed A.

DISCHARGE POINT A – BASIN ROUTING

TIME OF CONCENTRATION:

Time of concentration is defined as the time needed for stormwater to flow from the most remote point in the watershed to the proposed detention basin. The most remote point of flow on this site tributary to the detention basin lies near the southern corner of the watershed. Flow travels overland for 744.12 feet until it reaches the basin. Time of Concentration is calculated as follows:

Watershed A

$T_{overland}$: L = 797 feet
Elevation difference = 20.5 feet
Surface Coefficient = 1.0 (greenspace)
$T_{overland}$ = 5.3 min*1.0 = 5.3 minutes

$T_{storm\ sewer}$: L = 0 feet
Average Velocity = 7 ft/s
$T_{storm\ sewer}$ = 0 feet/7 ft/s/60 sec/min = 0 min

Total time = 5.3 + 0 = 5.3 min => **use 5 minute**

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BASIN PEAK INFLOW

Watershed A

2 Year

Onsite Water at Surface		0.44 ac x	2.39 cfs/ac =	1.05 cfs
Onsite Pavement/Building		6.08 ac x	2.39 cfs/ac =	14.53 cfs
Onsite Greenspace		1.24 ac x	1.15 cfs/ac =	1.43 cfs
Offsite 10,000sf Lots		0.34 ac x	1.61 cfs/ac =	0.55 cfs
Offsite Greenspace		2.14 ac x	1.15 cfs/ac =	2.46 cfs
	Total =	10.24 ac	Total =	20.02 cfs

15 Year

Onsite Water at Surface		0.44 ac x	3.54 cfs/ac =	1.56 cfs
Onsite Pavement/Building		6.08 ac x	3.54 cfs/ac =	21.52 cfs
Onsite Greenspace		1.24 ac x	1.70 cfs/ac =	2.11 cfs
Offsite 10,000sf Lots		0.34 ac x	2.39 cfs/ac =	0.81 cfs
Offsite Greenspace		2.14 ac x	1.70 cfs/ac =	3.64 cfs
	Total =	10.24 ac	Total =	29.64 cfs

25 Year

Onsite Water at Surface		0.44 ac x	4.16 cfs/ac =	1.83 cfs
Onsite Pavement/Building		6.08 ac x	4.16 cfs/ac =	25.29 cfs
Onsite Greenspace		1.24 ac x	2.00 cfs/ac =	2.48 cfs
Offsite 10,000sf Lots		0.34 ac x	2.81 cfs/ac =	0.96 cfs
Offsite Greenspace		2.14 ac x	2.00 cfs/ac =	4.28 cfs
	Total =	10.24 ac	Total =	34.84 cfs

100 Year

Onsite Water at Surface		0.44 ac x	4.77 cfs/ac =	2.1 cfs
Onsite Pavement/Building		6.08 ac x	4.77 cfs/ac =	29 cfs
Onsite Greenspace		1.24 ac x	2.29 cfs/ac =	2.84 cfs
Offsite 10,000sf Lots		0.34 ac x	3.22 cfs/ac =	1.09 cfs
Offsite Greenspace		2.14 ac x	2.29 cfs/ac =	4.90 cfs
	Total =	10.24 ac	Total =	39.93 cfs

2 year-20 minute storm:	20.02 cfs
15 year-20 minute storm:	29.64 cfs
25 year-20 minute storm:	34.84 cfs
100 year-20 minute storm:	39.93 cfs

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ALLOWABLE RELEASE RATE

Allowable Release Rate is defined as the maximum amount of stormwater that can be released from the proposed basin in any given storm duration. This is determined by subtracting the Differential Runoff Rate from the Basin Inflow for each design storm. The following table shows the calculated Allowable Release Rate for this site:

STORM FREQUENCY (20 MINUTE DURATION)	BASIN INFLOW (cfs)	DIFFERENTIAL RUNOFF RATE (cfs)	ALLOWABLE RELEASE RATE (cfs)
2 YEAR	20.02	8.26	11.76
15 YEAR	29.64	10.69	18.95
25 YEAR	34.84	14.39	20.45
100 YEAR	39.93	16.52	23.41

STORM ROUTING CALCULATIONS AND RESULTS

The computer program PONDPACK was used in routing the 2, 15, 25 and 100 year storms through the dry detention basin required for this site. The routing calculations are 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. The tailwater condition was determined by taking in to account the highwater of the flow that would be in the pipe during that time. The pipe is currently shared with the site to the south, the tailwater elevation is the combination of both the proposed site and the site to the south. The tailwater was calculated via HY 8; these results are enclosed within Appendix A.

As found in the routing calculations, the results are as follows:

STORM FREQUENCY (20 MIN DURATION)	PEAK INFLOW (cfs)	ALLOWABLE RELEASE RATE (cfs)	CALCULATED RELEASE RATE (cfs)	PEAK ELEVATION (ft)
2 Year	20.02	11.76	3.30	628.62
15 Year	29.64	18.95	3.57	629.35
25 Year	34.84	20.45	3.70	629.68
100 Year	39.93	23.41	3.79	629.98
100 Year LFB	39.93	NA	34.05	630.94

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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 storm high-water elevation. Using the annual sediment storage nomograph included in Appendix A of this report, we calculate the volume of sediment delivered to the detention basin 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. Pondpack has been used to calculate this elevation and the results are as follows:

100 Year, 20 Minute Storage=	44,154.17
100 Year Highwater Elevation=	629.98
2 Year Sediment Storage Volume=	2,573.00
Required Storage Volume=	46,727.17
Volume Achieved at Elevation=	630.09
Crest of Outfall Structure and Sill=	630.10

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SUMMARY

Postdeveloped Dry Detention Basin

	Outflow Rate	High Water
2 Year 20 Minute Storm	3.30	628.62
15 Year 20 Minute Storm	3.57	629.35
25 Year 20 Minute Storm	3.70	629.68
100 Year 20 Minute Storm	3.79	629.98
100 Year 20 Minute Storm LFB	34.05	630.94

Low Flow Slot	7 in. W x 8 in. H
Flow Line	624.44 ft
Top of Structure	630.10 ft
Top of Berm	632.00 ft
Freeboard	1.06 ft

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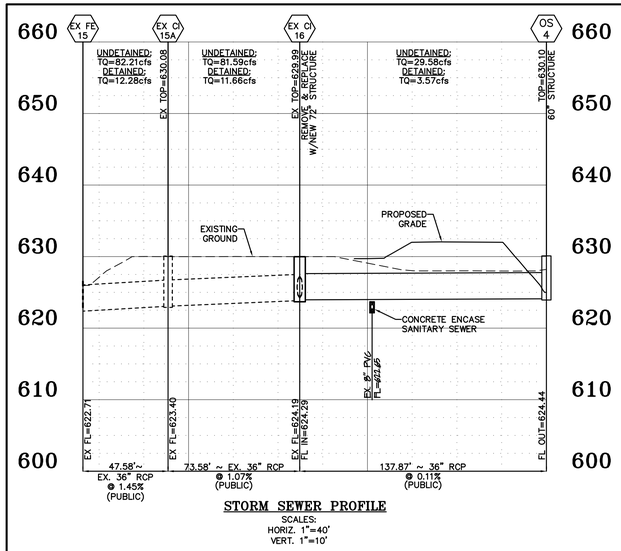
Appendix A

-Structure Details
-Time of Concentration
-Misc Figures
-HY 8 Calculations



STORM SEWER PROFILE

SCALES:
HORIZ. 1"=40'
VERT. 1"=10'

15 YEAR HYDRAULICS

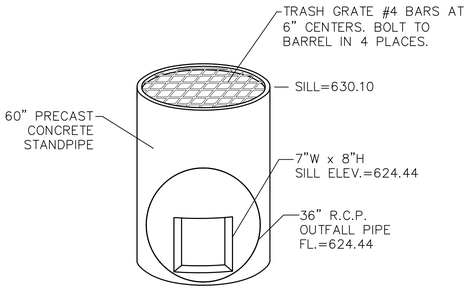
St Charles County Government
Hydraulic Review Output Data
\\VAULTSERVER\FileFolders\18000\18154A - Shady Creek Commercial\Engineering\Hydraulics\18154A
7/29/2022
Calculations Under Full Flow

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	OS4	EXCI16	138	36	624.44	624.29	0.11	630.10	1.82	628.28	627.73	0.00200	0.28	4.18	0.27	0.27	0.00	0.00	OS	0.00	9.99	3.27	29.58	29.58	22.12	
2	EXCI16	EXCI15A	74	36	624.19	623.40	1.07	629.99	2.26	627.73	626.48	0.01500	1.10	11.54	2.07	0.00	0.15	0.00	1.3%	2.18	0.39	3.26	1.27	81.59	68.99	
3	EXCI15A	EXFE15	48	36	623.40	622.71	1.45	630.08	3.60	626.48	625.71	0.01520	0.72	11.63	2.10	0.00	0.05	0.00	1.3%	2.18	0.35	3.34	1.17	82.21	80.32	ITP=625.71

100 YEAR/LFB HYDRAULICS (DETAINED)

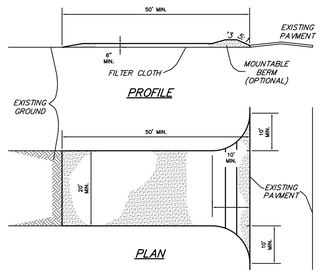
St Charles County Government
Hydraulic Review Output Data
\\VAULTSERVER\FileFolders\18000\18154A - Shady Creek Commercial\Engineering\Hydraulics\100 yr 20 min\18154A 100 yr 20 min.txt
7/28/2022
Calculations Under Full Flow

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	OS14	CI62	39	30	627.00	626.23	1.97	630.31	-0.99	631.30	630.09	0.00820	0.32	7.56	0.89	0.89	0.00	0.00	OS	0.00	16.44	3.73	37.13	37.13	57.57	
2	CI62	CI61	50	36	626.23	625.93	0.60	634.37	4.28	630.09	629.86	0.00320	0.16	5.38	0.45	0.00	0.07	0.00			0.22	4.04	0.89	38.02	51.66	
3	CI61	MH60	31	36	625.93	625.75	0.58	634.12	4.26	629.86	629.57	0.00340	0.10	5.47	0.46	0.00	0.19	0.00			0.15	4.04	0.61	38.63	50.80	
4	MH60	EXCI16	146	36	625.75	624.29	1.00	633.00	3.43	629.57	628.87	0.00340	0.50	5.47	0.46	0.00	0.20	0.00			0.00	0.00	0.00	38.63	66.70	
5	OS4	EXCI16	138	36	624.44	624.29	0.11	630.10	0.52	629.58	628.87	0.00260	0.36	4.77	0.35	0.35	0.00	0.00		0.00	10.24	4.23	33.75	33.75	22.12	
6	EXCI16	EXCI15	74	36	624.19	623.40	1.07	629.99	1.12	628.87	626.40	0.01240	0.91	10.52	1.72	1.56	0.00	0.00	1.3%	2.18	0.45	4.38	1.97	74.35	68.99	
7	EXCI15	EXFE15	48	36	623.40	622.71	1.45	630.08	3.73	626.35	625.71	0.01270	0.60	10.64	1.76	0.00	0.04	0.00	1.3%	2.18	0.19	4.37	0.83	75.18	80.32	ITP=625.71



DRY BASIN OVERFLOW STRUCTURE 4 DETAIL
NOT TO SCALE

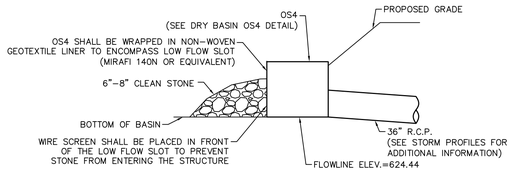
2 YEAR 20 MINUTE HIGHWATER = 628.62
15 YEAR 20 MINUTE HIGHWATER = 629.35
25 YEAR 20 MINUTE HIGHWATER = 629.68
100 YEAR 20 MINUTE HIGHWATER = 629.98
100 YEAR 20 MINUTE LFB HIGHWATER = 630.94



CONSTRUCTION SPECIFICATIONS

1. Stone Size – Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length – As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness – Not less than six (6) inches.
4. Width – Twenty (20) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth – Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water – All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance – The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing – Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

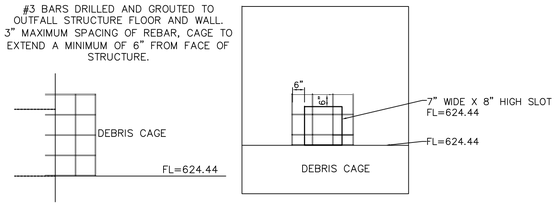
STABILIZED CONSTRUCTION ENTRANCE/WASHDOWN AREA
NOT TO SCALE



OS4 SEDIMENT CONTROL
NOT TO SCALE

NOTE:
1. OS4 SEDIMENT CONTROL SHALL BE PUT INTO PLACE IMMEDIATELY AFTER THE CONSTRUCTION OF OS4.
2. OS4 SEDIMENT CONTROL SHALL BE IN PLACE UNTIL THE ENTIRE COMPLETION OF ALL PROPOSED DEVELOPMENTS AT SHADY CREEK.
3. AFTER COMPLETION OF ALL PROPOSED DEVELOPMENTS AT SHADY CREEK, OS4 SEDIMENT CONTROL MEASURES SHALL BE DEMOLISHED.
4. DEBRIS CAGE AS DISPLAYED IN DEBRIS CAGE OS4 LOWER SLOT DETAIL SHALL BE CONSTRUCTED AFTER THE DEMOLITION OF OS4 SEDIMENT CONTROL MEASURES.

#3 BARS DRILLED AND GROUTED TO OUTFALL STRUCTURE FLOOR AND WALL. 3" MAXIMUM SPACING OF REBAR, CAGE TO EXTEND A MINIMUM OF 6" FROM FACE OF STRUCTURE.



DEBRIS CAGE OS 4 LOWER SLOT
NOT TO SCALE

PROJECT TITLE:
SHADY CREEK COMMERCIAL

Bax Project # 20-18154A | Issue Date: 04/27/2022

ENGINEERING
PLANNING
SURVEYING
221 Point Test Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

JEFFREY B. SIMMONS
CIVIL ENGINEER
2007030831
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REVISIONS

06/30/22	CITY COMMENTS
07/29/22	CITY COMMENTS

Developer / Owner:
JoAnn Griffith and Gary Kopadt
8780 Highway N
Lake Saint Louis, MO 63367
636-544-2128

STORM SEWER PROFILE AND DETAILS

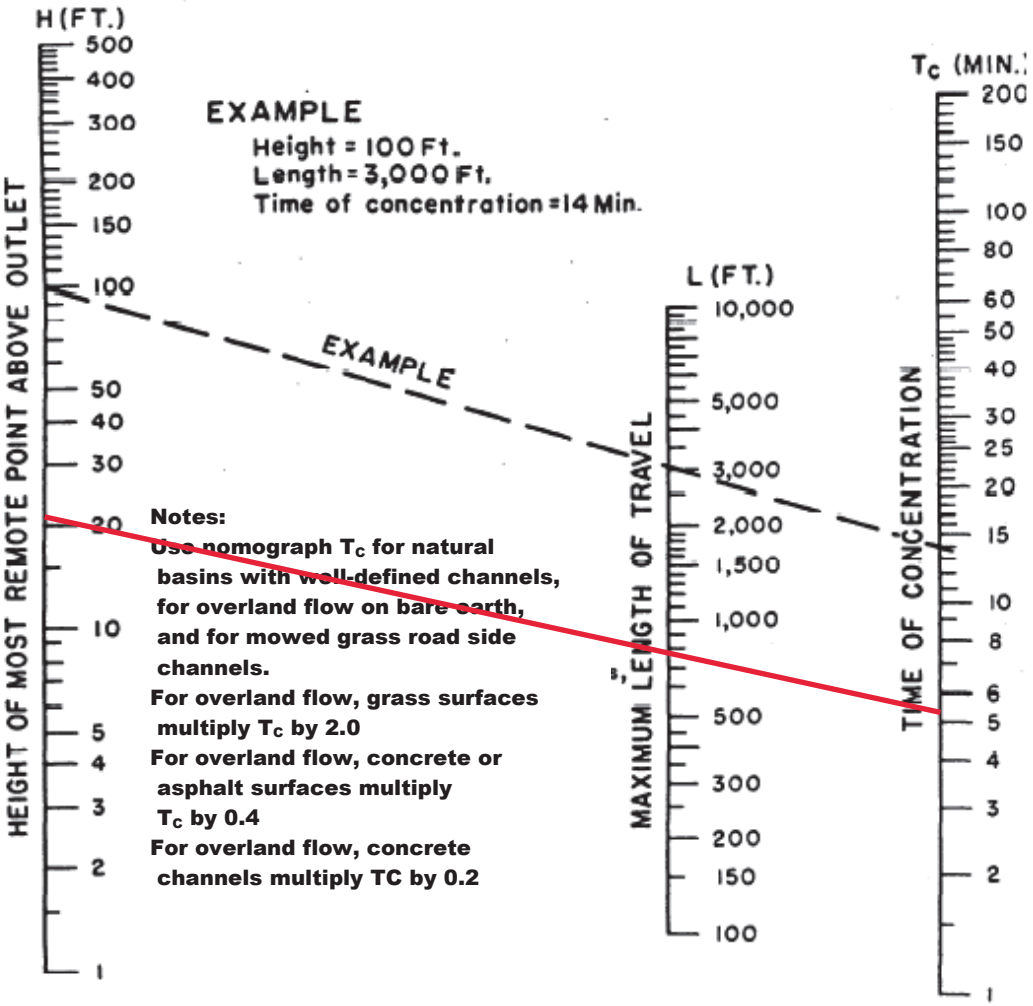
P+Z No. ----------
Approval Date: ----------
City No. GR22-000008

Page No.
6 of 7

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

Project: Shady Creek Commercial
Date: 08/29/2022 Project No: 18154A
Designer: CMB Checked: TF

TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS



OVERLAND FLOW

Δ Height = 20.5

Length = 797

$T_{Overland}$ = 5.3

STORM SEWER TRAVEL TIME

T_{storm}=Pipe Length (L) * Assumed Velocity (V)

L = 0 ft

V = 7 ft/s

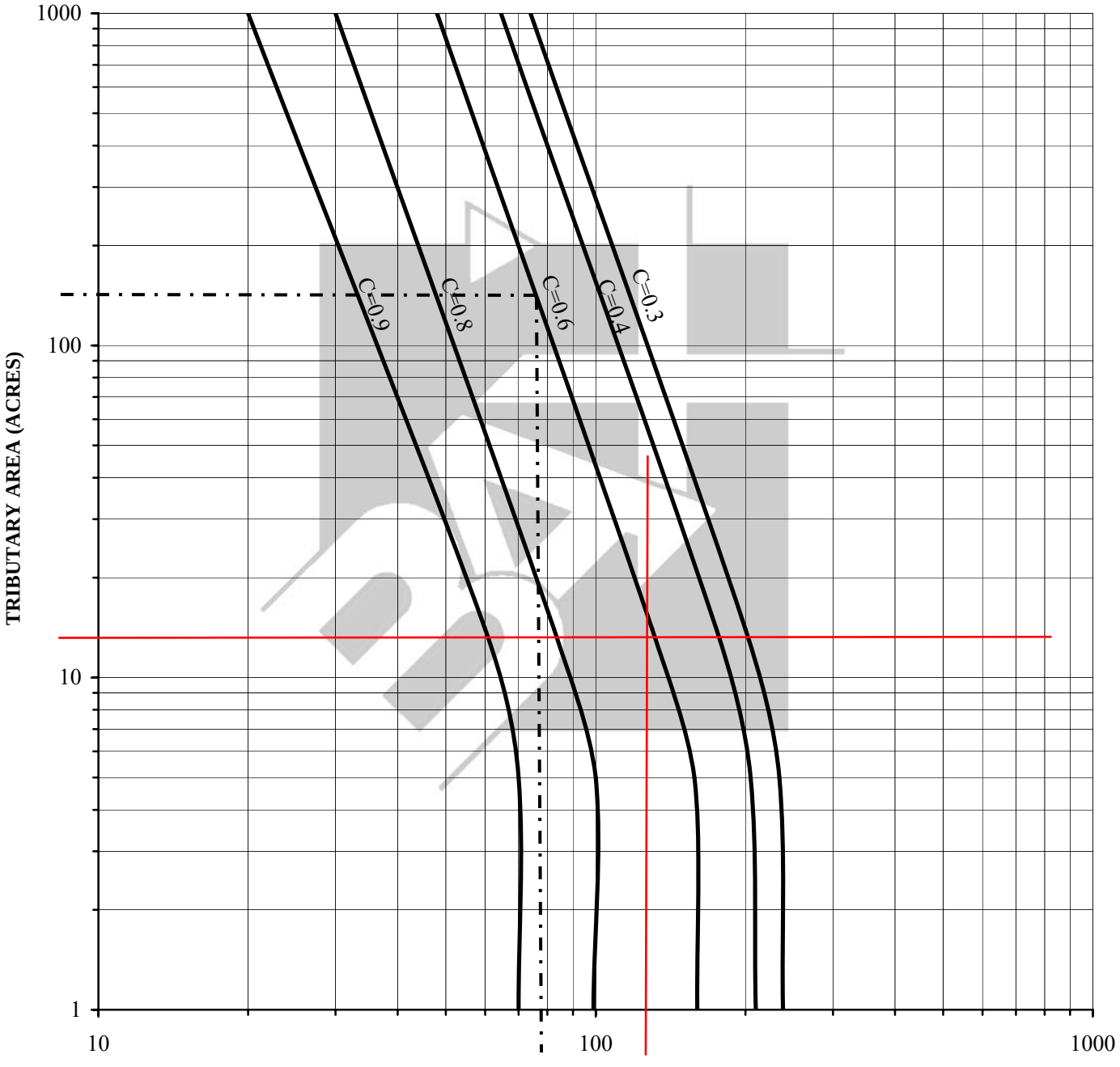
T_{storm} = 0 ft / 7 ft/s / 60 sec/min = 0 min

Total Time of Concentration = $T_{Overland}$ + T_{storm} = 5.3 + 0 = 5.3 →USE 5 min.

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

Project: SHADY CREEK COMMERCIAL
Date: 04/20/2022 Project: 20-18154A
Designer: MDF Checked: MDF

ANNUAL SEDIMENT STORAGE



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

RUNOFF C VALUE = 0.7 YEARS OF STORAGE = 2 years
DRAINAGE AREA = 10.29 acres
ANNUAL SEDIMENT = 125 CU FT per acre STORAGE REQUIRED = 2*125*10.29=2,573 CU FT

	Approximate Flow from The Willows Basin C (cfs)	Approximate Flow from Shady Creek Basin (cfs)	Approximate Catch Basin Flow to CI 16 (cfs)	Approximate Flow Crossing Roadway (cfs)	HY 8 Input (cfs)	HY 8 Highwater Elevation	Pondpack Tailwater Input Elevation
2 Yr 20 Min Strom	4.21	3.30	1.82	9.33	9.33	625.51	625.51
15 Yr 20 Min Strom	5.41	3.57	2.70	11.68	11.68	625.68	625.70
25 Yr 20 Min Storm	5.95	3.70	3.17	12.82	12.81	625.77	625.77
100 Yr 20 Min Storm	6.44	3.79	3.64	13.87	13.84	625.85	625.89
100 Yr LFB 20 Min Storm	37.13	34.05	3.64	74.82	74.52	630.14	630.15

*Approximate Flow to Culvert is the sum of Approximate Flow from The Willows Basin C, Approximate Flow from Shady Creek Basin, and Approximate Flow from Catch Basins

HY-8 Culvert Analysis Report

Crossing Discharge Data

Discharge Selection Method: User Defined

Table 1 - Summary of Culvert Flows at Crossing: Crossing 1

Headwater Elevation (ft)	Discharge Names	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
625.51	2 Year	9.33	9.33	0.00	1
625.68	15 Year	11.68	11.68	0.00	1
625.77	25 Year	12.81	12.81	0.00	1
625.85	100 Year	13.84	13.84	0.00	1
630.14	100 Year LFB	74.52	70.75	3.73	13
630.00	Overtopping	69.52	69.52	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 1

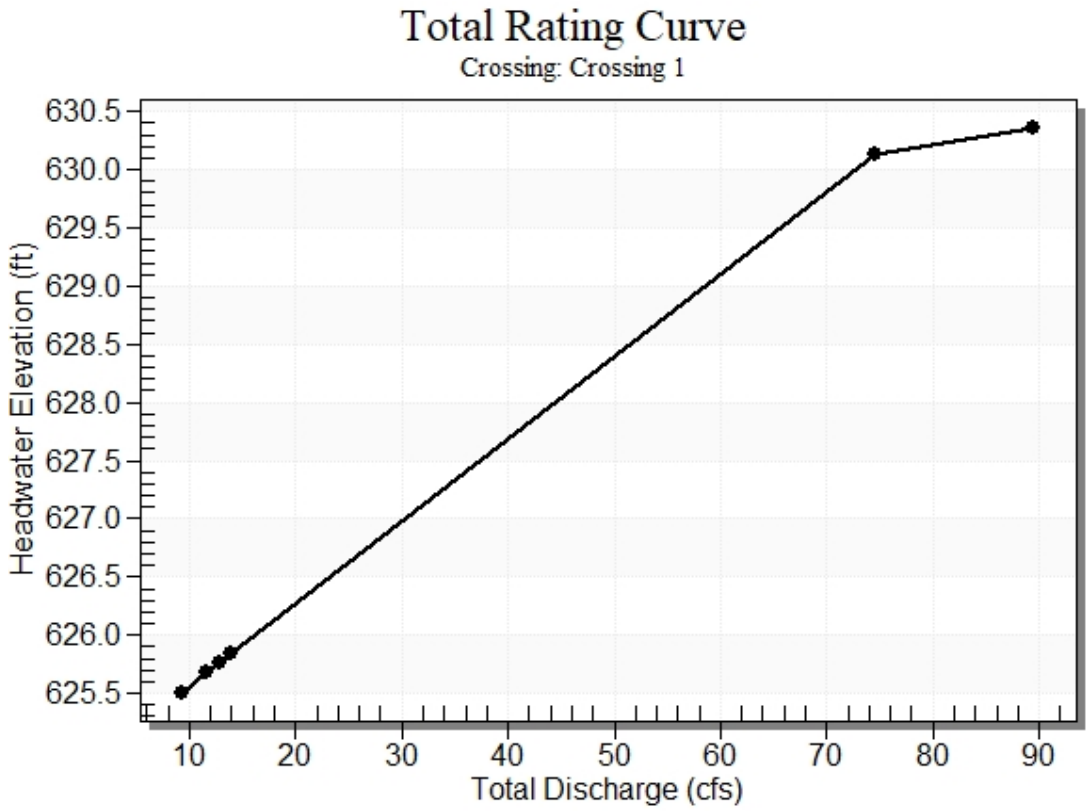


Table 2 - Culvert Summary Table: Culvert 1

Discharge Names	Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
2 Year	9.33	9.33	625.51	1.320	0.0*	1-S2n	0.724	0.962	0.752	0.000	6.477	0.000
15 Year	11.68	11.68	625.68	1.488	0.375	1-S2n	0.811	1.079	0.847	0.000	6.878	0.000
25 Year	12.81	12.81	625.77	1.577	0.447	1-S2n	0.851	1.134	0.889	0.000	7.058	0.000
100 Year	13.84	13.84	625.85	1.657	0.512	1-S2n	0.886	1.182	0.927	0.000	7.191	0.000
100 Year LFB	74.52	70.75	630.14	5.947	5.333	7-M2c	3.000	2.667	2.667	0.000	10.654	0.000

* Full Flow Headwater elevation is below inlet invert.

****

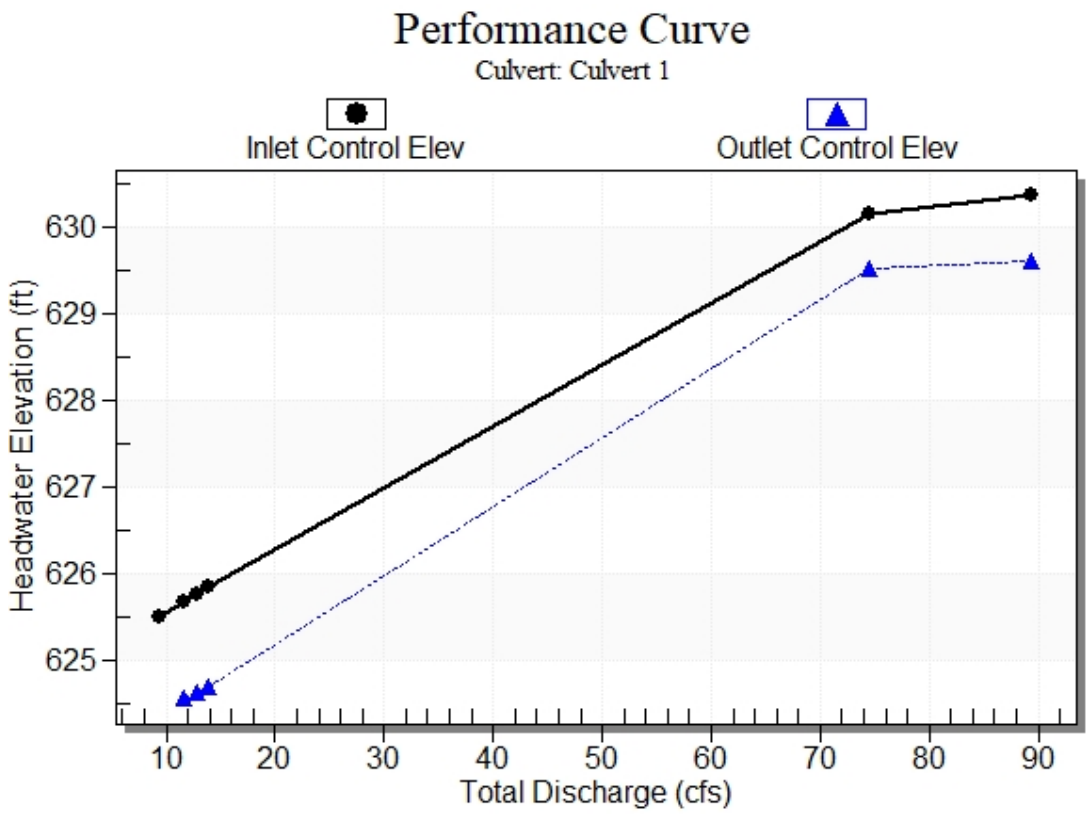
Straight Culvert

Inlet Elevation (invert): 624.19 ft, Outlet Elevation (invert): 623.40 ft

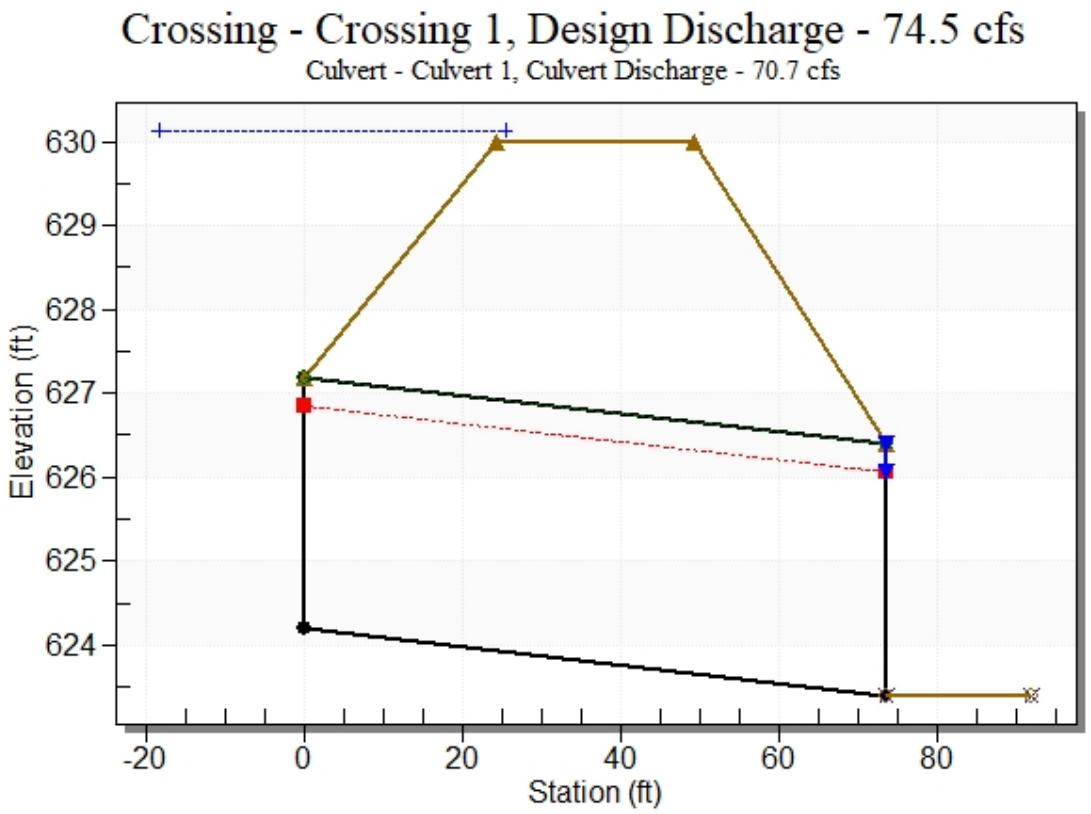
Culvert Length: 73.58 ft, Culvert Slope: 0.0107

****

Culvert Performance Curve Plot: Culvert 1



Water Surface Profile Plot for Culvert: Culvert 1



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 624.19 ft

Outlet Station: 73.58 ft

Outlet Elevation: 623.40 ft

Number of Barrels: 1

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 3.00 ft

Barrel Material: Concrete

Embedment: 0.00 in

Barrel Manning's n: 0.0130

Culvert Type: Straight

Inlet Configuration: Square Edge with Headwall

Inlet Depression: None

Table 3 - Downstream Channel Rating Curve (Crossing: Crossing 1)

Flow (cfs)	Water Surface Elev (ft)	Depth (ft)
9.33	623.40	0.00
11.68	623.40	0.00
12.81	623.40	0.00
13.84	623.40	0.00
74.52	623.40	0.00

Tailwater Channel Data - Crossing 1

Tailwater Channel Option: Enter Constant Tailwater Elevation

Constant Tailwater Elevation: 623.40 ft

Roadway Data for Crossing: Crossing 1

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 25.00 ft

Crest Elevation: 630.00 ft

Roadway Surface: Paved

Roadway Top Width: 25.00 ft

Appendix B

Basin Routing

-2 year Detention Routing
-15 year Detention Routing
-25 year Detention Routing
-100 year Detention Routing
-100 year Detention Routing LFB

Table of Contents

Table of Contents

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft³/s)
Watershed A	Post-Development 2 year	0	0.552	5.000	20.02
Watershed A	Post-Development 15 year	0	0.817	5.000	29.64
Watershed A	Post-Development 25 year	0	0.960	5.000	34.84
Watershed A	Post- Development 100 year	0	1.100	5.000	39.93
Watershed A	100 year LFB	0	1.100	5.000	39.93

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft³/s)
O-1	Post-Development 2 year	0	0.541	24.000	3.30
O-1	Post-Development 2 year	0	-0.003	0.000	-1.86
O-1	Post-Development 15 year	0	0.800	26.000	3.57
O-1	Post-Development 15 year	0	-0.003	0.000	-2.38
O-1	Post-Development 25 year	0	0.941	24.000	3.70
O-1	Post-Development 25 year	0	-0.004	0.000	-2.57
O-1	Post- Development 100 year	0	1.076	25.000	3.79
O-1	Post- Development 100 year	0	-0.004	0.000	-2.96
O-1	100 year LFB	0	1.080	21.000	34.05

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (IN)	Post-Development 2 year	0	0.552	5.000	20.02	(N/A)	(N/A)
Detention Basin (OUT)	Post-Development 2 year	0	0.541	24.000	3.30	628.62	0.472

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
Detention Basin (Reverse)	Post-Development 2 year	0	-0.003	0.000	-1.86	(N/A)	(N/A)
Detention Basin (IN)	Post-Development 15 year	0	0.817	5.000	29.64	(N/A)	(N/A)
Detention Basin (OUT)	Post-Development 15 year	0	0.800	26.000	3.57	629.35	0.731
Detention Basin (Reverse)	Post-Development 15 year	0	-0.003	0.000	-2.38	(N/A)	(N/A)
Detention Basin (IN)	Post-Development 25 year	0	0.960	5.000	34.84	(N/A)	(N/A)
Detention Basin (OUT)	Post-Development 25 year	0	0.941	24.000	3.70	629.68	0.870
Detention Basin (Reverse)	Post-Development 25 year	0	-0.004	0.000	-2.57	(N/A)	(N/A)
Detention Basin (IN)	Post-Development 100 year	0	1.100	5.000	39.93	(N/A)	(N/A)
Detention Basin (OUT)	Post-Development 100 year	0	1.076	25.000	3.79	629.98	1.010
Detention Basin (Reverse)	Post-Development 100 year	0	-0.004	0.000	-2.96	(N/A)	(N/A)
Detention Basin (IN)	100 year LFB	0	1.100	5.000	39.93	(N/A)	(N/A)
Detention Basin (OUT)	100 year LFB	0	1.080	21.000	34.05	630.94	1.524

Subsection: Read Hydrograph
Label: Watershed A
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Peak Discharge	20.02 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	0.552 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.000 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)
0.000	0.00	4.00	8.01	12.01	16.02
5.000	20.02	20.02	20.02	20.02	20.02
10.000	20.02	20.02	20.02	20.02	20.02
15.000	20.02	20.02	20.02	20.02	20.02
20.000	20.02	16.02	12.01	8.01	4.00
25.000	0.00	0.00	0.00	0.00	0.00
30.000	0.00	0.00	0.00	0.00	0.00
35.000	0.00	0.00	0.00	0.00	0.00
40.000	0.00	0.00	0.00	0.00	0.00
45.000	0.00	0.00	0.00	0.00	0.00
50.000	0.00	0.00	0.00	0.00	0.00
55.000	0.00	0.00	0.00	0.00	0.00
60.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Peak Discharge	29.64 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	0.817 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.000 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)
0.000	0.00	5.93	11.86	17.78	23.71
5.000	29.64	29.64	29.64	29.64	29.64
10.000	29.64	29.64	29.64	29.64	29.64
15.000	29.64	29.64	29.64	29.64	29.64
20.000	29.64	23.71	17.78	11.86	5.93
25.000	0.00	0.00	0.00	0.00	0.00
30.000	0.00	0.00	0.00	0.00	0.00
35.000	0.00	0.00	0.00	0.00	0.00
40.000	0.00	0.00	0.00	0.00	0.00
45.000	0.00	0.00	0.00	0.00	0.00
50.000	0.00	0.00	0.00	0.00	0.00
55.000	0.00	0.00	0.00	0.00	0.00
60.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Peak Discharge	34.84 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	0.960 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.000 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)
0.000	0.00	6.97	13.94	20.90	27.87
5.000	34.84	34.84	34.84	34.84	34.84
10.000	34.84	34.84	34.84	34.84	34.84
15.000	34.84	34.84	34.84	34.84	34.84
20.000	34.84	27.87	20.90	13.94	6.97
25.000	0.00	0.00	0.00	0.00	0.00
30.000	0.00	0.00	0.00	0.00	0.00
35.000	0.00	0.00	0.00	0.00	0.00
40.000	0.00	0.00	0.00	0.00	0.00
45.000	0.00	0.00	0.00	0.00	0.00
50.000	0.00	0.00	0.00	0.00	0.00
55.000	0.00	0.00	0.00	0.00	0.00
60.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Peak Discharge	39.93 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	1.100 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 1.000 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)
0.000	0.00	7.99	15.97	23.96	31.94
5.000	39.93	39.93	39.93	39.93	39.93
10.000	39.93	39.93	39.93	39.93	39.93
15.000	39.93	39.93	39.93	39.93	39.93
20.000	39.93	31.94	23.96	15.97	7.99
25.000	0.00	0.00	0.00	0.00	0.00
30.000	0.00	0.00	0.00	0.00	0.00
35.000	0.00	0.00	0.00	0.00	0.00
40.000	0.00	0.00	0.00	0.00	0.00
45.000	0.00	0.00	0.00	0.00	0.00
50.000	0.00	0.00	0.00	0.00	0.00
55.000	0.00	0.00	0.00	0.00	0.00
60.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Elevation-Area Volume Curve
Label: Detention Basin
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ac-ft)	Volume (Total) (ac-ft)
624.44	0.000	0.000	0.000	0.000	0.000
625.00	0.000	530.000	530.000	0.002	0.002
626.00	0.000	2,506.000	4,188.467	0.032	0.034
628.00	0.000	10,184.000	17,741.842	0.272	0.306
630.00	0.000	21,672.000	46,712.233	0.715	1.021
632.00	0.000	28,715.000	75,333.172	1.153	2.174

Subsection: Elevation-Area Volume Curve
Label: Detention Basin
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ac-ft)	Volume (Total) (ac-ft)
624.44	0.000	0.000	0.000	0.000	0.000
625.00	0.000	530.000	530.000	0.002	0.002
626.00	0.000	2,506.000	4,188.467	0.032	0.034
628.00	0.000	10,184.000	17,741.842	0.272	0.306
630.00	0.000	21,672.000	46,712.233	0.715	1.021
632.00	0.000	28,715.000	75,333.172	1.153	2.174

Subsection: Outlet Input Data
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	624.44 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	632.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Area	Lower Orifice	Forward + Reverse	Culvert - 1	625.11	632.00
Stand Pipe	Riser - 1	Forward + Reverse	Culvert - 1	630.10	632.00
Rectangular Weir	Lower Weir	Forward + Reverse	Culvert - 1	624.44	625.11
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	624.44	632.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Stand Pipe	
Number of Openings	1
Elevation	630.10 ft
Diameter	60.0 in
Orifice Area	19.635 ft²
Orifice Coefficient	0.600
Weir Length	15.71 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

Subsection: Outlet Input Data
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	137.87 ft
Length (Computed Barrel)	137.87 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
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)	1.095
T2 ratio (HW/D)	1.197
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	627.72 ft	T1 Flow	42.85 ft³/s
T2 Elevation	628.03 ft	T2 Flow	48.97 ft³/s

Structure ID: Lower Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	624.44 ft
Orifice Area	0.389 ft²
Top Elevation	625.11 ft
Datum Elevation	624.77 ft
Orifice Coefficient	0.600

Structure ID: Lower Weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	624.44 ft
Weir Length	0.58 ft
Weir Coefficient	3.00 (ft^0.5)/s

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
624.44	-2.96	625.89	0.00
624.49	-2.96	625.89	0.00
624.54	-2.96	625.89	0.00
624.59	-2.96	625.89	0.00
624.64	-2.96	625.89	0.00
624.69	-2.96	625.89	0.00
624.74	-2.77	625.89	0.00
624.79	-2.86	625.89	0.00
624.84	-2.86	625.89	0.00
624.89	-2.77	625.89	0.00
624.94	-2.67	625.89	0.00
624.99	-2.77	625.89	0.00
625.04	-2.57	625.89	0.00
625.09	-2.67	625.89	0.00
625.14	-1.72	625.89	0.00
625.19	-1.53	625.89	0.00
625.24	-1.53	625.89	0.00
625.29	-1.34	625.89	0.00
625.34	-1.53	625.89	0.00
625.39	-1.32	625.89	0.00
625.44	-1.26	625.89	0.00
625.49	-1.18	625.89	0.00
625.54	-1.11	625.89	0.00
625.59	-1.03	625.89	0.00
625.64	-0.94	625.89	0.00
625.69	-0.84	625.89	0.00
625.74	-0.73	625.89	0.00
625.79	-0.59	625.89	0.00
625.84	-0.42	625.89	0.00
625.89	0.00	625.89	0.00
625.94	0.42	625.89	0.00
625.99	0.59	625.89	0.00
626.04	0.73	625.89	0.00
626.09	0.84	625.89	0.00
626.14	0.94	625.89	0.00
626.19	1.03	625.89	0.00
626.24	1.11	625.89	0.00
626.29	1.18	625.89	0.00
626.34	1.26	625.89	0.00
626.39	1.32	625.89	0.00
626.44	1.39	625.89	0.00
626.49	1.42	625.89	0.00
626.54	1.45	625.89	0.00
626.59	1.57	625.89	0.00

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
626.64	1.61	625.89	0.01
626.69	1.67	625.89	0.00
626.74	1.73	625.89	0.00
626.79	1.78	625.89	0.00
626.84	1.82	625.89	0.00
626.89	1.87	625.89	0.00
626.94	1.92	625.89	0.00
626.99	1.96	625.89	0.00
627.04	2.01	625.89	0.00
627.09	2.05	625.89	0.00
627.14	2.09	625.89	0.00
627.19	2.13	625.89	0.00
627.24	2.13	625.89	0.00
627.29	2.22	625.89	0.00
627.34	2.25	625.89	0.00
627.39	2.29	625.89	0.00
627.44	2.30	625.89	0.00
627.49	2.32	625.89	0.00
627.54	2.40	625.89	0.00
627.59	2.44	625.89	0.00
627.64	2.46	625.89	0.00
627.69	2.51	625.89	0.00
627.74	2.55	625.89	0.00
627.79	2.58	625.89	0.00
627.84	2.61	625.89	0.00
627.89	2.65	625.89	0.00
627.94	2.68	625.89	0.00
627.99	2.71	625.89	0.00
628.04	2.75	625.89	0.00
628.09	2.78	625.89	0.00
628.14	2.81	625.89	0.00
628.19	2.84	625.89	0.00
628.24	2.87	625.89	0.00
628.29	2.90	625.89	0.00
628.34	2.93	625.89	0.00
628.39	2.96	625.89	0.00
628.44	2.99	625.89	0.00
628.49	3.02	625.89	0.00
628.54	3.05	625.89	0.00
628.59	3.08	625.89	0.00
628.64	3.10	625.89	0.00
628.69	3.13	625.89	0.00
628.74	3.16	625.89	0.00
628.79	3.19	625.89	0.00

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
628.84	3.22	625.89	0.00
628.89	3.24	625.89	0.00
628.94	3.27	625.89	0.00
628.99	3.30	625.89	0.00
629.04	3.31	625.89	0.00
629.09	3.35	625.89	0.00
629.14	3.38	625.89	0.00
629.19	3.40	625.89	0.00
629.24	3.43	625.89	0.00
629.29	3.45	625.89	0.00
629.34	3.48	625.89	0.00
629.39	3.50	625.89	0.00
629.44	3.53	625.89	0.00
629.49	3.55	625.89	0.00
629.54	3.58	625.89	0.00
629.59	3.60	625.89	0.00
629.64	3.63	625.89	0.00
629.69	3.65	625.89	0.00
629.74	3.67	625.89	0.00
629.79	3.70	625.89	0.00
629.84	3.72	625.89	0.00
629.89	3.74	625.89	0.00
629.94	3.77	625.89	0.00
629.99	3.79	625.89	0.00
630.04	3.81	625.89	0.00
630.09	3.84	625.89	0.00
630.10	3.84	625.89	0.00
630.14	4.24	625.89	0.00
630.19	5.15	625.89	0.00
630.24	6.32	625.89	0.00
630.29	7.83	625.89	0.00
630.34	9.49	625.89	0.00
630.39	11.33	625.89	0.00
630.44	13.34	625.89	0.00
630.49	15.26	625.89	0.00
630.54	17.50	625.89	0.00
630.59	19.87	625.89	0.00
630.64	22.36	625.89	0.00
630.69	24.96	625.89	0.00
630.74	27.66	625.89	0.00
630.79	30.50	625.89	0.00
630.84	33.42	625.89	0.00
630.89	36.44	625.89	0.00
630.94	39.55	625.89	0.00

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
630.99	42.76	625.89	0.00
631.04	46.01	625.89	0.00
631.09	49.35	625.89	0.00
631.14	52.77	625.89	0.00
631.19	56.26	625.89	0.00
631.24	59.78	625.89	0.00
631.29	63.39	625.89	0.00
631.34	67.05	625.89	0.00
631.39	70.69	625.89	0.00
631.44	74.38	625.89	0.00
631.49	77.91	625.89	0.00
631.54	79.72	625.89	0.00
631.59	80.16	625.89	0.00
631.64	80.60	625.89	0.00
631.69	81.04	625.89	0.00
631.74	81.48	625.89	0.00
631.79	81.91	625.89	0.00
631.84	82.34	625.89	0.00
631.89	82.77	625.89	0.00
631.94	83.20	625.89	0.00
631.99	83.62	625.89	0.00
632.00	83.71	625.89	0.00

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve | Return Event: 100 years
Label: 100 Yr OS2 | Storm Event:
Scenario: Post- Development 100 year

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

Subsection: Composite Rating Curve | Return Event: 100 years
Label: 100 Yr OS2 | Storm Event:
Scenario: Post- Development 100 year

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve | Return Event: 100 years
Label: 100 Yr OS2 | Storm Event:
Scenario: Post- Development 100 year

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 100 Yr OS2
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

Requested Pond Water Surface Elevations	
Minimum (Headwater)	624.44 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	632.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Area	Lower Orifice	Forward + Reverse	Culvert - 1	625.11	632.00
Stand Pipe	Riser - 1	Forward + Reverse	Culvert - 1	630.10	632.00
Rectangular Weir	Lower Weir	Forward + Reverse	Culvert - 1	624.44	625.11
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	624.44	632.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Stand Pipe	
Number of Openings	1
Elevation	630.10 ft
Diameter	60.0 in
Orifice Area	19.635 ft²
Orifice Coefficient	0.600
Weir Length	15.71 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	36.0 in
Length	137.87 ft
Length (Computed Barrel)	137.87 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
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)	1.095
T2 ratio (HW/D)	1.197
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	627.72 ft	T1 Flow	42.85 ft³/s
T2 Elevation	628.03 ft	T2 Flow	48.97 ft³/s

Structure ID: Lower Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	624.44 ft
Orifice Area	0.389 ft²
Top Elevation	625.11 ft
Datum Elevation	624.77 ft
Orifice Coefficient	0.600

Structure ID: Lower Weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	624.44 ft
Weir Length	0.58 ft
Weir Coefficient	3.00 (ft^0.5)/s

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
624.44	-2.38	625.70	0.00
624.49	-2.38	625.70	0.00
624.54	-2.38	625.70	0.00
624.59	-2.38	625.70	0.00
624.64	-2.38	625.70	0.00
624.69	-2.29	625.70	0.00
624.74	-2.19	625.70	0.00
624.79	-2.19	625.70	0.00
624.84	-2.19	625.70	0.00
624.89	-2.19	625.70	0.00
624.94	-2.10	625.70	0.00
624.99	-2.19	625.70	0.00
625.04	-2.10	625.70	0.00
625.09	-2.00	625.70	0.00
625.14	-1.43	625.70	0.00
625.19	-1.34	625.70	0.00
625.24	-1.14	625.70	0.00
625.29	-1.34	625.70	0.00
625.34	-1.12	625.70	0.00
625.39	-1.04	625.70	0.00
625.44	-0.95	625.70	0.00
625.49	-0.86	625.70	0.00
625.54	-0.75	625.70	0.00
625.59	-0.62	625.70	0.00
625.64	-0.46	625.70	0.00
625.69	-0.38	625.70	0.00
625.74	0.37	625.70	0.00
625.79	0.56	625.70	0.00
625.84	0.70	625.70	0.00
625.89	0.82	625.70	0.00
625.94	0.92	625.70	0.00
625.99	1.01	625.70	0.00
626.04	1.09	625.70	0.00
626.09	1.17	625.70	0.00
626.14	1.22	625.70	0.00
626.19	1.31	625.70	0.00
626.24	1.36	625.70	0.00
626.29	1.39	625.70	0.00
626.34	1.49	625.70	0.00
626.39	1.56	625.70	0.00
626.44	1.61	625.70	0.00
626.49	1.66	625.70	0.00
626.54	1.72	625.70	0.00
626.59	1.77	625.70	0.00

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
626.64	1.82	625.70	0.00
626.69	1.86	625.70	0.00
626.74	1.91	625.70	0.00
626.79	1.95	625.70	0.00
626.84	2.00	625.70	0.00
626.89	2.04	625.70	0.00
626.94	2.08	625.70	0.00
626.99	2.13	625.70	0.00
627.04	2.17	625.70	0.00
627.09	2.19	625.70	0.00
627.14	2.21	625.70	0.00
627.19	2.27	625.70	0.00
627.24	2.32	625.70	0.00
627.29	2.34	625.70	0.00
627.34	2.36	625.70	0.00
627.39	2.43	625.70	0.00
627.44	2.47	625.70	0.00
627.49	2.50	625.70	0.00
627.54	2.54	625.70	0.00
627.59	2.56	625.70	0.00
627.64	2.61	625.70	0.00
627.69	2.64	625.70	0.00
627.74	2.65	625.70	0.00
627.79	2.71	625.70	0.00
627.84	2.74	625.70	0.00
627.89	2.77	625.70	0.00
627.94	2.78	625.70	0.00
627.99	2.83	625.70	0.00
628.04	2.86	625.70	0.00
628.09	2.89	625.70	0.00
628.14	2.92	625.70	0.00
628.19	2.95	625.70	0.00
628.24	2.95	625.70	0.00
628.29	3.01	625.70	0.00
628.34	3.04	625.70	0.00
628.39	3.07	625.70	0.00
628.44	3.10	625.70	0.00
628.49	3.10	625.70	0.00
628.54	3.16	625.70	0.00
628.59	3.18	625.70	0.00
628.64	3.18	625.70	0.00
628.69	3.24	625.70	0.00
628.74	3.26	625.70	0.00
628.79	3.29	625.70	0.00

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
628.84	3.32	625.70	0.00
628.89	3.34	625.70	0.00
628.94	3.37	625.70	0.00
628.99	3.40	625.70	0.00
629.04	3.42	625.70	0.00
629.09	3.45	625.70	0.00
629.14	3.47	625.70	0.00
629.19	3.50	625.70	0.00
629.24	3.52	625.70	0.00
629.29	3.55	625.70	0.00
629.34	3.57	625.70	0.00
629.39	3.57	625.70	0.00
629.44	3.62	625.70	0.00
629.49	3.64	625.70	0.00
629.54	3.67	625.70	0.00
629.59	3.69	625.70	0.00
629.64	3.72	625.70	0.00
629.69	3.74	625.70	0.00
629.74	3.76	625.70	0.00
629.79	3.79	625.70	0.00
629.84	3.81	625.70	0.00
629.89	3.83	625.70	0.00
629.94	3.86	625.70	0.00
629.99	3.88	625.70	0.00
630.04	3.90	625.70	0.00
630.09	3.92	625.70	0.00
630.10	3.90	625.70	0.00
630.14	4.32	625.70	0.00
630.19	5.24	625.70	0.00
630.24	6.46	625.70	0.00
630.29	7.91	625.70	0.00
630.34	9.57	625.70	0.00
630.39	11.41	625.70	0.00
630.44	13.18	625.70	0.00
630.49	15.28	625.70	0.00
630.54	17.52	625.70	0.00
630.59	19.88	625.70	0.00
630.64	22.37	625.70	0.00
630.69	24.96	625.70	0.00
630.74	27.66	625.70	0.00
630.79	30.50	625.70	0.00
630.84	33.42	625.70	0.00
630.89	36.46	625.70	0.00
630.94	39.55	625.70	0.00

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
630.99	42.74	625.70	0.00
631.04	46.02	625.70	0.00
631.09	49.35	625.70	0.00
631.14	52.77	625.70	0.00
631.19	56.26	625.70	0.00
631.24	59.78	625.70	0.00
631.29	63.39	625.70	0.00
631.34	67.05	625.70	0.00
631.39	70.69	625.70	0.00
631.44	74.38	625.70	0.00
631.49	77.91	625.70	0.00
631.54	79.72	625.70	0.00
631.59	80.16	625.70	0.00
631.64	80.60	625.70	0.00
631.69	81.04	625.70	0.00
631.74	81.48	625.70	0.00
631.79	81.91	625.70	0.00
631.84	82.34	625.70	0.00
631.89	82.77	625.70	0.00
631.94	83.20	625.70	0.00
631.99	83.62	625.70	0.00
632.00	83.71	625.70	0.00

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 15 Yr OS2
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Composite Outflow Summary

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

Subsection: Outlet Input Data
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	624.44 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	632.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Area	Lower Orifice	Forward + Reverse	Culvert - 1	625.11	632.00
Stand Pipe	Riser - 1	Forward + Reverse	Culvert - 1	630.10	632.00
Rectangular Weir	Lower Weir	Forward + Reverse	Culvert - 1	624.44	625.11
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	624.44	632.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Stand Pipe	
Number of Openings	1
Elevation	630.10 ft
Diameter	60.0 in
Orifice Area	19.635 ft²
Orifice Coefficient	0.600
Weir Length	15.71 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	36.0 in
Length	137.87 ft
Length (Computed Barrel)	137.87 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
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)	0.000
T2 ratio (HW/D)	1.197
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	624.44 ft	T1 Flow	42.85 ft³/s
T2 Elevation	628.03 ft	T2 Flow	48.97 ft³/s

Structure ID: Lower Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	624.44 ft
Orifice Area	0.389 ft²
Top Elevation	625.11 ft
Datum Elevation	624.77 ft
Orifice Coefficient	0.600

Structure ID: Lower Weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	624.44 ft
Weir Length	0.58 ft
Weir Coefficient	3.00 (ft^0.5)/s

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
624.44	-1.86	625.51	0.00
624.49	-1.86	625.51	0.00
624.54	-1.86	625.51	0.00
624.59	-1.81	625.51	0.00
624.64	-1.81	625.51	0.00
624.69	-1.76	625.51	0.00
624.74	-1.76	625.51	0.00
624.79	-1.76	625.51	0.00
624.84	-1.67	625.51	0.00
624.89	-1.62	625.51	0.00
624.94	-1.57	625.51	0.00
624.99	-1.57	625.51	0.00
625.04	-1.43	625.51	0.00
625.09	-1.43	625.51	0.00
625.14	-1.14	625.51	0.00
625.19	-1.05	625.51	0.00
625.24	-1.05	625.51	0.00
625.29	-0.95	625.51	0.00
625.34	-0.77	625.51	0.00
625.39	-0.65	625.51	0.00
625.44	-0.50	625.51	0.00
625.49	-0.38	625.51	0.00
625.54	0.32	625.51	0.00
625.59	0.53	625.51	0.00
625.64	0.68	625.51	0.00
625.69	0.79	625.51	0.00
625.74	0.90	625.51	0.00
625.79	0.99	625.51	0.00
625.84	1.03	625.51	0.00
625.89	1.15	625.51	0.00
625.94	1.23	625.51	0.00
625.99	1.30	625.51	0.00
626.04	1.36	625.51	0.00
626.09	1.41	625.51	0.00
626.14	1.49	625.51	0.00
626.19	1.52	625.51	0.00
626.24	1.60	625.51	0.00
626.29	1.65	625.51	0.00
626.34	1.71	625.51	0.00
626.39	1.76	625.51	0.00
626.44	1.81	625.51	0.00
626.49	1.85	625.51	0.00
626.54	1.90	625.51	0.00
626.59	1.95	625.51	0.00

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
626.64	1.99	625.51	0.00
626.69	2.03	625.51	0.00
626.74	2.08	625.51	0.00
626.79	2.12	625.51	0.00
626.84	2.16	625.51	0.00
626.89	2.20	625.51	0.00
626.94	2.24	625.51	0.00
626.99	2.28	625.51	0.00
627.04	2.29	625.51	0.00
627.09	2.35	625.51	0.00
627.14	2.39	625.51	0.00
627.19	2.40	625.51	0.00
627.24	2.46	625.51	0.00
627.29	2.50	625.51	0.00
627.34	2.53	625.51	0.00
627.39	2.57	625.51	0.00
627.44	2.60	625.51	0.00
627.49	2.63	625.51	0.00
627.54	2.64	625.51	0.00
627.59	2.70	625.51	0.00
627.64	2.73	625.51	0.00
627.69	2.76	625.51	0.00
627.74	2.80	625.51	0.00
627.79	2.83	625.51	0.00
627.84	2.83	625.51	0.00
627.89	2.89	625.51	0.00
627.94	2.92	625.51	0.00
627.99	2.95	625.51	0.00
628.04	2.98	625.51	0.00
628.09	3.01	625.51	0.00
628.14	3.04	625.51	0.00
628.19	3.07	625.51	0.00
628.24	3.09	625.51	0.00
628.29	3.12	625.51	0.00
628.34	3.15	625.51	0.00
628.39	3.18	625.51	0.00
628.44	3.16	625.51	0.00
628.49	3.23	625.51	0.00
628.54	3.22	625.51	0.00
628.59	3.29	625.51	0.00
628.64	3.31	625.51	0.00
628.69	3.34	625.51	0.00
628.74	3.36	625.51	0.00
628.79	3.35	625.51	0.00

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
628.84	3.42	625.51	0.00
628.89	3.44	625.51	0.00
628.94	3.47	625.51	0.00
628.99	3.49	625.51	0.00
629.04	3.52	625.51	0.00
629.09	3.54	625.51	0.00
629.14	3.57	625.51	0.00
629.19	3.59	625.51	0.00
629.24	3.62	625.51	0.00
629.29	3.64	625.51	0.00
629.34	3.66	625.51	0.00
629.39	3.65	625.51	0.00
629.44	3.71	625.51	0.00
629.49	3.74	625.51	0.00
629.54	3.76	625.51	0.00
629.59	3.78	625.51	0.00
629.64	3.80	625.51	0.00
629.69	3.83	625.51	0.00
629.74	3.85	625.51	0.00
629.79	3.87	625.51	0.00
629.84	3.90	625.51	0.00
629.89	3.92	625.51	0.00
629.94	3.94	625.51	0.00
629.99	3.96	625.51	0.00
630.04	3.95	625.51	0.00
630.09	4.01	625.51	0.00
630.10	4.01	625.51	0.00
630.14	4.41	625.51	0.00
630.19	5.32	625.51	0.00
630.24	6.44	625.51	0.00
630.29	8.00	625.51	0.00
630.34	9.66	625.51	0.00
630.39	11.25	625.51	0.00
630.44	13.19	625.51	0.00
630.49	15.29	625.51	0.00
630.54	17.52	625.51	0.00
630.59	19.88	625.51	0.00
630.64	22.37	625.51	0.00
630.69	24.96	625.51	0.00
630.74	27.66	625.51	0.00
630.79	30.50	625.51	0.00
630.84	33.42	625.51	0.00
630.89	36.46	625.51	0.00
630.94	39.55	625.51	0.00

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
630.99	42.76	625.51	0.00
631.04	46.02	625.51	0.00
631.09	49.36	625.51	0.00
631.14	52.77	625.51	0.00
631.19	56.26	625.51	0.00
631.24	59.78	625.51	0.00
631.29	63.39	625.51	0.00
631.34	67.05	625.51	0.00
631.39	70.69	625.51	0.00
631.44	74.38	625.51	0.00
631.49	77.91	625.51	0.00
631.54	79.72	625.51	0.00
631.59	80.16	625.51	0.00
631.64	80.60	625.51	0.00
631.69	81.04	625.51	0.00
631.74	81.48	625.51	0.00
631.79	81.91	625.51	0.00
631.84	82.34	625.51	0.00
631.89	82.77	625.51	0.00
631.94	83.20	625.51	0.00
631.99	83.62	625.51	0.00
632.00	83.71	625.51	0.00

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

Subsection: Composite Rating Curve | Return Event: 2 years
Label: 2 Yr OS2 | Storm Event:
Scenario: Post-Development 2 year

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 2 Yr OS2
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

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

Subsection: Outlet Input Data
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	624.44 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	632.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Area	Lower Orifice	Forward + Reverse	Culvert - 1	625.11	632.00
Stand Pipe	Riser - 1	Forward + Reverse	Culvert - 1	630.10	632.00
Rectangular Weir	Lower Weir	Forward + Reverse	Culvert - 1	624.44	625.11
Culvert-Circular	Culvert - 1	Forward + Reverse	TW	624.44	632.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Stand Pipe	
Number of Openings	1
Elevation	630.10 ft
Diameter	60.0 in
Orifice Area	19.635 ft²
Orifice Coefficient	0.600
Weir Length	15.71 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

Subsection: Outlet Input Data
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	36.0 in
Length	137.87 ft
Length (Computed Barrel)	137.87 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
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)	1.095
T2 ratio (HW/D)	1.197
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	627.72 ft	T1 Flow	42.85 ft³/s
T2 Elevation	628.03 ft	T2 Flow	48.97 ft³/s

Structure ID: Lower Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	624.44 ft
Orifice Area	0.389 ft²
Top Elevation	625.11 ft
Datum Elevation	624.77 ft
Orifice Coefficient	0.600

Structure ID: Lower Weir Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	624.44 ft
Weir Length	0.58 ft
Weir Coefficient	3.00 (ft^0.5)/s

Subsection: Composite Rating Curve
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
624.44	-2.57	625.77	0.00
624.49	-2.57	625.77	0.00
624.54	-2.57	625.77	0.00
624.59	-2.48	625.77	0.00
624.64	-2.48	625.77	0.00
624.69	-2.48	625.77	0.00
624.74	-2.48	625.77	0.00
624.79	-2.38	625.77	0.00
624.84	-2.38	625.77	0.00
624.89	-2.48	625.77	0.00
624.94	-2.38	625.77	0.00
624.99	-2.29	625.77	0.00
625.04	-2.19	625.77	0.00
625.09	-2.29	625.77	0.00
625.14	-1.34	625.77	0.00
625.19	-1.34	625.77	0.00
625.24	-1.53	625.77	0.00
625.29	-1.34	625.77	0.00
625.34	-1.14	625.77	0.00
625.39	-1.34	625.77	0.00
625.44	-1.08	625.77	0.00
625.49	-0.99	625.77	0.00
625.54	-0.90	625.77	0.00
625.59	-0.79	625.77	0.00
625.64	-0.68	625.77	0.00
625.69	-0.53	625.77	0.00
625.74	-0.38	625.77	0.00
625.79	0.26	625.77	0.00
625.84	0.50	625.77	0.00
625.89	0.65	625.77	0.00
625.94	0.77	625.77	0.00
625.99	0.88	625.77	0.00
626.04	0.97	625.77	0.00
626.09	1.06	625.77	0.00
626.14	1.14	625.77	0.00
626.19	1.21	625.77	0.00
626.24	1.23	625.77	0.00
626.29	1.34	625.77	0.00
626.34	1.41	625.77	0.00
626.39	1.47	625.77	0.00
626.44	1.52	625.77	0.01
626.49	1.58	625.77	0.01
626.54	1.64	625.77	0.00
626.59	1.70	625.77	0.00

Subsection: Composite Rating Curve
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
626.64	1.75	625.77	0.00
626.69	1.80	625.77	0.00
626.74	1.84	625.77	0.00
626.79	1.89	625.77	0.00
626.84	1.94	625.77	0.00
626.89	1.98	625.77	0.00
626.94	2.03	625.77	0.00
626.99	2.07	625.77	0.00
627.04	2.11	625.77	0.00
627.09	2.15	625.77	0.00
627.14	2.14	625.77	0.00
627.19	2.23	625.77	0.00
627.24	2.26	625.77	0.00
627.29	2.28	625.77	0.00
627.34	2.30	625.77	0.00
627.39	2.38	625.77	0.00
627.44	2.42	625.77	0.00
627.49	2.46	625.77	0.00
627.54	2.49	625.77	0.00
627.59	2.53	625.77	0.00
627.64	2.56	625.77	0.00
627.69	2.59	625.77	0.00
627.74	2.60	625.77	0.00
627.79	2.66	625.77	0.00
627.84	2.69	625.77	0.00
627.89	2.73	625.77	0.00
627.94	2.74	625.77	0.00
627.99	2.76	625.77	0.00
628.04	2.82	625.77	0.00
628.09	2.85	625.77	0.00
628.14	2.88	625.77	0.00
628.19	2.91	625.77	0.00
628.24	2.94	625.77	0.00
628.29	2.97	625.77	0.00
628.34	2.99	625.77	0.00
628.39	3.03	625.77	0.00
628.44	3.06	625.77	0.00
628.49	3.09	625.77	0.00
628.54	3.08	625.77	0.00
628.59	3.14	625.77	0.00
628.64	3.15	625.77	0.00
628.69	3.17	625.77	0.00
628.74	3.23	625.77	0.00
628.79	3.25	625.77	0.00

Subsection: Composite Rating Curve
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
628.84	3.25	625.77	0.00
628.89	3.31	625.77	0.00
628.94	3.33	625.77	0.00
628.99	3.36	625.77	0.00
629.04	3.39	625.77	0.00
629.09	3.41	625.77	0.00
629.14	3.44	625.77	0.00
629.19	3.46	625.77	0.00
629.24	3.49	625.77	0.00
629.29	3.51	625.77	0.00
629.34	3.54	625.77	0.00
629.39	3.56	625.77	0.00
629.44	3.59	625.77	0.00
629.49	3.61	625.77	0.00
629.54	3.64	625.77	0.00
629.59	3.66	625.77	0.00
629.64	3.68	625.77	0.00
629.69	3.71	625.77	0.00
629.74	3.73	625.77	0.00
629.79	3.75	625.77	0.00
629.84	3.78	625.77	0.00
629.89	3.80	625.77	0.00
629.94	3.82	625.77	0.00
629.99	3.85	625.77	0.00
630.04	3.87	625.77	0.00
630.09	3.89	625.77	0.00
630.10	3.90	625.77	0.00
630.14	4.29	625.77	0.00
630.19	5.21	625.77	0.00
630.24	6.43	625.77	0.00
630.29	7.80	625.77	0.00
630.34	9.54	625.77	0.00
630.39	11.38	625.77	0.00
630.44	13.39	625.77	0.00
630.49	15.28	625.77	0.00
630.54	17.50	625.77	0.00
630.59	19.88	625.77	0.00
630.64	22.37	625.77	0.00
630.69	24.96	625.77	0.00
630.74	27.66	625.77	0.00
630.79	30.50	625.77	0.00
630.84	33.42	625.77	0.00
630.89	36.44	625.77	0.00
630.94	39.55	625.77	0.00

Subsection: Composite Rating Curve
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
630.99	42.74	625.77	0.00
631.04	46.01	625.77	0.00
631.09	49.35	625.77	0.00
631.14	52.77	625.77	0.00
631.19	56.26	625.77	0.00
631.24	59.78	625.77	0.00
631.29	63.39	625.77	0.00
631.34	67.05	625.77	0.00
631.39	70.69	625.77	0.00
631.44	74.38	625.77	0.00
631.49	77.91	625.77	0.00
631.54	79.72	625.77	0.00
631.59	80.16	625.77	0.00
631.64	80.60	625.77	0.00
631.69	81.04	625.77	0.00
631.74	81.48	625.77	0.00
631.79	81.91	625.77	0.00
631.84	82.34	625.77	0.00
631.89	82.77	625.77	0.00
631.94	83.20	625.77	0.00
631.99	83.62	625.77	0.00
632.00	83.71	625.77	0.00

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: 25 Yr OS2
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Composite Outflow Summary

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

Subsection: Outlet Input Data
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	624.44 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	632.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Stand Pipe	Riser - 1	Forward + Reverse	Culvert - 1	630.10	632.00
Culvert-Circular	Culvert - 1	Forward	TW	624.44	632.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Stand Pipe	
Number of Openings	1
Elevation	630.10 ft
Diameter	60.0 in
Orifice Area	19.635 ft²
Orifice Coefficient	0.600
Weir Length	15.71 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	36.0 in
Length	137.87 ft
Length (Computed Barrel)	137.87 ft
Slope (Computed)	0.001 ft/ft

Outlet Control Data	
Manning's n	0.013
Ke	0.200
Kb	0.007
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)	1.095
T2 ratio (HW/D)	1.197
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	627.72 ft	T1 Flow	42.85 ft³/s
T2 Elevation	628.03 ft	T2 Flow	48.97 ft³/s

Subsection: Composite Rating Curve
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
624.44	0.00	630.15	0.00
624.49	0.00	630.15	0.00
624.54	0.00	630.15	0.00
624.59	0.00	630.15	0.00
624.64	0.00	630.15	0.00
624.69	0.00	630.15	0.00
624.74	0.00	630.15	0.00
624.79	0.00	630.15	0.00
624.84	0.00	630.15	0.00
624.89	0.00	630.15	0.00
624.94	0.00	630.15	0.00
624.99	0.00	630.15	0.00
625.04	0.00	630.15	0.00
625.09	0.00	630.15	0.00
625.14	0.00	630.15	0.00
625.19	0.00	630.15	0.00
625.24	0.00	630.15	0.00
625.29	0.00	630.15	0.00
625.34	0.00	630.15	0.00
625.39	0.00	630.15	0.00
625.44	0.00	630.15	0.00
625.49	0.00	630.15	0.00
625.54	0.00	630.15	0.00
625.59	0.00	630.15	0.00
625.64	0.00	630.15	0.00
625.69	0.00	630.15	0.00
625.74	0.00	630.15	0.00
625.79	0.00	630.15	0.00
625.84	0.00	630.15	0.00
625.89	0.00	630.15	0.00
625.94	0.00	630.15	0.00
625.99	0.00	630.15	0.00
626.04	0.00	630.15	0.00
626.09	0.00	630.15	0.00
626.14	0.00	630.15	0.00
626.19	0.00	630.15	0.00
626.24	0.00	630.15	0.00
626.29	0.00	630.15	0.00
626.34	0.00	630.15	0.00
626.39	0.00	630.15	0.00
626.44	0.00	630.15	0.00
626.49	0.00	630.15	0.00
626.54	0.00	630.15	0.00
626.59	0.00	630.15	0.00

Subsection: Composite Rating Curve
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
626.64	0.00	630.15	0.00
626.69	0.00	630.15	0.00
626.74	0.00	630.15	0.00
626.79	0.00	630.15	0.00
626.84	0.00	630.15	0.00
626.89	0.00	630.15	0.00
626.94	0.00	630.15	0.00
626.99	0.00	630.15	0.00
627.04	0.00	630.15	0.00
627.09	0.00	630.15	0.00
627.14	0.00	630.15	0.00
627.19	0.00	630.15	0.00
627.24	0.00	630.15	0.00
627.29	0.00	630.15	0.00
627.34	0.00	630.15	0.00
627.39	0.00	630.15	0.00
627.44	0.00	630.15	0.00
627.49	0.00	630.15	0.00
627.54	0.00	630.15	0.00
627.59	0.00	630.15	0.00
627.64	0.00	630.15	0.00
627.69	0.00	630.15	0.00
627.74	0.00	630.15	0.00
627.79	0.00	630.15	0.00
627.84	0.00	630.15	0.00
627.89	0.00	630.15	0.00
627.94	0.00	630.15	0.00
627.99	0.00	630.15	0.00
628.04	0.00	630.15	0.00
628.09	0.00	630.15	0.00
628.14	0.00	630.15	0.00
628.19	0.00	630.15	0.00
628.24	0.00	630.15	0.00
628.29	0.00	630.15	0.00
628.34	0.00	630.15	0.00
628.39	0.00	630.15	0.00
628.44	0.00	630.15	0.00
628.49	0.00	630.15	0.00
628.54	0.00	630.15	0.00
628.59	0.00	630.15	0.00
628.64	0.00	630.15	0.00
628.69	0.00	630.15	0.00
628.74	0.00	630.15	0.00
628.79	0.00	630.15	0.00

Subsection: Composite Rating Curve
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
628.84	0.00	630.15	0.00
628.89	0.00	630.15	0.00
628.94	0.00	630.15	0.00
628.99	0.00	630.15	0.00
629.04	0.00	630.15	0.00
629.09	0.00	630.15	0.00
629.14	0.00	630.15	0.00
629.19	0.00	630.15	0.00
629.24	0.00	630.15	0.00
629.29	0.00	630.15	0.00
629.34	0.00	630.15	0.00
629.39	0.00	630.15	0.00
629.44	0.00	630.15	0.00
629.49	0.00	630.15	0.00
629.54	0.00	630.15	0.00
629.59	0.00	630.15	0.00
629.64	0.00	630.15	0.00
629.69	0.00	630.15	0.00
629.74	0.00	630.15	0.00
629.79	0.00	630.15	0.00
629.84	0.00	630.15	0.00
629.89	0.00	630.15	0.00
629.94	0.00	630.15	0.00
629.99	0.00	630.15	0.00
630.04	0.00	630.15	0.00
630.09	0.00	630.15	0.00
630.10	0.00	630.15	0.00
630.14	0.00	630.15	0.00
630.19	1.27	630.15	0.00
630.24	2.47	630.15	0.00
630.29	3.88	630.15	0.00
630.34	5.54	630.15	0.00
630.39	7.36	630.15	0.00
630.44	9.34	630.15	0.00
630.49	11.48	630.15	0.00
630.54	13.73	630.15	0.00
630.59	16.15	630.15	0.00
630.64	18.71	630.15	0.00
630.69	21.35	630.15	0.00
630.74	24.12	630.15	0.00
630.79	27.02	630.15	0.00
630.84	30.00	630.15	0.00
630.89	32.91	630.15	0.00
630.94	33.99	630.15	0.00

Subsection: Composite Rating Curve
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
630.99	35.05	630.15	0.00
631.04	36.06	630.15	0.00
631.09	37.09	630.15	0.00
631.14	38.05	630.15	0.00
631.19	39.01	630.15	0.00
631.24	39.93	630.15	0.00
631.29	40.86	630.15	0.00
631.34	41.73	630.15	0.00
631.39	42.62	630.15	0.00
631.44	43.44	630.15	0.00
631.49	44.30	630.15	0.00
631.54	45.11	630.15	0.00
631.59	45.91	630.15	0.00
631.64	46.70	630.15	0.00
631.69	47.48	630.15	0.00
631.74	48.24	630.15	0.00
631.79	49.01	630.15	0.00
631.84	49.73	630.15	0.00
631.89	50.46	630.15	0.00
631.94	51.19	630.15	0.00
631.99	51.90	630.15	0.00
632.00	52.03	630.15	0.00

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

Contributing Structures
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Subsection: Composite Rating Curve | Return Event: 100 years
Label: OS2LFB | Storm Event:
Scenario: 100 year LFB

Composite Outflow Summary

Contributing Structures
(no Q: Riser - 1,Culvert - 1)
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Subsection: Composite Rating Curve
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

Contributing Structures
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Composite Outflow Summary

Contributing Structures
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Subsection: Composite Rating Curve
Label: OS2LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
Riser - 1,Culvert - 1
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Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-1.86 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-1.86 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
624.44	-1.86	0.000	0.000	0.00	-1.86	-1.86
624.49	-1.86	0.000	4.225	0.00	-1.86	-1.86
624.54	-1.86	0.000	16.901	0.00	-1.86	-1.84
624.59	-1.81	0.000	38.026	0.00	-1.81	-1.75
624.64	-1.81	0.000	67.602	0.00	-1.81	-1.66
624.69	-1.76	0.000	105.628	0.00	-1.76	-1.47
624.74	-1.76	0.000	152.105	0.00	-1.76	-1.26
624.79	-1.76	0.001	207.031	0.00	-1.76	-0.96
624.84	-1.67	0.001	270.408	0.00	-1.67	-0.47
624.89	-1.62	0.001	342.235	0.00	-1.62	0.09
624.94	-1.57	0.002	422.513	0.00	-1.57	0.77
624.99	-1.57	0.002	511.240	0.00	-1.57	1.55
625.04	-1.43	0.003	580.967	0.00	-1.43	2.61
625.09	-1.43	0.003	647.966	0.00	-1.43	3.63
625.14	-1.14	0.004	718.620	0.00	-1.14	5.06
625.19	-1.05	0.005	792.929	0.00	-1.05	6.41
625.24	-1.05	0.006	870.894	0.00	-1.05	7.80
625.29	-0.95	0.007	952.513	0.00	-0.95	9.41
625.34	-0.77	0.008	1,037.789	0.00	-0.77	11.25
625.39	-0.65	0.010	1,126.719	0.00	-0.65	13.18
625.44	-0.50	0.011	1,219.305	0.00	-0.50	15.28
625.49	-0.38	0.012	1,315.547	0.00	-0.38	17.51
625.54	0.32	0.014	1,415.443	0.00	0.32	20.49
625.59	0.53	0.016	1,518.995	0.00	0.53	23.14
625.64	0.68	0.017	1,626.202	0.00	0.68	25.91
625.69	0.79	0.019	1,737.065	0.00	0.79	28.83
625.74	0.90	0.021	1,851.583	0.00	0.90	31.92
625.79	0.99	0.024	1,969.756	0.00	0.99	35.20
625.84	1.03	0.026	2,091.585	0.00	1.03	38.62
625.89	1.15	0.028	2,217.069	0.00	1.15	42.34

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
625.94	1.23	0.031	2,346.208	0.00	1.23	46.21
625.99	1.30	0.034	2,479.002	0.00	1.30	50.30
626.04	1.36	0.037	2,608.868	0.00	1.36	54.61
626.09	1.41	0.040	2,740.363	0.00	1.41	59.11
626.14	1.49	0.043	2,875.091	0.00	1.49	63.87
626.19	1.52	0.046	3,013.051	0.00	1.52	68.81
626.24	1.60	0.050	3,154.245	0.00	1.60	74.03
626.29	1.65	0.054	3,298.671	0.00	1.65	79.46
626.34	1.71	0.057	3,446.331	0.00	1.71	85.13
626.39	1.76	0.061	3,597.223	0.00	1.76	91.05
626.44	1.81	0.066	3,751.348	0.00	1.81	97.22
626.49	1.85	0.070	3,908.706	0.00	1.85	103.65
626.54	1.90	0.075	4,069.297	0.00	1.90	110.35
626.59	1.95	0.079	4,233.121	0.00	1.95	117.31
626.64	1.99	0.084	4,400.177	0.00	1.99	124.55
626.69	2.03	0.090	4,570.467	0.00	2.03	132.07
626.74	2.08	0.095	4,743.990	0.00	2.08	139.87
626.79	2.12	0.100	4,920.745	0.00	2.12	147.97
626.84	2.16	0.106	5,100.733	0.00	2.16	156.36
626.89	2.20	0.112	5,283.954	0.00	2.20	165.05
626.94	2.24	0.118	5,470.409	0.00	2.24	174.06
626.99	2.28	0.125	5,660.095	0.00	2.28	183.37
627.04	2.29	0.131	5,853.015	0.00	2.29	192.97
627.09	2.35	0.138	6,049.168	0.00	2.35	202.96
627.14	2.39	0.145	6,248.554	0.00	2.39	213.24
627.19	2.40	0.153	6,451.172	0.00	2.40	223.83
627.24	2.46	0.160	6,657.024	0.00	2.46	234.82
627.29	2.50	0.168	6,866.108	0.00	2.50	246.12
627.34	2.53	0.176	7,078.425	0.00	2.53	257.78
627.39	2.57	0.184	7,293.976	0.00	2.57	269.79
627.44	2.60	0.193	7,512.759	0.00	2.60	282.16
627.49	2.63	0.201	7,734.774	0.00	2.63	294.90
627.54	2.64	0.210	7,960.023	0.00	2.64	307.98
627.59	2.70	0.220	8,188.505	0.00	2.70	321.50
627.64	2.73	0.229	8,420.220	0.00	2.73	335.37
627.69	2.76	0.239	8,655.167	0.00	2.76	349.64
627.74	2.80	0.249	8,893.348	0.00	2.80	364.29
627.79	2.83	0.259	9,134.761	0.00	2.83	379.34
627.84	2.83	0.270	9,379.407	0.00	2.83	394.77
627.89	2.89	0.281	9,627.286	0.00	2.89	410.67
627.94	2.92	0.292	9,878.398	0.00	2.92	426.96
627.99	2.95	0.304	10,132.743	0.00	2.95	443.66
628.04	2.98	0.315	10,371.747	0.00	2.98	460.78
628.09	3.01	0.327	10,608.842	0.00	3.01	478.29
628.14	3.04	0.340	10,848.616	0.00	3.04	496.20

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
628.19	3.07	0.352	11,091.070	0.00	3.07	514.52
628.24	3.09	0.365	11,336.203	0.00	3.09	533.23
628.29	3.12	0.378	11,584.015	0.00	3.12	552.36
628.34	3.15	0.392	11,834.507	0.00	3.15	571.90
628.39	3.18	0.405	12,087.679	0.00	3.18	591.87
628.44	3.16	0.419	12,343.529	0.00	3.16	612.21
628.49	3.23	0.434	12,602.060	0.00	3.23	633.07
628.54	3.22	0.448	12,863.269	0.00	3.22	654.28
628.59	3.29	0.463	13,127.158	0.00	3.29	676.00
628.64	3.31	0.479	13,393.727	0.00	3.31	698.13
628.69	3.34	0.494	13,662.975	0.00	3.34	720.70
628.74	3.36	0.510	13,934.902	0.00	3.36	743.72
628.79	3.35	0.526	14,209.509	0.00	3.35	767.17
628.84	3.42	0.543	14,486.795	0.00	3.42	791.14
628.89	3.44	0.559	14,766.761	0.00	3.44	815.55
628.94	3.47	0.576	15,049.405	0.00	3.47	840.42
628.99	3.49	0.594	15,334.730	0.00	3.49	865.76
629.04	3.52	0.612	15,622.734	0.00	3.52	891.58
629.09	3.54	0.630	15,913.417	0.00	3.54	917.89
629.14	3.57	0.648	16,206.780	0.00	3.57	944.68
629.19	3.59	0.667	16,502.822	0.00	3.59	971.96
629.24	3.62	0.686	16,801.543	0.00	3.62	999.74
629.29	3.64	0.705	17,102.944	0.00	3.64	1,028.02
629.34	3.66	0.725	17,407.024	0.00	3.66	1,056.80
629.39	3.65	0.745	17,713.784	0.00	3.65	1,086.05
629.44	3.71	0.766	18,023.223	0.00	3.71	1,115.89
629.49	3.74	0.787	18,335.342	0.00	3.74	1,146.22
629.54	3.76	0.808	18,650.140	0.00	3.76	1,177.06
629.59	3.78	0.830	18,967.617	0.00	3.78	1,208.43
629.64	3.80	0.852	19,287.774	0.00	3.80	1,240.33
629.69	3.83	0.874	19,610.611	0.00	3.83	1,272.77
629.74	3.85	0.897	19,936.126	0.00	3.85	1,305.75
629.79	3.87	0.920	20,264.321	0.00	3.87	1,339.27
629.84	3.90	0.943	20,595.196	0.00	3.90	1,373.34
629.89	3.92	0.967	20,928.750	0.00	3.92	1,407.97
629.94	3.94	0.991	21,264.983	0.00	3.94	1,443.15
629.99	3.96	1.016	21,603.896	0.00	3.96	1,478.90
630.04	3.95	1.041	21,803.165	0.00	3.95	1,515.08
630.09	4.01	1.066	21,967.677	0.00	4.01	1,551.61
630.10	4.01	1.071	22,000.654	0.00	4.01	1,558.95
630.14	4.41	1.091	22,132.808	0.00	4.41	1,588.76
630.19	5.32	1.117	22,298.557	0.00	5.32	1,626.71
630.24	6.44	1.142	22,464.924	0.00	6.44	1,665.13
630.29	8.00	1.168	22,631.910	0.00	8.00	1,704.26
630.34	9.66	1.194	22,799.514	0.00	9.66	1,743.78

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
630.39	11.25	1.221	22,967.736	0.00	11.25	1,783.51
630.44	13.19	1.247	23,136.577	0.00	13.19	1,823.87
630.49	15.29	1.274	23,306.036	0.00	15.29	1,864.68
630.54	17.52	1.301	23,476.113	0.00	17.52	1,905.89
630.59	19.88	1.328	23,646.809	0.00	19.88	1,947.52
630.64	22.37	1.355	23,818.123	0.00	22.37	1,989.57
630.69	24.96	1.382	23,990.055	0.00	24.96	2,032.00
630.74	27.66	1.410	24,162.606	0.00	27.66	2,074.83
630.79	30.50	1.438	24,335.774	0.00	30.50	2,118.08
630.84	33.42	1.466	24,509.562	0.00	33.42	2,161.70
630.89	36.46	1.494	24,683.967	0.00	36.46	2,205.74
630.94	39.55	1.522	24,858.991	0.00	39.55	2,250.11
630.99	42.76	1.551	25,034.633	0.00	42.76	2,294.90
631.04	46.02	1.580	25,210.894	0.00	46.02	2,340.03
631.09	49.36	1.609	25,387.773	0.00	49.36	2,385.54
631.14	52.77	1.638	25,565.270	0.00	52.77	2,431.41
631.19	56.26	1.668	25,743.385	0.00	56.26	2,477.66
631.24	59.78	1.697	25,922.119	0.00	59.78	2,524.24
631.29	63.39	1.727	26,101.471	0.00	63.39	2,571.20
631.34	67.05	1.757	26,281.441	0.00	67.05	2,618.50
631.39	70.69	1.787	26,462.030	0.00	70.69	2,666.10
631.44	74.38	1.818	26,643.237	0.00	74.38	2,714.04
631.49	77.91	1.849	26,825.063	0.00	77.91	2,762.13
631.54	79.72	1.880	27,007.506	0.00	79.72	2,808.80
631.59	80.16	1.911	27,190.568	0.00	80.16	2,854.41
631.64	80.60	1.942	27,374.249	0.00	80.60	2,900.32
631.69	81.04	1.973	27,558.547	0.00	81.04	2,946.53
631.74	81.48	2.005	27,743.464	0.00	81.48	2,993.06
631.79	81.91	2.037	27,929.000	0.00	81.91	3,039.88
631.84	82.34	2.069	28,115.153	0.00	82.34	3,087.01
631.89	82.77	2.102	28,301.925	0.00	82.77	3,134.46
631.94	83.20	2.134	28,489.315	0.00	83.20	3,182.22
631.99	83.62	2.167	28,677.324	0.00	83.62	3,230.27
632.00	83.71	2.174	28,715.000	0.00	83.71	3,239.93

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-2.38 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-2.38 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
624.44	-2.38	0.000	0.000	0.00	-2.38	-2.38
624.49	-2.38	0.000	4.225	0.00	-2.38	-2.38
624.54	-2.38	0.000	16.901	0.00	-2.38	-2.37
624.59	-2.38	0.000	38.026	0.00	-2.38	-2.32
624.64	-2.38	0.000	67.602	0.00	-2.38	-2.23
624.69	-2.29	0.000	105.628	0.00	-2.29	-2.00
624.74	-2.19	0.000	152.105	0.00	-2.19	-1.69
624.79	-2.19	0.001	207.031	0.00	-2.19	-1.39
624.84	-2.19	0.001	270.408	0.00	-2.19	-0.99
624.89	-2.19	0.001	342.235	0.00	-2.19	-0.48
624.94	-2.10	0.002	422.513	0.00	-2.10	0.25
624.99	-2.19	0.002	511.240	0.00	-2.19	0.93
625.04	-2.10	0.003	580.967	0.00	-2.10	1.94
625.09	-2.00	0.003	647.966	0.00	-2.00	3.06
625.14	-1.43	0.004	718.620	0.00	-1.43	4.77
625.19	-1.34	0.005	792.929	0.00	-1.34	6.12
625.24	-1.14	0.006	870.894	0.00	-1.14	7.70
625.29	-1.34	0.007	952.513	0.00	-1.34	9.03
625.34	-1.12	0.008	1,037.789	0.00	-1.12	10.90
625.39	-1.04	0.010	1,126.719	0.00	-1.04	12.78
625.44	-0.95	0.011	1,219.305	0.00	-0.95	14.83
625.49	-0.86	0.012	1,315.547	0.00	-0.86	17.03
625.54	-0.75	0.014	1,415.443	0.00	-0.75	19.42
625.59	-0.62	0.016	1,518.995	0.00	-0.62	21.99
625.64	-0.46	0.017	1,626.202	0.00	-0.46	24.77
625.69	-0.38	0.019	1,737.065	0.00	-0.38	27.65
625.74	0.37	0.021	1,851.583	0.00	0.37	31.40
625.79	0.56	0.024	1,969.756	0.00	0.56	34.77
625.84	0.70	0.026	2,091.585	0.00	0.70	38.29
625.89	0.82	0.028	2,217.069	0.00	0.82	42.00

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
625.94	0.92	0.031	2,346.208	0.00	0.92	45.90
625.99	1.01	0.034	2,479.002	0.00	1.01	50.01
626.04	1.09	0.037	2,608.868	0.00	1.09	54.34
626.09	1.17	0.040	2,740.363	0.00	1.17	58.87
626.14	1.22	0.043	2,875.091	0.00	1.22	63.60
626.19	1.31	0.046	3,013.051	0.00	1.31	68.60
626.24	1.36	0.050	3,154.245	0.00	1.36	73.79
626.29	1.39	0.054	3,298.671	0.00	1.39	79.19
626.34	1.49	0.057	3,446.331	0.00	1.49	84.91
626.39	1.56	0.061	3,597.223	0.00	1.56	90.85
626.44	1.61	0.066	3,751.348	0.00	1.61	97.03
626.49	1.66	0.070	3,908.706	0.00	1.66	103.46
626.54	1.72	0.075	4,069.297	0.00	1.72	110.16
626.59	1.77	0.079	4,233.121	0.00	1.77	117.13
626.64	1.82	0.084	4,400.177	0.00	1.82	124.38
626.69	1.86	0.090	4,570.467	0.00	1.86	131.90
626.74	1.91	0.095	4,743.990	0.00	1.91	139.71
626.79	1.95	0.100	4,920.745	0.00	1.95	147.81
626.84	2.00	0.106	5,100.733	0.00	2.00	156.20
626.89	2.04	0.112	5,283.954	0.00	2.04	164.90
626.94	2.08	0.118	5,470.409	0.00	2.08	173.90
626.99	2.13	0.125	5,660.095	0.00	2.13	183.22
627.04	2.17	0.131	5,853.015	0.00	2.17	192.85
627.09	2.19	0.138	6,049.168	0.00	2.19	202.80
627.14	2.21	0.145	6,248.554	0.00	2.21	213.06
627.19	2.27	0.153	6,451.172	0.00	2.27	223.70
627.24	2.32	0.160	6,657.024	0.00	2.32	234.68
627.29	2.34	0.168	6,866.108	0.00	2.34	245.97
627.34	2.36	0.176	7,078.425	0.00	2.36	257.61
627.39	2.43	0.184	7,293.976	0.00	2.43	269.66
627.44	2.47	0.193	7,512.759	0.00	2.47	282.03
627.49	2.50	0.201	7,734.774	0.00	2.50	294.77
627.54	2.54	0.210	7,960.023	0.00	2.54	307.88
627.59	2.56	0.220	8,188.505	0.00	2.56	321.36
627.64	2.61	0.229	8,420.220	0.00	2.61	335.25
627.69	2.64	0.239	8,655.167	0.00	2.64	349.51
627.74	2.65	0.249	8,893.348	0.00	2.65	364.14
627.79	2.71	0.259	9,134.761	0.00	2.71	379.22
627.84	2.74	0.270	9,379.407	0.00	2.74	394.68
627.89	2.77	0.281	9,627.286	0.00	2.77	410.55
627.94	2.78	0.292	9,878.398	0.00	2.78	426.82
627.99	2.83	0.304	10,132.743	0.00	2.83	443.55
628.04	2.86	0.315	10,371.747	0.00	2.86	460.67
628.09	2.89	0.327	10,608.842	0.00	2.89	478.18
628.14	2.92	0.340	10,848.616	0.00	2.92	496.09

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
628.19	2.95	0.352	11,091.070	0.00	2.95	514.40
628.24	2.95	0.365	11,336.203	0.00	2.95	533.09
628.29	3.01	0.378	11,584.015	0.00	3.01	552.25
628.34	3.04	0.392	11,834.507	0.00	3.04	571.80
628.39	3.07	0.405	12,087.679	0.00	3.07	591.76
628.44	3.10	0.419	12,343.529	0.00	3.10	612.15
628.49	3.10	0.434	12,602.060	0.00	3.10	632.93
628.54	3.16	0.448	12,863.269	0.00	3.16	654.21
628.59	3.18	0.463	13,127.158	0.00	3.18	675.90
628.64	3.18	0.479	13,393.727	0.00	3.18	697.99
628.69	3.24	0.494	13,662.975	0.00	3.24	720.60
628.74	3.26	0.510	13,934.902	0.00	3.26	743.62
628.79	3.29	0.526	14,209.509	0.00	3.29	767.10
628.84	3.32	0.543	14,486.795	0.00	3.32	791.04
628.89	3.34	0.559	14,766.761	0.00	3.34	815.45
628.94	3.37	0.576	15,049.405	0.00	3.37	840.32
628.99	3.40	0.594	15,334.730	0.00	3.40	865.67
629.04	3.42	0.612	15,622.734	0.00	3.42	891.49
629.09	3.45	0.630	15,913.417	0.00	3.45	917.79
629.14	3.47	0.648	16,206.780	0.00	3.47	944.59
629.19	3.50	0.667	16,502.822	0.00	3.50	971.87
629.24	3.52	0.686	16,801.543	0.00	3.52	999.65
629.29	3.55	0.705	17,102.944	0.00	3.55	1,027.93
629.34	3.57	0.725	17,407.024	0.00	3.57	1,056.71
629.39	3.57	0.745	17,713.784	0.00	3.57	1,085.97
629.44	3.62	0.766	18,023.223	0.00	3.62	1,115.80
629.49	3.64	0.787	18,335.342	0.00	3.64	1,146.13
629.54	3.67	0.808	18,650.140	0.00	3.67	1,176.97
629.59	3.69	0.830	18,967.617	0.00	3.69	1,208.34
629.64	3.72	0.852	19,287.774	0.00	3.72	1,240.25
629.69	3.74	0.874	19,610.611	0.00	3.74	1,272.68
629.74	3.76	0.897	19,936.126	0.00	3.76	1,305.66
629.79	3.79	0.920	20,264.321	0.00	3.79	1,339.19
629.84	3.81	0.943	20,595.196	0.00	3.81	1,373.26
629.89	3.83	0.967	20,928.750	0.00	3.83	1,407.88
629.94	3.86	0.991	21,264.983	0.00	3.86	1,443.07
629.99	3.88	1.016	21,603.896	0.00	3.88	1,478.81
630.04	3.90	1.041	21,803.165	0.00	3.90	1,515.03
630.09	3.92	1.066	21,967.677	0.00	3.92	1,551.53
630.10	3.90	1.071	22,000.654	0.00	3.90	1,558.84
630.14	4.32	1.091	22,132.808	0.00	4.32	1,588.68
630.19	5.24	1.117	22,298.557	0.00	5.24	1,626.62
630.24	6.46	1.142	22,464.924	0.00	6.46	1,665.15
630.29	7.91	1.168	22,631.910	0.00	7.91	1,704.18
630.34	9.57	1.194	22,799.514	0.00	9.57	1,743.70

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
630.39	11.41	1.221	22,967.736	0.00	11.41	1,783.68
630.44	13.18	1.247	23,136.577	0.00	13.18	1,823.86
630.49	15.28	1.274	23,306.036	0.00	15.28	1,864.67
630.54	17.52	1.301	23,476.113	0.00	17.52	1,905.89
630.59	19.88	1.328	23,646.809	0.00	19.88	1,947.52
630.64	22.37	1.355	23,818.123	0.00	22.37	1,989.57
630.69	24.96	1.382	23,990.055	0.00	24.96	2,032.00
630.74	27.66	1.410	24,162.606	0.00	27.66	2,074.83
630.79	30.50	1.438	24,335.774	0.00	30.50	2,118.08
630.84	33.42	1.466	24,509.562	0.00	33.42	2,161.70
630.89	36.46	1.494	24,683.967	0.00	36.46	2,205.74
630.94	39.55	1.522	24,858.991	0.00	39.55	2,250.11
630.99	42.74	1.551	25,034.633	0.00	42.74	2,294.88
631.04	46.02	1.580	25,210.894	0.00	46.02	2,340.03
631.09	49.35	1.609	25,387.773	0.00	49.35	2,385.53
631.14	52.77	1.638	25,565.270	0.00	52.77	2,431.41
631.19	56.26	1.668	25,743.385	0.00	56.26	2,477.66
631.24	59.78	1.697	25,922.119	0.00	59.78	2,524.24
631.29	63.39	1.727	26,101.471	0.00	63.39	2,571.20
631.34	67.05	1.757	26,281.441	0.00	67.05	2,618.50
631.39	70.69	1.787	26,462.030	0.00	70.69	2,666.10
631.44	74.38	1.818	26,643.237	0.00	74.38	2,714.04
631.49	77.91	1.849	26,825.063	0.00	77.91	2,762.13
631.54	79.72	1.880	27,007.506	0.00	79.72	2,808.80
631.59	80.16	1.911	27,190.568	0.00	80.16	2,854.41
631.64	80.60	1.942	27,374.249	0.00	80.60	2,900.32
631.69	81.04	1.973	27,558.547	0.00	81.04	2,946.53
631.74	81.48	2.005	27,743.464	0.00	81.48	2,993.06
631.79	81.91	2.037	27,929.000	0.00	81.91	3,039.88
631.84	82.34	2.069	28,115.153	0.00	82.34	3,087.01
631.89	82.77	2.102	28,301.925	0.00	82.77	3,134.46
631.94	83.20	2.134	28,489.315	0.00	83.20	3,182.22
631.99	83.62	2.167	28,677.324	0.00	83.62	3,230.27
632.00	83.71	2.174	28,715.000	0.00	83.71	3,239.93

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-2.57 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-2.57 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
624.44	-2.57	0.000	0.000	0.00	-2.57	-2.57
624.49	-2.57	0.000	4.225	0.00	-2.57	-2.57
624.54	-2.57	0.000	16.901	0.00	-2.57	-2.56
624.59	-2.48	0.000	38.026	0.00	-2.48	-2.42
624.64	-2.48	0.000	67.602	0.00	-2.48	-2.33
624.69	-2.48	0.000	105.628	0.00	-2.48	-2.19
624.74	-2.48	0.000	152.105	0.00	-2.48	-1.97
624.79	-2.38	0.001	207.031	0.00	-2.38	-1.58
624.84	-2.38	0.001	270.408	0.00	-2.38	-1.18
624.89	-2.48	0.001	342.235	0.00	-2.48	-0.77
624.94	-2.38	0.002	422.513	0.00	-2.38	-0.04
624.99	-2.29	0.002	511.240	0.00	-2.29	0.84
625.04	-2.19	0.003	580.967	0.00	-2.19	1.84
625.09	-2.29	0.003	647.966	0.00	-2.29	2.77
625.14	-1.34	0.004	718.620	0.00	-1.34	4.86
625.19	-1.34	0.005	792.929	0.00	-1.34	6.12
625.24	-1.53	0.006	870.894	0.00	-1.53	7.32
625.29	-1.34	0.007	952.513	0.00	-1.34	9.03
625.34	-1.14	0.008	1,037.789	0.00	-1.14	10.88
625.39	-1.34	0.010	1,126.719	0.00	-1.34	12.49
625.44	-1.08	0.011	1,219.305	0.00	-1.08	14.70
625.49	-0.99	0.012	1,315.547	0.00	-0.99	16.90
625.54	-0.90	0.014	1,415.443	0.00	-0.90	19.27
625.59	-0.79	0.016	1,518.995	0.00	-0.79	21.82
625.64	-0.68	0.017	1,626.202	0.00	-0.68	24.56
625.69	-0.53	0.019	1,737.065	0.00	-0.53	27.51
625.74	-0.38	0.021	1,851.583	0.00	-0.38	30.64
625.79	0.26	0.024	1,969.756	0.00	0.26	34.47
625.84	0.50	0.026	2,091.585	0.00	0.50	38.09
625.89	0.65	0.028	2,217.069	0.00	0.65	41.83

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
625.94	0.77	0.031	2,346.208	0.00	0.77	45.76
625.99	0.88	0.034	2,479.002	0.00	0.88	49.88
626.04	0.97	0.037	2,608.868	0.00	0.97	54.22
626.09	1.06	0.040	2,740.363	0.00	1.06	58.76
626.14	1.14	0.043	2,875.091	0.00	1.14	63.52
626.19	1.21	0.046	3,013.051	0.00	1.21	68.50
626.24	1.23	0.050	3,154.245	0.00	1.23	73.66
626.29	1.34	0.054	3,298.671	0.00	1.34	79.14
626.34	1.41	0.057	3,446.331	0.00	1.41	84.84
626.39	1.47	0.061	3,597.223	0.00	1.47	90.77
626.44	1.52	0.066	3,751.348	0.00	1.52	96.94
626.49	1.58	0.070	3,908.706	0.00	1.58	103.38
626.54	1.64	0.075	4,069.297	0.00	1.64	110.09
626.59	1.70	0.079	4,233.121	0.00	1.70	117.06
626.64	1.75	0.084	4,400.177	0.00	1.75	124.31
626.69	1.80	0.090	4,570.467	0.00	1.80	131.83
626.74	1.84	0.095	4,743.990	0.00	1.84	139.64
626.79	1.89	0.100	4,920.745	0.00	1.89	147.74
626.84	1.94	0.106	5,100.733	0.00	1.94	156.14
626.89	1.98	0.112	5,283.954	0.00	1.98	164.84
626.94	2.03	0.118	5,470.409	0.00	2.03	173.84
626.99	2.07	0.125	5,660.095	0.00	2.07	183.16
627.04	2.11	0.131	5,853.015	0.00	2.11	192.80
627.09	2.15	0.138	6,049.168	0.00	2.15	202.75
627.14	2.14	0.145	6,248.554	0.00	2.14	212.99
627.19	2.23	0.153	6,451.172	0.00	2.23	223.66
627.24	2.26	0.160	6,657.024	0.00	2.26	234.61
627.29	2.28	0.168	6,866.108	0.00	2.28	245.90
627.34	2.30	0.176	7,078.425	0.00	2.30	257.54
627.39	2.38	0.184	7,293.976	0.00	2.38	269.61
627.44	2.42	0.193	7,512.759	0.00	2.42	281.98
627.49	2.46	0.201	7,734.774	0.00	2.46	294.72
627.54	2.49	0.210	7,960.023	0.00	2.49	307.84
627.59	2.53	0.220	8,188.505	0.00	2.53	321.33
627.64	2.56	0.229	8,420.220	0.00	2.56	335.20
627.69	2.59	0.239	8,655.167	0.00	2.59	349.47
627.74	2.60	0.249	8,893.348	0.00	2.60	364.09
627.79	2.66	0.259	9,134.761	0.00	2.66	379.18
627.84	2.69	0.270	9,379.407	0.00	2.69	394.64
627.89	2.73	0.281	9,627.286	0.00	2.73	410.51
627.94	2.74	0.292	9,878.398	0.00	2.74	426.78
627.99	2.76	0.304	10,132.743	0.00	2.76	443.47
628.04	2.82	0.315	10,371.747	0.00	2.82	460.62
628.09	2.85	0.327	10,608.842	0.00	2.85	478.14
628.14	2.88	0.340	10,848.616	0.00	2.88	496.05

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
628.19	2.91	0.352	11,091.070	0.00	2.91	514.36
628.24	2.94	0.365	11,336.203	0.00	2.94	533.08
628.29	2.97	0.378	11,584.015	0.00	2.97	552.21
628.34	2.99	0.392	11,834.507	0.00	2.99	571.74
628.39	3.03	0.405	12,087.679	0.00	3.03	591.72
628.44	3.06	0.419	12,343.529	0.00	3.06	612.11
628.49	3.09	0.434	12,602.060	0.00	3.09	632.92
628.54	3.08	0.448	12,863.269	0.00	3.08	654.14
628.59	3.14	0.463	13,127.158	0.00	3.14	675.86
628.64	3.15	0.479	13,393.727	0.00	3.15	697.97
628.69	3.17	0.494	13,662.975	0.00	3.17	720.53
628.74	3.23	0.510	13,934.902	0.00	3.23	743.59
628.79	3.25	0.526	14,209.509	0.00	3.25	767.07
628.84	3.25	0.543	14,486.795	0.00	3.25	790.98
628.89	3.31	0.559	14,766.761	0.00	3.31	815.41
628.94	3.33	0.576	15,049.405	0.00	3.33	840.28
628.99	3.36	0.594	15,334.730	0.00	3.36	865.63
629.04	3.39	0.612	15,622.734	0.00	3.39	891.45
629.09	3.41	0.630	15,913.417	0.00	3.41	917.76
629.14	3.44	0.648	16,206.780	0.00	3.44	944.55
629.19	3.46	0.667	16,502.822	0.00	3.46	971.83
629.24	3.49	0.686	16,801.543	0.00	3.49	999.61
629.29	3.51	0.705	17,102.944	0.00	3.51	1,027.89
629.34	3.54	0.725	17,407.024	0.00	3.54	1,056.67
629.39	3.56	0.745	17,713.784	0.00	3.56	1,085.96
629.44	3.59	0.766	18,023.223	0.00	3.59	1,115.77
629.49	3.61	0.787	18,335.342	0.00	3.61	1,146.09
629.54	3.64	0.808	18,650.140	0.00	3.64	1,176.94
629.59	3.66	0.830	18,967.617	0.00	3.66	1,208.31
629.64	3.68	0.852	19,287.774	0.00	3.68	1,240.21
629.69	3.71	0.874	19,610.611	0.00	3.71	1,272.65
629.74	3.73	0.897	19,936.126	0.00	3.73	1,305.63
629.79	3.75	0.920	20,264.321	0.00	3.75	1,339.15
629.84	3.78	0.943	20,595.196	0.00	3.78	1,373.23
629.89	3.80	0.967	20,928.750	0.00	3.80	1,407.85
629.94	3.82	0.991	21,264.983	0.00	3.82	1,443.04
629.99	3.85	1.016	21,603.896	0.00	3.85	1,478.78
630.04	3.87	1.041	21,803.165	0.00	3.87	1,515.00
630.09	3.89	1.066	21,967.677	0.00	3.89	1,551.50
630.10	3.90	1.071	22,000.654	0.00	3.90	1,558.83
630.14	4.29	1.091	22,132.808	0.00	4.29	1,588.65
630.19	5.21	1.117	22,298.557	0.00	5.21	1,626.59
630.24	6.43	1.142	22,464.924	0.00	6.43	1,665.11
630.29	7.80	1.168	22,631.910	0.00	7.80	1,704.06
630.34	9.54	1.194	22,799.514	0.00	9.54	1,743.67

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
630.39	11.38	1.221	22,967.736	0.00	11.38	1,783.65
630.44	13.39	1.247	23,136.577	0.00	13.39	1,824.08
630.49	15.28	1.274	23,306.036	0.00	15.28	1,864.67
630.54	17.50	1.301	23,476.113	0.00	17.50	1,905.87
630.59	19.88	1.328	23,646.809	0.00	19.88	1,947.52
630.64	22.37	1.355	23,818.123	0.00	22.37	1,989.57
630.69	24.96	1.382	23,990.055	0.00	24.96	2,032.00
630.74	27.66	1.410	24,162.606	0.00	27.66	2,074.83
630.79	30.50	1.438	24,335.774	0.00	30.50	2,118.08
630.84	33.42	1.466	24,509.562	0.00	33.42	2,161.70
630.89	36.44	1.494	24,683.967	0.00	36.44	2,205.72
630.94	39.55	1.522	24,858.991	0.00	39.55	2,250.11
630.99	42.74	1.551	25,034.633	0.00	42.74	2,294.88
631.04	46.01	1.580	25,210.894	0.00	46.01	2,340.03
631.09	49.35	1.609	25,387.773	0.00	49.35	2,385.53
631.14	52.77	1.638	25,565.270	0.00	52.77	2,431.41
631.19	56.26	1.668	25,743.385	0.00	56.26	2,477.66
631.24	59.78	1.697	25,922.119	0.00	59.78	2,524.24
631.29	63.39	1.727	26,101.471	0.00	63.39	2,571.20
631.34	67.05	1.757	26,281.441	0.00	67.05	2,618.50
631.39	70.69	1.787	26,462.030	0.00	70.69	2,666.10
631.44	74.38	1.818	26,643.237	0.00	74.38	2,714.04
631.49	77.91	1.849	26,825.063	0.00	77.91	2,762.13
631.54	79.72	1.880	27,007.506	0.00	79.72	2,808.80
631.59	80.16	1.911	27,190.568	0.00	80.16	2,854.41
631.64	80.60	1.942	27,374.249	0.00	80.60	2,900.32
631.69	81.04	1.973	27,558.547	0.00	81.04	2,946.53
631.74	81.48	2.005	27,743.464	0.00	81.48	2,993.06
631.79	81.91	2.037	27,929.000	0.00	81.91	3,039.88
631.84	82.34	2.069	28,115.153	0.00	82.34	3,087.01
631.89	82.77	2.102	28,301.925	0.00	82.77	3,134.46
631.94	83.20	2.134	28,489.315	0.00	83.20	3,182.22
631.99	83.62	2.167	28,677.324	0.00	83.62	3,230.27
632.00	83.71	2.174	28,715.000	0.00	83.71	3,239.93

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	630.10 ft
Volume (Initial)	1.071 ac-ft
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
624.44	0.00	0.000	0.000	0.00	0.00	0.00
624.49	0.00	0.000	4.225	0.00	0.00	0.00
624.54	0.00	0.000	16.901	0.00	0.00	0.02
624.59	0.00	0.000	38.026	0.00	0.00	0.06
624.64	0.00	0.000	67.602	0.00	0.00	0.15
624.69	0.00	0.000	105.628	0.00	0.00	0.29
624.74	0.00	0.000	152.105	0.00	0.00	0.51
624.79	0.00	0.001	207.031	0.00	0.00	0.81
624.84	0.00	0.001	270.408	0.00	0.00	1.20
624.89	0.00	0.001	342.235	0.00	0.00	1.71
624.94	0.00	0.002	422.513	0.00	0.00	2.35
624.99	0.00	0.002	511.240	0.00	0.00	3.12
625.04	0.00	0.003	580.967	0.00	0.00	4.04
625.09	0.00	0.003	647.966	0.00	0.00	5.06
625.14	0.00	0.004	718.620	0.00	0.00	6.20
625.19	0.00	0.005	792.929	0.00	0.00	7.46
625.24	0.00	0.006	870.894	0.00	0.00	8.85
625.29	0.00	0.007	952.513	0.00	0.00	10.36
625.34	0.00	0.008	1,037.789	0.00	0.00	12.02
625.39	0.00	0.010	1,126.719	0.00	0.00	13.83
625.44	0.00	0.011	1,219.305	0.00	0.00	15.78
625.49	0.00	0.012	1,315.547	0.00	0.00	17.89
625.54	0.00	0.014	1,415.443	0.00	0.00	20.17
625.59	0.00	0.016	1,518.995	0.00	0.00	22.61
625.64	0.00	0.017	1,626.202	0.00	0.00	25.23
625.69	0.00	0.019	1,737.065	0.00	0.00	28.03
625.74	0.00	0.021	1,851.583	0.00	0.00	31.02
625.79	0.00	0.024	1,969.756	0.00	0.00	34.21
625.84	0.00	0.026	2,091.585	0.00	0.00	37.59
625.89	0.00	0.028	2,217.069	0.00	0.00	41.18

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
625.94	0.00	0.031	2,346.208	0.00	0.00	44.98
625.99	0.00	0.034	2,479.002	0.00	0.00	49.01
626.04	0.00	0.037	2,608.868	0.00	0.00	53.25
626.09	0.00	0.040	2,740.363	0.00	0.00	57.70
626.14	0.00	0.043	2,875.091	0.00	0.00	62.38
626.19	0.00	0.046	3,013.051	0.00	0.00	67.29
626.24	0.00	0.050	3,154.245	0.00	0.00	72.43
626.29	0.00	0.054	3,298.671	0.00	0.00	77.80
626.34	0.00	0.057	3,446.331	0.00	0.00	83.42
626.39	0.00	0.061	3,597.223	0.00	0.00	89.29
626.44	0.00	0.066	3,751.348	0.00	0.00	95.42
626.49	0.00	0.070	3,908.706	0.00	0.00	101.80
626.54	0.00	0.075	4,069.297	0.00	0.00	108.45
626.59	0.00	0.079	4,233.121	0.00	0.00	115.37
626.64	0.00	0.084	4,400.177	0.00	0.00	122.56
626.69	0.00	0.090	4,570.467	0.00	0.00	130.04
626.74	0.00	0.095	4,743.990	0.00	0.00	137.80
626.79	0.00	0.100	4,920.745	0.00	0.00	145.85
626.84	0.00	0.106	5,100.733	0.00	0.00	154.20
626.89	0.00	0.112	5,283.954	0.00	0.00	162.85
626.94	0.00	0.118	5,470.409	0.00	0.00	171.82
626.99	0.00	0.125	5,660.095	0.00	0.00	181.09
627.04	0.00	0.131	5,853.015	0.00	0.00	190.69
627.09	0.00	0.138	6,049.168	0.00	0.00	200.60
627.14	0.00	0.145	6,248.554	0.00	0.00	210.85
627.19	0.00	0.153	6,451.172	0.00	0.00	221.43
627.24	0.00	0.160	6,657.024	0.00	0.00	232.36
627.29	0.00	0.168	6,866.108	0.00	0.00	243.63
627.34	0.00	0.176	7,078.425	0.00	0.00	255.25
627.39	0.00	0.184	7,293.976	0.00	0.00	267.22
627.44	0.00	0.193	7,512.759	0.00	0.00	279.56
627.49	0.00	0.201	7,734.774	0.00	0.00	292.27
627.54	0.00	0.210	7,960.023	0.00	0.00	305.34
627.59	0.00	0.220	8,188.505	0.00	0.00	318.80
627.64	0.00	0.229	8,420.220	0.00	0.00	332.64
627.69	0.00	0.239	8,655.167	0.00	0.00	346.87
627.74	0.00	0.249	8,893.348	0.00	0.00	361.49
627.79	0.00	0.259	9,134.761	0.00	0.00	376.52
627.84	0.00	0.270	9,379.407	0.00	0.00	391.95
627.89	0.00	0.281	9,627.286	0.00	0.00	407.78
627.94	0.00	0.292	9,878.398	0.00	0.00	424.04
627.99	0.00	0.304	10,132.743	0.00	0.00	440.71
628.04	0.00	0.315	10,371.747	0.00	0.00	457.80
628.09	0.00	0.327	10,608.842	0.00	0.00	475.29
628.14	0.00	0.340	10,848.616	0.00	0.00	493.17

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
628.19	0.00	0.352	11,091.070	0.00	0.00	511.45
628.24	0.00	0.365	11,336.203	0.00	0.00	530.14
628.29	0.00	0.378	11,584.015	0.00	0.00	549.24
628.34	0.00	0.392	11,834.507	0.00	0.00	568.75
628.39	0.00	0.405	12,087.679	0.00	0.00	588.69
628.44	0.00	0.419	12,343.529	0.00	0.00	609.05
628.49	0.00	0.434	12,602.060	0.00	0.00	629.84
628.54	0.00	0.448	12,863.269	0.00	0.00	651.06
628.59	0.00	0.463	13,127.158	0.00	0.00	672.71
628.64	0.00	0.479	13,393.727	0.00	0.00	694.81
628.69	0.00	0.494	13,662.975	0.00	0.00	717.36
628.74	0.00	0.510	13,934.902	0.00	0.00	740.36
628.79	0.00	0.526	14,209.509	0.00	0.00	763.81
628.84	0.00	0.543	14,486.795	0.00	0.00	787.73
628.89	0.00	0.559	14,766.761	0.00	0.00	812.10
628.94	0.00	0.576	15,049.405	0.00	0.00	836.95
628.99	0.00	0.594	15,334.730	0.00	0.00	862.27
629.04	0.00	0.612	15,622.734	0.00	0.00	888.07
629.09	0.00	0.630	15,913.417	0.00	0.00	914.35
629.14	0.00	0.648	16,206.780	0.00	0.00	941.11
629.19	0.00	0.667	16,502.822	0.00	0.00	968.37
629.24	0.00	0.686	16,801.543	0.00	0.00	996.12
629.29	0.00	0.705	17,102.944	0.00	0.00	1,024.38
629.34	0.00	0.725	17,407.024	0.00	0.00	1,053.14
629.39	0.00	0.745	17,713.784	0.00	0.00	1,082.40
629.44	0.00	0.766	18,023.223	0.00	0.00	1,112.18
629.49	0.00	0.787	18,335.342	0.00	0.00	1,142.48
629.54	0.00	0.808	18,650.140	0.00	0.00	1,173.30
629.59	0.00	0.830	18,967.617	0.00	0.00	1,204.65
629.64	0.00	0.852	19,287.774	0.00	0.00	1,236.53
629.69	0.00	0.874	19,610.611	0.00	0.00	1,268.94
629.74	0.00	0.897	19,936.126	0.00	0.00	1,301.90
629.79	0.00	0.920	20,264.321	0.00	0.00	1,335.40
629.84	0.00	0.943	20,595.196	0.00	0.00	1,369.45
629.89	0.00	0.967	20,928.750	0.00	0.00	1,404.05
629.94	0.00	0.991	21,264.983	0.00	0.00	1,439.21
629.99	0.00	1.016	21,603.896	0.00	0.00	1,474.94
630.04	0.00	1.041	21,803.165	0.00	0.00	1,511.13
630.09	0.00	1.066	21,967.677	0.00	0.00	1,547.61
630.10	0.00	1.071	22,000.654	0.00	0.00	1,554.94
630.14	0.00	1.091	22,132.808	0.00	0.00	1,584.36
630.19	1.27	1.117	22,298.557	0.00	1.27	1,622.66
630.24	2.47	1.142	22,464.924	0.00	2.47	1,661.16
630.29	3.88	1.168	22,631.910	0.00	3.88	1,700.15
630.34	5.54	1.194	22,799.514	0.00	5.54	1,739.67

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
630.39	7.36	1.221	22,967.736	0.00	7.36	1,779.63
630.44	9.34	1.247	23,136.577	0.00	9.34	1,820.03
630.49	11.48	1.274	23,306.036	0.00	11.48	1,860.87
630.54	13.73	1.301	23,476.113	0.00	13.73	1,902.10
630.59	16.15	1.328	23,646.809	0.00	16.15	1,943.80
630.64	18.71	1.355	23,818.123	0.00	18.71	1,985.91
630.69	21.35	1.382	23,990.055	0.00	21.35	2,028.39
630.74	24.12	1.410	24,162.606	0.00	24.12	2,071.28
630.79	27.02	1.438	24,335.774	0.00	27.02	2,114.60
630.84	30.00	1.466	24,509.562	0.00	30.00	2,158.28
630.89	32.91	1.494	24,683.967	0.00	32.91	2,202.19
630.94	33.99	1.522	24,858.991	0.00	33.99	2,244.55
630.99	35.05	1.551	25,034.633	0.00	35.05	2,287.19
631.04	36.06	1.580	25,210.894	0.00	36.06	2,330.07
631.09	37.09	1.609	25,387.773	0.00	37.09	2,373.27
631.14	38.05	1.638	25,565.270	0.00	38.05	2,416.69
631.19	39.01	1.668	25,743.385	0.00	39.01	2,460.40
631.24	39.93	1.697	25,922.119	0.00	39.93	2,504.38
631.29	40.86	1.727	26,101.471	0.00	40.86	2,548.66
631.34	41.73	1.757	26,281.441	0.00	41.73	2,593.19
631.39	42.62	1.787	26,462.030	0.00	42.62	2,638.02
631.44	43.44	1.818	26,643.237	0.00	43.44	2,683.10
631.49	44.30	1.849	26,825.063	0.00	44.30	2,728.52
631.54	45.11	1.880	27,007.506	0.00	45.11	2,774.19
631.59	45.91	1.911	27,190.568	0.00	45.91	2,820.15
631.64	46.70	1.942	27,374.249	0.00	46.70	2,866.42
631.69	47.48	1.973	27,558.547	0.00	47.48	2,912.97
631.74	48.24	2.005	27,743.464	0.00	48.24	2,959.82
631.79	49.01	2.037	27,929.000	0.00	49.01	3,006.98
631.84	49.73	2.069	28,115.153	0.00	49.73	3,054.41
631.89	50.46	2.102	28,301.925	0.00	50.46	3,102.15
631.94	51.19	2.134	28,489.315	0.00	51.19	3,150.21
631.99	51.90	2.167	28,677.324	0.00	51.90	3,198.56
632.00	52.03	2.174	28,715.000	0.00	52.03	3,208.25

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-2.96 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-2.96 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
624.44	-2.96	0.000	0.000	0.00	-2.96	-2.96
624.49	-2.96	0.000	4.225	0.00	-2.96	-2.95
624.54	-2.96	0.000	16.901	0.00	-2.96	-2.94
624.59	-2.96	0.000	38.026	0.00	-2.96	-2.89
624.64	-2.96	0.000	67.602	0.00	-2.96	-2.81
624.69	-2.96	0.000	105.628	0.00	-2.96	-2.66
624.74	-2.77	0.000	152.105	0.00	-2.77	-2.26
624.79	-2.86	0.001	207.031	0.00	-2.86	-2.06
624.84	-2.86	0.001	270.408	0.00	-2.86	-1.66
624.89	-2.77	0.001	342.235	0.00	-2.77	-1.05
624.94	-2.67	0.002	422.513	0.00	-2.67	-0.32
624.99	-2.77	0.002	511.240	0.00	-2.77	0.36
625.04	-2.57	0.003	580.967	0.00	-2.57	1.46
625.09	-2.67	0.003	647.966	0.00	-2.67	2.39
625.14	-1.72	0.004	718.620	0.00	-1.72	4.48
625.19	-1.53	0.005	792.929	0.00	-1.53	5.93
625.24	-1.53	0.006	870.894	0.00	-1.53	7.32
625.29	-1.34	0.007	952.513	0.00	-1.34	9.03
625.34	-1.53	0.008	1,037.789	0.00	-1.53	10.50
625.39	-1.32	0.010	1,126.719	0.00	-1.32	12.50
625.44	-1.26	0.011	1,219.305	0.00	-1.26	14.52
625.49	-1.18	0.012	1,315.547	0.00	-1.18	16.71
625.54	-1.11	0.014	1,415.443	0.00	-1.11	19.06
625.59	-1.03	0.016	1,518.995	0.00	-1.03	21.59
625.64	-0.94	0.017	1,626.202	0.00	-0.94	24.30
625.69	-0.84	0.019	1,737.065	0.00	-0.84	27.20
625.74	-0.73	0.021	1,851.583	0.00	-0.73	30.30
625.79	-0.59	0.024	1,969.756	0.00	-0.59	33.62
625.84	-0.42	0.026	2,091.585	0.00	-0.42	37.17
625.89	0.00	0.028	2,217.069	0.00	0.00	41.18

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
625.94	0.42	0.031	2,346.208	0.00	0.42	45.40
625.99	0.59	0.034	2,479.002	0.00	0.59	49.60
626.04	0.73	0.037	2,608.868	0.00	0.73	53.97
626.09	0.84	0.040	2,740.363	0.00	0.84	58.54
626.14	0.94	0.043	2,875.091	0.00	0.94	63.32
626.19	1.03	0.046	3,013.051	0.00	1.03	68.31
626.24	1.11	0.050	3,154.245	0.00	1.11	73.54
626.29	1.18	0.054	3,298.671	0.00	1.18	78.99
626.34	1.26	0.057	3,446.331	0.00	1.26	84.68
626.39	1.32	0.061	3,597.223	0.00	1.32	90.62
626.44	1.39	0.066	3,751.348	0.00	1.39	96.81
626.49	1.42	0.070	3,908.706	0.00	1.42	103.22
626.54	1.45	0.075	4,069.297	0.00	1.45	109.90
626.59	1.57	0.079	4,233.121	0.00	1.57	116.93
626.64	1.61	0.084	4,400.177	0.00	1.61	124.17
626.69	1.67	0.090	4,570.467	0.00	1.67	131.71
626.74	1.73	0.095	4,743.990	0.00	1.73	139.52
626.79	1.78	0.100	4,920.745	0.00	1.78	147.63
626.84	1.82	0.106	5,100.733	0.00	1.82	156.03
626.89	1.87	0.112	5,283.954	0.00	1.87	164.73
626.94	1.92	0.118	5,470.409	0.00	1.92	173.73
626.99	1.96	0.125	5,660.095	0.00	1.96	183.06
627.04	2.01	0.131	5,853.015	0.00	2.01	192.69
627.09	2.05	0.138	6,049.168	0.00	2.05	202.65
627.14	2.09	0.145	6,248.554	0.00	2.09	212.94
627.19	2.13	0.153	6,451.172	0.00	2.13	223.57
627.24	2.13	0.160	6,657.024	0.00	2.13	234.49
627.29	2.22	0.168	6,866.108	0.00	2.22	245.84
627.34	2.25	0.176	7,078.425	0.00	2.25	257.50
627.39	2.29	0.184	7,293.976	0.00	2.29	269.52
627.44	2.30	0.193	7,512.759	0.00	2.30	281.86
627.49	2.32	0.201	7,734.774	0.00	2.32	294.59
627.54	2.40	0.210	7,960.023	0.00	2.40	307.75
627.59	2.44	0.220	8,188.505	0.00	2.44	321.24
627.64	2.46	0.229	8,420.220	0.00	2.46	335.11
627.69	2.51	0.239	8,655.167	0.00	2.51	349.38
627.74	2.55	0.249	8,893.348	0.00	2.55	364.04
627.79	2.58	0.259	9,134.761	0.00	2.58	379.10
627.84	2.61	0.270	9,379.407	0.00	2.61	394.56
627.89	2.65	0.281	9,627.286	0.00	2.65	410.43
627.94	2.68	0.292	9,878.398	0.00	2.68	426.72
627.99	2.71	0.304	10,132.743	0.00	2.71	443.43
628.04	2.75	0.315	10,371.747	0.00	2.75	460.55
628.09	2.78	0.327	10,608.842	0.00	2.78	478.06
628.14	2.81	0.340	10,848.616	0.00	2.81	495.98

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
628.19	2.84	0.352	11,091.070	0.00	2.84	514.29
628.24	2.87	0.365	11,336.203	0.00	2.87	533.01
628.29	2.90	0.378	11,584.015	0.00	2.90	552.14
628.34	2.93	0.392	11,834.507	0.00	2.93	571.68
628.39	2.96	0.405	12,087.679	0.00	2.96	591.65
628.44	2.99	0.419	12,343.529	0.00	2.99	612.04
628.49	3.02	0.434	12,602.060	0.00	3.02	632.85
628.54	3.05	0.448	12,863.269	0.00	3.05	654.10
628.59	3.08	0.463	13,127.158	0.00	3.08	675.79
628.64	3.10	0.479	13,393.727	0.00	3.10	697.92
628.69	3.13	0.494	13,662.975	0.00	3.13	720.49
628.74	3.16	0.510	13,934.902	0.00	3.16	743.52
628.79	3.19	0.526	14,209.509	0.00	3.19	767.00
628.84	3.22	0.543	14,486.795	0.00	3.22	790.94
628.89	3.24	0.559	14,766.761	0.00	3.24	815.35
628.94	3.27	0.576	15,049.405	0.00	3.27	840.22
628.99	3.30	0.594	15,334.730	0.00	3.30	865.57
629.04	3.31	0.612	15,622.734	0.00	3.31	891.38
629.09	3.35	0.630	15,913.417	0.00	3.35	917.70
629.14	3.38	0.648	16,206.780	0.00	3.38	944.49
629.19	3.40	0.667	16,502.822	0.00	3.40	971.77
629.24	3.43	0.686	16,801.543	0.00	3.43	999.55
629.29	3.45	0.705	17,102.944	0.00	3.45	1,027.83
629.34	3.48	0.725	17,407.024	0.00	3.48	1,056.61
629.39	3.50	0.745	17,713.784	0.00	3.50	1,085.91
629.44	3.53	0.766	18,023.223	0.00	3.53	1,115.71
629.49	3.55	0.787	18,335.342	0.00	3.55	1,146.03
629.54	3.58	0.808	18,650.140	0.00	3.58	1,176.88
629.59	3.60	0.830	18,967.617	0.00	3.60	1,208.25
629.64	3.63	0.852	19,287.774	0.00	3.63	1,240.15
629.69	3.65	0.874	19,610.611	0.00	3.65	1,272.59
629.74	3.67	0.897	19,936.126	0.00	3.67	1,305.57
629.79	3.70	0.920	20,264.321	0.00	3.70	1,339.10
629.84	3.72	0.943	20,595.196	0.00	3.72	1,373.17
629.89	3.74	0.967	20,928.750	0.00	3.74	1,407.80
629.94	3.77	0.991	21,264.983	0.00	3.77	1,442.98
629.99	3.79	1.016	21,603.896	0.00	3.79	1,478.73
630.04	3.81	1.041	21,803.165	0.00	3.81	1,514.95
630.09	3.84	1.066	21,967.677	0.00	3.84	1,551.45
630.10	3.84	1.071	22,000.654	0.00	3.84	1,558.78
630.14	4.24	1.091	22,132.808	0.00	4.24	1,588.60
630.19	5.15	1.117	22,298.557	0.00	5.15	1,626.54
630.24	6.32	1.142	22,464.924	0.00	6.32	1,665.01
630.29	7.83	1.168	22,631.910	0.00	7.83	1,704.10
630.34	9.49	1.194	22,799.514	0.00	9.49	1,743.62

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Detention Basin
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
630.39	11.33	1.221	22,967.736	0.00	11.33	1,783.60
630.44	13.34	1.247	23,136.577	0.00	13.34	1,824.02
630.49	15.26	1.274	23,306.036	0.00	15.26	1,864.65
630.54	17.50	1.301	23,476.113	0.00	17.50	1,905.87
630.59	19.87	1.328	23,646.809	0.00	19.87	1,947.51
630.64	22.36	1.355	23,818.123	0.00	22.36	1,989.56
630.69	24.96	1.382	23,990.055	0.00	24.96	2,032.00
630.74	27.66	1.410	24,162.606	0.00	27.66	2,074.83
630.79	30.50	1.438	24,335.774	0.00	30.50	2,118.08
630.84	33.42	1.466	24,509.562	0.00	33.42	2,161.70
630.89	36.44	1.494	24,683.967	0.00	36.44	2,205.72
630.94	39.55	1.522	24,858.991	0.00	39.55	2,250.11
630.99	42.76	1.551	25,034.633	0.00	42.76	2,294.90
631.04	46.01	1.580	25,210.894	0.00	46.01	2,340.03
631.09	49.35	1.609	25,387.773	0.00	49.35	2,385.53
631.14	52.77	1.638	25,565.270	0.00	52.77	2,431.41
631.19	56.26	1.668	25,743.385	0.00	56.26	2,477.66
631.24	59.78	1.697	25,922.119	0.00	59.78	2,524.24
631.29	63.39	1.727	26,101.471	0.00	63.39	2,571.20
631.34	67.05	1.757	26,281.441	0.00	67.05	2,618.50
631.39	70.69	1.787	26,462.030	0.00	70.69	2,666.10
631.44	74.38	1.818	26,643.237	0.00	74.38	2,714.04
631.49	77.91	1.849	26,825.063	0.00	77.91	2,762.13
631.54	79.72	1.880	27,007.506	0.00	79.72	2,808.80
631.59	80.16	1.911	27,190.568	0.00	80.16	2,854.41
631.64	80.60	1.942	27,374.249	0.00	80.60	2,900.32
631.69	81.04	1.973	27,558.547	0.00	81.04	2,946.53
631.74	81.48	2.005	27,743.464	0.00	81.48	2,993.06
631.79	81.91	2.037	27,929.000	0.00	81.91	3,039.88
631.84	82.34	2.069	28,115.153	0.00	82.34	3,087.01
631.89	82.77	2.102	28,301.925	0.00	82.77	3,134.46
631.94	83.20	2.134	28,489.315	0.00	83.20	3,182.22
631.99	83.62	2.167	28,677.324	0.00	83.62	3,230.27
632.00	83.71	2.174	28,715.000	0.00	83.71	3,239.93

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: Post-Development 2 year

Return Event: 2 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-1.86 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-1.86 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	20.02 ft³/s	Time to Peak (Flow, In)	5.000 min
Flow (Peak Outlet)	3.30 ft³/s	Time to Peak (Flow, Outlet)	24.000 min

Elevation (Water Surface, Peak)	628.62 ft
Volume (Peak)	0.472 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.552 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.541 ac-ft
Volume (Retained)	0.013 ac-ft
Volume (Unrouted)	0.003 ac-ft
Error (Mass Balance)	0.5 %

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: Post-Development 15 year

Return Event: 15 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-2.38 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-2.38 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	29.64 ft³/s	Time to Peak (Flow, In)	5.000 min
Flow (Peak Outlet)	3.57 ft³/s	Time to Peak (Flow, Outlet)	26.000 min

Elevation (Water Surface, Peak)	629.35 ft
Volume (Peak)	0.731 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.817 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.800 ac-ft
Volume (Retained)	0.020 ac-ft
Volume (Unrouted)	0.003 ac-ft
Error (Mass Balance)	0.4 %

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: Post-Development 25 year

Return Event: 25 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-2.57 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-2.57 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	34.84 ft³/s	Time to Peak (Flow, In)	5.000 min
Flow (Peak Outlet)	3.70 ft³/s	Time to Peak (Flow, Outlet)	24.000 min

Elevation (Water Surface, Peak)	629.68 ft
Volume (Peak)	0.870 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	0.960 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	0.941 ac-ft
Volume (Retained)	0.023 ac-ft
Volume (Unrouted)	0.004 ac-ft
Error (Mass Balance)	0.4 %

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	630.10 ft
Volume (Initial)	1.071 ac-ft
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	39.93 ft³/s	Time to Peak (Flow, In)	5.000 min
Flow (Peak Outlet)	34.05 ft³/s	Time to Peak (Flow, Outlet)	21.000 min

Elevation (Water Surface, Peak)	630.94 ft
Volume (Peak)	1.524 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	1.071 ac-ft
Volume (Total Inflow)	1.100 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	1.080 ac-ft
Volume (Retained)	1.091 ac-ft
Volume (Unrouted)	0.000 ac-ft
Error (Mass Balance)	0.0 %

Subsection: Level Pool Pond Routing Summary
Label: Detention Basin (IN)
Scenario: Post- Development 100 year

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	624.44 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	-2.96 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	-2.96 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	39.93 ft³/s	Time to Peak (Flow, In)	5.000 min
Flow (Peak Outlet)	3.79 ft³/s	Time to Peak (Flow, Outlet)	25.000 min

Elevation (Water Surface, Peak)	629.98 ft
Volume (Peak)	1.010 ac-ft

Mass Balance (ac-ft)	
Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	1.100 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	1.076 ac-ft
Volume (Retained)	0.028 ac-ft
Volume (Unrouted)	0.004 ac-ft
Error (Mass Balance)	0.4 %

Summary for Hydrograph Addition at 'Detention Basin'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Watershed A

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	0.552	5.000	20.02
Flow (In)	Detention Basin	0.552	5.000	20.02

Summary for Hydrograph Addition at 'Detention Basin'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Watershed A

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	0.817	5.000	29.64
Flow (In)	Detention Basin	0.817	5.000	29.64

Summary for Hydrograph Addition at 'Detention Basin'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Watershed A

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	0.960	5.000	34.84
Flow (In)	Detention Basin	0.960	5.000	34.84

Summary for Hydrograph Addition at 'Detention Basin'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Watershed A

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	1.100	5.000	39.93
Flow (In)	Detention Basin	1.100	5.000	39.93

Summary for Hydrograph Addition at 'Detention Basin'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	Watershed A

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	1.100	5.000	39.93
Flow (In)	Detention Basin	1.100	5.000	39.93

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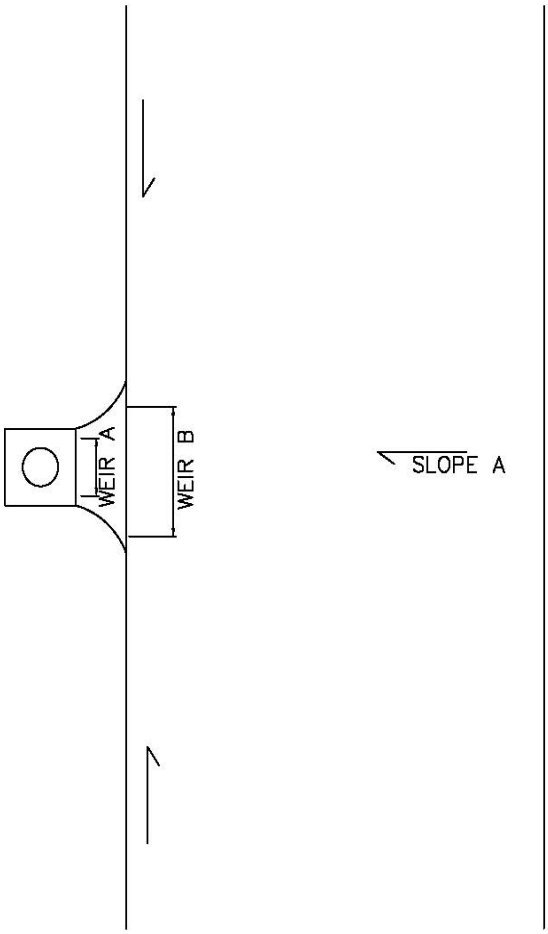
Appendix C
-Gutter Spread Calculations

Gutter Spread Calculations



Structure: **CI2/ CI 15A**

15 Year Storm

Top =	630.08
Sill =	628.98
Pavement Edge =	629.49
Slope A =	2.00%
Flow Rate =	0.89 cfs

Check the High Water Elevation at Weir A and Weir B to determine controlling High Water Elevation.

Weir A-Inlet Face

Weir Length =	3.17 ft
Elevation =	628.98
C =	3.00
Depth=	$(Q/(C*L))^{0.66}$
Depth=	0.209 ft
High Water =	629.18

Weir B-Edge of Pavement

Weir Length =	8.98 ft
Elevation =	629.49
C =	3.00
Depth=	$(Q/(C*L))^{0.66}$
Depth=	0.105 ft
High Water =	629.60

Weir B Controls

Calculate the Spread Length from Back of Curb

Depth =	0.105 ft
Spread =	5.25 ft

Structure: **CI3**

15 Year Storm

Top =	629.99
Sill =	628.89
Pavement Edge =	629.75
Slope A =	2.00%
Flow Rate =	3.24 cfs

Check the High Water Elevation at Weir A and Weir B to determine controlling High Water Elevation.

Weir A-Inlet Face

Weir Length =	3.17 ft
Elevation =	628.89
C =	3.00
Depth=	$(Q/(C*L))^{0.66}$
Depth=	0.491 ft
High Water =	629.38

Weir B-Edge of Pavement

Weir Length =	9.11 ft
Elevation =	629.75
C =	3.00
Depth=	$(Q/(C*L))^{0.66}$
Depth=	0.245 ft
High Water =	630.00

Weir B Controls

Calculate the Spread Length from Back of Curb

Depth =	0.245 ft
Spread =	12.25 ft

Appendix D
-Drainage Maps

Exhibit A
Predeveloped Drainage Map
SHADY CREEK COMMERCIAL
20-18154A

MISSOURI STATE ROUTE N
(VARIABLE WIDTH)
(PROJECT NO. S-1474(2))
LAKE SAINT LOUIS BOULEVARD
(100' WIDE, PUBLIC)
(ESTABLISHED PER P.B. 49, PG. 220)
DISCHARGE POINT A
S83°44'19"W 907.08'
N06°49'26"W 141.76'
N01°22'43"E 71.78'
N83°52'09"E 231.81'
N06°07'49"W 60.00'
N83°52'11"E 70.55'
S83°52'11"W 248.67'
S06°40'44"E 378.39'
R=1975.00'
L=56.52'
R=1626.23'
L=58.76'
R=25.00'
L=35.99'
L=85.90'
WATERSHED A PREDEVELOPED
LAND USE ACRE P.I
ONSITE GREENSPACE 7.98 1.70
OFFSITE 10,000SF LOTS 0.34 2.39
OFFSITE GREENSPACE 2.54 1.70
OFFSITE PAVEMENT/BUILDING 0.61 3.54
OFFSITE TRANSPORTATION SPACE 0.43 3.00
15 YR Q =22.15 cfs

GRAPHIC SCALE
50 0 25 50
(IN FEET)
1 inch = 50 ft.

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

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.

Todd C. Flauaus
Civil Engineer
2005000982
2021

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Exhibit B
Postdeveloped Drainage Map
SHADY CREEK COMMERCIAL
20-18154A

GRAPHIC SCALE
50 0 25 50
(IN FEET)
1 inch = 50 ft.

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

MISSOURI STATE ROUTE N
(VARIABLE WIDTH)
(PROJECT NO. S-1474(2))

STAG IND
(ESTABLISH

WATER LINE SHOWN SCALED FROM PWSD #2 PAGE MAP

U.S. SURVEY 931 SECTION 9

S83°44'19"W 907.08'

R=1975.00'
L=56.52'

S06°40'44"E 378.39'

R=1626.23'
L=58.76'

S83°52'11"W 312.53'

S83°52'11"E 248.67'

N83°52'14"E 70.55

N83°52'09"E 231.81'

N06°49'26"W 141.75'

R=600.00'
L=85.90'

N01°22'43"E 71.78'

R=25.00'
L=55.99'

DISCHARGE POINT A

LAKE SAINT LOUIS BOULEVARD
(100' WIDE PUBLIC)
(ESTABLISHED PER P.B. 14, PG. 220)

WATERSHED A POSTDEVELOPED	ACRE	P.I
LAND USE		
ONSITE WATER AT SURFACE	0.44	3.54
ONSITE PAVEMENT/BUILDING	6.22	3.54
ONSITE GREENSPACE	1.32	1.70
OFFSITE 10,000SF LOTS	0.34	2.39
OFFSITE GREENSPACE	2.54	1.70
OFFSITE PAVEMENT/BUILDING	0.61	3.54
OFFSITE TRANSPORTATION SPACE	0.43	3.00
15 YR Q =32.84 cfs		

POND
POND
RIP RAP
SAND PIT VOLLEYBALL
TENNIS COURT
CLOSE
CONCRETE
CONC WALK

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Civil Engineer
2005000982
2021

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Exhibit C
Basin Inflow Drainage Map
SHADY CREEK COMMERCIAL
20-18154A

GRAPHIC SCALE
50 0 25 50
(IN FEET)
1 inch = 50 ft.

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

MISSOURI STATE ROUTE N
(VARIABLE WIDTH)
(PROJECT NO. S-1474(2))

STAG IND
(ESTABLISH

WATER LINE SCALED FROM PWSD #2 PAGE MAP

S83°44'19"W 907.08'

R=1975.00'
L=56.52'

S06°40'44"E 378.39'

R=1626.23'
L=58.76'

S83°52'11"W 312.53'

S83°52' 248.67'

N83°52'11"E 70.55

N83°52'09"E 231.81'

N06°49'26"W 141.75'

R=600.00'
L=55.99'

N01°22'43"E 71.78'

N83°12'00"E 367.35'

DISCHARGE POINT A

LAKE SAINT LOUIS BOULEVARD
(100' WIDE PUBLIC)
(ESTABLISHED PER P.B. 46, PG. 220)

S01°22'43"W 200.35'

R=700.00'
L=216.25'

S16°19'19"E 37.74'

N89°10'34"W 1658.17'

WATERSHED A BASIN INFLOW		
LAND USE	ACRE	P.I.
ONSITE WATER AT SURFACE	0.44	3.54
ONSITE PAVEMENT/BUILDING	6.08	3.54
ONSITE GREENSPACE	1.24	1.70
OFFSITE 10,000SF LOTS	0.34	2.39
OFFSITE GREENSPACE	2.14	1.70
15 YR Q =29.64 cfs		

TENNIS COURT
SAND PIT VOLLEYBALL
POND
RIP RAP

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