A STORMWATER MANAGMENT ANALYSIS

OF THE PROPOSED DEVELOPMENT OF

FIRST COMMUNITY CREDIT UNION

IN

CITY OF O'FALLON, MISSOURI

FOR

FIRST COMMUNITY CREDIT UNION
17151 CHESTERFIELD AIRPORT RD
CHESTERFIELD, MO 63005

BAX PROJECT NO. 20-18193

June 26, 2023

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

Todd C. Flauaus
Civil Engineer
2005000982

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

CITY OF O'FALLON
ENGINEERING DEPARTMENT
ACCEPTED FOR CONSTRUCTION
BY: Karl Ebert DATE: 11-1-2023
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

INTRODUCTION:

The currently undeveloped site is located in the City of O'Fallon, Missouri and is comprised of 8.748 acres of land. The site shall be analyzed for the construction of the proposed building disturbing approximately 6.27 acres of land. A dry detention basin is proposed to provide the Stormwater Attenuation required by the City of O'Fallon Design Standards for the proposed development. The Detention basin is also designed to provide detention for the potential future development on the remaining 5.92 acres on the site. The storage volume and outflow rates shall be 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. The safe passage of the 100 Year 20 Minute Design Storm will also be analyzed assuming the low flow slot is blocked.

A Sand Filter located in the bottom of the dry detention basin provides water quality treatment for the current development and the potential future development.

GENERAL SITE DATA AND RUNOFF CALCULATIONS

The Predeveloped Runoff Factors used for the analysis are:

Land Use	Percent Impervious	PI Factors (cfs/ac)			
		2 year	15 year	25 year	100 year
Greenspace	0-5%	1.15	1.70	2.00	2.29

The Postdeveloped Runoff Factors used for the analysis are:

Land Use	Percent Impervious	PI Factors (cfs/ac)			
		2 year	15 year	25 year	100 year
Greenspace	0-5%	1.15	1.70	2.00	2.29
Building/Pavement	100%	2.39	3.54	4.16	4.77
Basin Water Surface	100%	2.39	3.54	4.16	4.77

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

WATER QUALITY

To ensure that sedimentation and pollution in receiving streams due to development of this site is minimized, our design will consider the Water Quality Volume requirement as described in "Georgia Stormwater Management Manual Volumes 1, 2 and 3". Water quality volume is defined as "The storage needed to capture and treat the runoff from 90% of the recorded daily rainfall events." Water Quality treatment will be provided by a sand filter.

POCKET SAND FILTER

Water Quality treatment is provided by the Pocket Sand Filter in the dry detention basin. In addition to the proposed development, the sand filter is designed to treat the potential future development.

Area Treated

		Impervious Area	Pervious Area
Greenspace	0% Impervious	-	5.01 ac
Pavement/Building	100% Impervious	1.70 ac	-
Total		1.70 ac	5.01 ac

WATER QUALITY VOLUME

$WQ_v = PR_vA/12$

Where: P = 1.14"
$R_v = 0.05 + 0.009(I)$
I = % Impervious
A = Watershed Area = 6.71 ac
A_I = Impervious Area = 1.70 ac

$I = A_I/A$

I = 1.70 ac / 6.71 ac = 0.2534= 2534%
$R_v = 0.05 + 0.009(25.34) = 0.2780$
$WQ_v = 1.14(0.2780)(6.71)/12 = 0.1772$ ac-ft = 7,720 ft^3

The total water quality volume for this watershed is 7,720 ft^3.

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Water quality Treatment
A Pocket Sand Filter is proposed to treat the runoff from this watershed.

Required Filter Bed Area (A_f) = (WQ_v) (d_f) / (k*(h_f+d_f)*t_f)

WQ_v,	=	7,720 ft^3	=	Total Water Quality Volume (ft^3)
d_f	=	1.75 ft	=	Filter bed depth (ft) (0.25' ¾ clean gravel +1.5' sand)
k	=	2 ft/day	=	Coefficient of Permeability ft/day
h_f	=	0.75 ft	=	Average height of water above filter bed (ft)
t_f	=	2 days	=	Filter bed drain time (days)

(A_f) required = (7,720)(1.75)/(2(0.75+1.75)2)= 1,351 ft^2
(A_f) provided = 3,600 ft^2

Water Quality Storage Volume Required = 75% WQ_v
0.75 * 7,720 = 5,790 ft^3

Water Quality Volume Provided

Filter Bed Storage Volume = (v)(A_f)(d_f)

A_f	=	3,600 ft^2	=	Filter Bed Area (ft^2)
d_f	=	1.75 ft	=	Filter bed depth (ft) (0.25' ¾ clean gravel + 1.5' sand)
h	=	1.50 ft	=	Depth of ponding (ft)
v	=	0.40	=	Porosity of the sand layer (40% from Georgia Manual)

= (0.40)(3,600)(1.75)
= 2,520 ft^3

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Basin Storage Volume

Contour Elevation	Contour Area (ft^2)	Incremental Volume (ft^3)	Total Volume (ft^3)
574.9	3,600	0	0
575	5,175	436	436
575.2	8,570	1,360	1,797
576	9,498	7,224	9,021
576.25	9,865	2,420	11,441
576.5	10,102	2,496	13,937
577	10,845	5,236	19,172

Total Water Quality Volume = Basin storage volume at 576.40
= 13,011 ft^3

Total Volume Provided = 13,011 ft^3 + 2,520 ft^3 = 15,531 ft^3
Total Volume Provided = 15,531 ft^3 > 5,790 ft^3

Pretreatment Forebay

The pretreatment for the sand filter from the current site is provided by a water quality Snout installed in GI 102 along with additional storage volume provided within the sump of the structure.

The manufacture specifies the size of the snout based on the outflow pipe from the structure. For a 15" RCP they recommend a 24" Snout.

The sump depth should be 2.5 to 3 times the inside diameter of the outflow pipe which equates to 3.13' to 3.75'. We are proposing a 4' depth sump to add additional prevention of sediment resuspension as recommend by the manufacture.

The structure surface area shall be at least 6 to 7 times the flow area of the outfall pipe. The structure area is 12.57 ft^2 which is more than 10 times larger than the 1.23 ft^2 flow area of the pipe.

The sump of the structure will provide 50.28 ft^3 of sediment storage volume.

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

FUTURE SAND FILTER - DESIGN

Water Quality treatment is provided by the Pocket Sand Filter in the dry detention basin. In addition to the proposed development, the sand filter is designed to treat the potential future development.

Land Use	% Impervious	Impervious Area	Pervious Area
Greenspace	0%		1.61 ac
Pavement/Building	100%	5.10 ac	
	Total =	5.10 ac	1.61 ac

FUTURE WATER QUALITY VOLUME

$WQ_v = PR_vA/12$ Where: P = 1.14”

$R_v = 0.05 + 0.009(I)$

I = % Impervious

A = Watershed Area = 6.71 ac

A_I = Impervious Area = 5.10 ac

$I = A_I/A$

I = 5.10 ac / 6.71 ac = 0.7601= 76.01%

$R_v = 0.05 + 0.009(76.01) = 0.7341$

$WQ_v = 1.14(0.7341)(6.71)/12 = 0.4679$ ac-ft = 20,383 ft^3

The total water quality volume for this watershed is 20,383 ft^3.

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Water quality Treatment
A Pocket Sand Filter will be constructed to treat the runoff from this watershed.

Required Filter Bed Area (A_f) = (WQ_v) (d_f) / (k*(h_f+d_f)*t_f)

WQ_v,	=	20,383 ft^3	=	Total Water Quality Volume (ft^3)
d_f	=	1.75 ft	=	Filter bed depth (ft) (0.25' ¾ clean gravel +1.5' sand)
k	=	2 ft/day	=	Coefficient of Permeability ft/day
h_f	=	0.75 ft	=	Average height of water above filter bed (ft)
t_f	=	2 days	=	Filter bed drain time (days)

(A_f) required = (20,383)(1.75)/(2(0.75+1.75)2)= 3,567 ft^2
(A_f) provided = 3,600 ft^2

Water Quality Storage Volume Required = 75% WQ_v
0.75 * 20,383 = 15,287 ft^3

Water Quality Volume Provided

Filter Bed Storage Volume = (v)(A_f)(d_f)

A_f	=	3,600 ft^2	=	Filter Bed Area (ft^2)
d_f	=	1.75 ft	=	Filter bed depth (ft) (0.25' ¾ clean gravel + 1.5' sand)
h	=	1.50 ft	=	Depth of ponding (ft)
v	=	0.40	=	Porosity of the sand layer (40% from Georgia Manual)

= (0.40)(3,600)(1.75)
= 2,520 ft^3

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Basin Storage Volume

Contour Elevation	Contour Area (ft^2)	Incremental Volume (ft^3)	Total Volume (ft^3)
574.9	3,600	0	0
575	5,175	436	436
575.2	8,570	1,360	1,797
576	9,498	7,224	9,021
576.25	9,865	2,420	11,441
576.5	10,102	2,496	13,937
577	10,845	5,236	19,172

Total Water Quality Volume = Basin storage volume at 576.40
= 13,011 ft^3

Total Volume Provided = 13,011 ft^3 + 2,520 ft^3 = 15,531 ft^3
Total Volume Provided = 15,531 ft^3 > 15,287 ft^3

Future Pretreatment
The pretreatment provided for the future development will be determine as the future site is designed.

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

DETENTION CALCULATIONS

PREDEVELOPED CONDITIONS:

The Predeveloped site has three separate discharge points to be analyzed for the total runoff from the watershed. Using the rational method, the Predeveloped Peak Runoff rate at each discharge point can be determined for the 2, 15, 25, and 100 year 20 minute design storms.

Watershed A

Stormwater Runoff in Watershed A flows overland and discharges into the northwestern corner of the overall site, located near Caledonia Drive.

2 Year				
Greenspace	7.46 ac	x 1.15 cfs/ac	=	8.58 cfs
15 Year				
Greenspace	7.46 ac	x 1.70 cfs/ac	=	12.68 cfs
25 Year				
Greenspace	7.46 ac	x 2.00 cfs/ac	=	14.92 cfs
100 Year				
Greenspace	7.46 ac	x 2.29 cfs/ac	=	17.08 cfs

2 year-20 minute storm:	8.58 cfs
15 year-20 minute storm:	12.68 cfs
25 year-20 minute storm:	14.92 cfs
100 year-20 minute storm:	17.08 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Watershed B
Stormwater Runoff in Watershed B flows into existing Flared End Section along Missouri State Highway DD at the intersection with Caledonia Drive.

2 Year				
Greenspace	1.29 ac	x 1.15 cfs/ac	=	1.48 cfs
15 Year				
Greenspace	1.29 ac	x 1.70 cfs/ac	=	2.19 cfs
25 Year				
Greenspace	1.29 ac	x 2.00 cfs/ac	=	2.58 cfs
100 Year				
Greenspace	1.29 ac	x 2.29 cfs/ac	=	2.95 cfs

2 year-20 minute storm:	1.48 cfs
15 year-20 minute storm:	2.18 cfs
25 year-20 minute storm:	2.58 cfs
100 year-20 minute storm:	2.95 cfs

Watershed C
Stormwater Runoff in Watershed C flows into a roadside ditch along Highway 64.

2 Year				
Greenspace	0.43 ac	x 1.15 cfs/ac	=	0.49 cfs
15 Year				
Greenspace	0.43 ac	x 1.70 cfs/ac	=	0.73 cfs
25 Year				
Greenspace	0.43 ac	x 2.00 cfs/ac	=	0.86 cfs
100 Year				
Greenspace	0.43 ac	x 2.29 cfs/ac	=	0.98 cfs

2 year-20 minute storm:	0.49 cfs
15 year-20 minute storm:	0.73 cfs
25 year-20 minute storm:	0.86 cfs
100 year-20 minute storm:	0.98 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

POSTDEVELOPED CONDITIONS:

The Postdeveloped site maintains the same three discharge points. The total runoff from the watersheds will be calculated using the rational method to determine the Postdeveloped Peak Runoff rates for each watershed. The Postdeveloped runoff for the 2, 15, 25, and 100 year 20 minute design storms will be calculated for comparison to the previously calculated Predeveloped Runoff to determine the quantity of detention that will be required.

Watershed A

2 Year				
Greenspace	6.59 ac	x 1.15 cfs/ac	=	7.58 cfs
Building/Pavement	1.52 ac	x 2.39 cfs/ac	=	3.63 cfs
Basin Water Surface	0.28 ac	x 2.39 cfs/ac	=	0.67 cfs
		Total	=	11.88 cfs
15 Year				
Greenspace	6.59 ac	x 1.70 cfs/ac	=	11.20 cfs
Building/Pavement	1.52 ac	x 3.54 cfs/ac	=	5.38 cfs
Basin Water Surface	0.28 ac	x 3.54 cfs/ac	=	0.99 cfs
		Total	=	17.58 cfs
25 Year				
Greenspace	6.59 ac	x 2.00 cfs/ac	=	13.18 cfs
Building/Pavement	1.52 ac	x 4.16 cfs/ac	=	6.32 cfs
Basin Water Surface	0.28 ac	x 4.16 cfs/ac	=	1.16 cfs
		Total	=	20.66 cfs
100 Year				
Greenspace	6.59 ac	x 2.29 cfs/ac	=	15.09 cfs
Building/Pavement	1.52 ac	x 4.77 cfs/ac	=	7.25 cfs
Basin Water Surface	0.28 ac	x 4.77 cfs/ac	=	1.34 cfs
		Total	=	23.68 cfs

2 year-20 minute storm:	11.88 cfs
15 year-20 minute storm:	17.58 cfs
25 year-20 minute storm:	20.66 cfs
100 year-20 minute storm:	23.68 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Watershed B

2 Year				
Greenspace	0.53 ac	x 1.15 cfs/ac	=	0.61 cfs
Building/Pavement	0.14 ac	x 2.39 cfs/ac	=	0.33 cfs
		Total	=	0.94 cfs
15 Year				
Greenspace	0.53 ac	x 1.70 cfs/ac	=	0.90 cfs
Building/Pavement	0.14 ac	x 3.54 cfs/ac	=	0.50 cfs
		Total	=	1.40 cfs
25 Year				
Greenspace	0.53 ac	x 2.00 cfs/ac	=	1.06 cfs
Building/Pavement	0.14 ac	x 4.16 cfs/ac	=	0.58 cfs
		Total	=	1.64 cfs
100 Year				
Greenspace	0.53 ac	x 2.29 cfs/ac	=	1.21 cfs
Building/Pavement	0.14 ac	x 4.77 cfs/ac	=	0.67 cfs
		Total	=	1.88 cfs

2 year-20 minute storm:	0.94 cfs
15 year-20 minute storm:	1.40 cfs
25 year-20 minute storm:	1.64 cfs
100 year-20 minute storm:	1.88 cfs

Watershed C

2 Year				
Greenspace	0.12 ac	x 1.15 cfs/ac	=	0.14 cfs
15 Year				
Greenspace	0.12 ac	x 1.70 cfs/ac	=	0.20 cfs
25 Year				
Greenspace	0.12 ac	x 2.00 cfs/ac	=	0.24 cfs
100 Year				
Greenspace	0.12 ac	x 2.29 cfs/ac	=	0.27 cfs

2 year-20 minute storm:	0.14 cfs
15 year-20 minute storm:	0.20 cfs
25 year-20 minute storm:	0.24 cfs
100 year-20 minute storm:	0.27 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

DIFFERENTIAL RUNOFF

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

Watershed A

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 Year 20 minute	11.88 cfs	8.58 cfs	3.30 cfs
15 Year 20 minute	17.58 cfs	12.68 cfs	4.89 cfs
25 Year 20 minute	20.66 cfs	14.92 cfs	5.74 cfs
100 Year 20 minute	23.68 cfs	17.08 cfs	6.60 cfs

Detention is required in Watershed A.

Watershed B

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 Year 20 minute	0.94 cfs	1.48 cfs	-0.54 cfs
15 Year 20 minute	1.40 cfs	2.19 cfs	-0.79 cfs
25 Year 20 minute	1.64 cfs	2.58 cfs	-0.94 cfs
100 Year 20 minute	1.88 cfs	2.95 cfs	-1.07 cfs

Detention is not required in Watershed B.

Watershed C

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 Year 20 minute	0.14 cfs	0.49 cfs	-0.35 cfs
15 Year 20 minute	0.20 cfs	0.73 cfs	-0.53 cfs
25 Year 20 minute	0.24 cfs	0.86 cfs	-0.62 cfs
100 Year 20 minute	0.27 cfs	0.98 cfs	-0.71 cfs

Detention is not required in Watershed C.

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

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 eastern side of the proposed bank development. Flow travels overland for 295 feet until reaching GI 104, then 570 feet via storm sewer to the discharge point in the detention basin. Time of Concentration is calculated as follows:

Watershed A

$T_{overland}$:	L = 295 feet
	Elevation difference = 3.25 feet
	Surface Coefficient = 0.4 (pavement)
	$T_{overland}$ = 3.6 min*0.4 = 1.44 minutes
$T_{storm\ sewer}$:	L = 570 feet
	Average Velocity = 7 ft/s
	$T_{storm\ sewer}$ = 570 feet/7 ft/s/60 sec/min = 1.36 min

Total time = 1.44 + 1.36= 2.80 min => **use 3 minute**

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Basin Peak Inflow

Watershed A

2 Year				
Greenspace	5.01 ac	x 1.15 cfs/ac	=	5.76 cfs
Impervious	1.42 ac	x 2.39 cfs/ac	=	3.39 cfs
Basin Water Surface	0.28 ac	x 2.39 cfs/ac	=	0.67 cfs
		Total	=	9.82 cfs
15 Year				
Greenspace	5.01 ac	x 1.70 cfs/ac	=	8.52 cfs
Impervious	1.42 ac	x 3.54 cfs/ac	=	5.03 cfs
Basin Water Surface	0.28 ac	x 3.54 cfs/ac	=	0.99 cfs
		Total	=	14.54 cfs
25 Year				
Greenspace	5.01 ac	x 2.00 cfs/ac	=	10.02 cfs
Impervious	1.42 ac	x 4.16 cfs/ac	=	5.91 cfs
Basin Water Surface	0.28 ac	x 4.16 cfs/ac	=	1.16 cfs
		Total	=	17.09 cfs
100 Year				
Greenspace	5.01 ac	x 2.29 cfs/ac	=	11.47 cfs
Impervious	1.42 ac	x 4.77 cfs/ac	=	6.77 cfs
Basin Water Surface	0.28 ac	x 4.77 cfs/ac	=	1.34 cfs
		Total	=	19.58 cfs

2 year-20 minute storm:	9.82 cfs
15 year-20 minute storm:	14.54 cfs
25 year-20 minute storm:	17.09 cfs
100 year-20 minute storm:	19.58 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

ALLOWABLE RELEASE RATE

The Allowable Release Rate is defined as the maximum amount of stormwater that can be released from the proposed basin for each 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	-	DIFFERENTIAL RUNOFF RATE	=	ALLOWABLE RELEASE RATE
2 YEAR	9.82 cfs	-	3.30 cfs	=	6.52 cfs
15 YEAR	14.54 cfs	-	4.89 cfs	=	9.64 cfs
25 YEAR	17.09 cfs	-	5.74 cfs	=	11.34 cfs
100 YEAR	19.58 cfs	-	6.60 cfs	=	12.98 cfs

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 can be found in Appendix B for the 2, 15, 25 and 100 year storms for the watershed and also the calculations for safe passage of the 100 year storms with the low flow blocked (LFB) and the basin ponded full to the top of the outfall structure. As found in the routing calculations, the results are as follows:

STORM FREQUENCY (20 MINUTE DURATION)	PEAK INFLOW	ALLOWABLE RELEASE RATE	CALCULATED RELEASE RATE	PEAK ELEVATION
2 Year	9.82 cfs	6.52 cfs	0.08 cfs	576.27
15 Year	14.54 cfs	9.64 cfs	1.09 cfs	576.81
25 Year	17.09 cfs	11.34 cfs	2.72 cfs	577.05
100 Year	19.58 cfs	12.98 cfs	4.59 cfs	577.27
100 Year LFB	19.58 cfs	NA	19.32 cfs	578.64

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

FUTURE DEVELOPMENT

In addition to the Postdeveloped scenario, a future development with a potential building, parking stalls, pavement and sidewalk is accounted for in the design of the dry detention basin. The above described future scenario will increase the impervious area entering the dry detention basin. Therefore, the dry detention basin will be designed to reduce the additional stormwater runoff.

Future Postdeveloped Watershed A

2 Year				
Greenspace	2.74 ac	x 1.15 cfs/ac	=	3.15 cfs
Building/Pavement	5.37 ac	x 2.39 cfs/ac	=	12.83 cfs
Basin Water Surface	0.28 ac	x 2.39 cfs/ac	=	0.67 cfs
		Total	=	16.65 cfs
15 Year				
Greenspace	2.74 ac	x 1.70 cfs/ac	=	4.66 cfs
Building/Pavement	5.37 ac	x 3.54 cfs/ac	=	19.01 cfs
Basin Water Surface	0.28 ac	x 3.54 cfs/ac	=	0.99 cfs
		Total	=	24.66 cfs
25 Year				
Greenspace	2.74 ac	x 2.00 cfs/ac	=	5.48 cfs
Building/Pavement	5.37 ac	x 4.16 cfs/ac	=	22.34 cfs
Basin Water Surface	0.28 ac	x 4.16 cfs/ac	=	1.16 cfs
		Total	=	28.98 cfs
100 Year				
Greenspace	2.74 ac	x 2.29 cfs/ac	=	6.27 cfs
Building/Pavement	5.37 ac	x 4.77 cfs/ac	=	25.61 cfs
Basin Water Surface	0.28 ac	x 4.77 cfs/ac	=	1.34 cfs
		Total	=	33.22 cfs

2 year-20 minute storm:	16.65 cfs
15 year-20 minute storm:	24.66 cfs
25 year-20 minute storm:	28.98 cfs
100 year-20 minute storm:	33.22 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

Watershed B

2 Year				
Greenspace	0.32 ac	x 1.15 cfs/ac	=	0.37 cfs
Building/Pavement	0.35 ac	x 2.39 cfs/ac	=	0.84 cfs
		Total	=	1.21 cfs
15 Year				
Greenspace	0.32 ac	x 1.70 cfs/ac	=	0.54 cfs
Building/Pavement	0.35 ac	x 3.54 cfs/ac	=	1.24 cfs
		Total	=	1.78 cfs
25 Year				
Greenspace	0.32 ac	x 2.00 cfs/ac	=	0.64 cfs
Building/Pavement	0.35 ac	x 4.16 cfs/ac	=	1.46 cfs
		Total	=	2.10 cfs
100 Year				
Greenspace	0.32 ac	x 2.29 cfs/ac	=	0.73 cfs
Building/Pavement	0.35 ac	x 4.77 cfs/ac	=	1.67 cfs
		Total	=	2.40 cfs

2 year-20 minute storm:	1.21 cfs
15 year-20 minute storm:	1.78 cfs
25 year-20 minute storm:	2.10 cfs
100 year-20 minute storm:	2.40 cfs

Watershed C

2 Year				
Greenspace	0.12 ac	x 1.15 cfs/ac	=	0.14 cfs
15 Year				
Greenspace	0.12 ac	x 1.70 cfs/ac	=	0.20 cfs
25 Year				
Greenspace	0.12 ac	x 2.00 cfs/ac	=	0.24 cfs
100 Year				
Greenspace	0.12 ac	x 2.29 cfs/ac	=	0.27 cfs

2 year-20 minute storm:	0.14 cfs
15 year-20 minute storm:	0.20 cfs
25 year-20 minute storm:	0.24 cfs
100 year-20 minute storm:	0.27 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

FUTURE DIFFERENTIAL RUNOFF

The future differential runoff is determined by subtracting the Predeveloped Runoff rate from the Future Runoff rate. A differential runoff of 0 cfs or more requires the need for stormwater detention within that watershed.

Future Watershed A

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 Year 20 minute	16.65 cfs	8.58 cfs	8.07 cfs
15 Year 20 minute	24.66 cfs	12.68 cfs	11.98 cfs
25 Year 20 minute	28.98 cfs	14.92 cfs	14.06 cfs
100 Year 20 minute	33.22 cfs	17.08 cfs	16.14 cfs

Detention is required in Watershed A.

Future Watershed B

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 Year 20 minute	1.21 cfs	1.48 cfs	-0.27 cfs
15 Year 20 minute	1.78 cfs	2.19 cfs	-0.41 cfs
25 Year 20 minute	2.10 cfs	2.58 cfs	-0.48 cfs
100 Year 20 minute	2.40 cfs	2.95 cfs	-0.55 cfs

Detention is not required in Watershed B.

Future Watershed C

Design Storm	Postdeveloped Runoff	Predeveloped Runoff	Differential Runoff
2 Year 20 minute	0.14 cfs	0.49 cfs	-0.35 cfs
15 Year 20 minute	0.20 cfs	0.73 cfs	-0.53 cfs
25 Year 20 minute	0.24 cfs	0.86 cfs	-0.62 cfs
100 Year 20 minute	0.27 cfs	0.98 cfs	-0.71 cfs

Detention is not required in Watershed C.

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

FUTURE DETENTION BASIN ROUTING

Future Basin Peak Inflow

2 Year					
Greenspace	1.33 ac	x	1.15 cfs/ac	=	1.53 cfs
Impervious	5.10 ac	x	2.39 cfs/ac	=	12.19 cfs
Basin Water Surface	0.28 ac	x	2.39 cfs/ac	=	0.67 cfs
			Total	=	14.39 cfs
15 Year					
Greenspace	1.33 ac	x	1.70 cfs/ac	=	2.26 cfs
Impervious	5.10 ac	x	3.54 cfs/ac	=	18.05cfs
Basin Water Surface	0.28 ac	x	3.54 cfs/ac	=	0.99 cfs
			Total	=	21.30 cfs
25 Year					
Greenspace	1.33 ac	x	2.00 cfs/ac	=	2.66 cfs
Impervious	5.10 ac	x	4.16 cfs/ac	=	21.22 cfs
Basin Water Surface	0.28 ac	x	4.16 cfs/ac	=	1.16 cfs
			Total	=	25.04 cfs
100 Year					
Greenspace	1.33 ac	x	2.29 cfs/ac	=	3.05 cfs
Impervious	5.10 ac	x	4.77 cfs/ac	=	24.33 cfs
Basin Water Surface	0.28 ac	x	4.77 cfs/ac	=	1.34 cfs
			Total	=	28.72 cfs

2 year-20 minute storm:	14.39 cfs
15 year-20 minute storm:	21.30 cfs
25 year-20 minute storm:	25.04 cfs
100 year-20 minute storm:	28.72 cfs

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

FUTURE ALLOWABLE RELEASE RATE

The Future Allowable Release Rate is defined as the maximum amount of stormwater that can be released from the proposed basin for each 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	-	DIFFERENTIAL RUNOFF RATE	=	ALLOWABLE RELEASE RATE
2 YEAR	14.39 cfs	-	8.07 cfs	=	6.31 cfs
15 YEAR	21.30 cfs	-	11.98 cfs	=	9.32 cfs
25 YEAR	25.04 cfs	-	14.06 cfs	=	10.98 cfs
100 YEAR	28.72 cfs	-	16.14 cfs	=	12.56 cfs

FUTURE 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 can be found in Appendix C 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. As found in the routing calculations, the results are as follows:

STORM FREQUENCY (20 MINUTE DURATION)	PEAK INFLOW	ALLOWABLE RELEASE RATE	CALCULATED RELEASE RATE	PEAK ELEVATION
2 Year	14.39 cfs	6.31 cfs	1.00 cfs	576.80
15 Year	21.30 cfs	9.32 cfs	5.94 cfs	577.40
25 Year	25.04 cfs	10.98 cfs	8.96 cfs	577.67
100 Year	28.72 cfs	12.56 cfs	11.95 cfs	577.91
100 Year LFB	28.72 cfs	NA	11.95 cfs	578.79

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

FUTURE SEDIMENT STORAGE CALCULATIONS

The City of O'Fallon design standards require that all detention basins are designed to accommodate two years of sediment storage. The future scenario will be used to calculate sediment storage due to the increased stormwater runoff compared to the postdeveloped scenario. 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	= 29,659 ft^3
100 Year highwater elevation	= 577.91 ft
2 Year Sediment Storage Volume	= 1,275 ft^3
Required Storage Volume	= 30,934 ft^3
Volume Achieved at Elevation	= 578.01 ft
Crest of Outfall Structure and Sill	= 578.15 ft

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

SUMMARY

Current Dry Detention Basin

	Flow Rate	High Water
2 Year 20 Minute	0.08 cfs	576.27
15 Year 20 Minute	1.09 cfs	576.81
25 Year 20 Minute	2.72 cfs	577.05
100 Year 20 Minute	4.59 cfs	577.27
100 Year 20 Minute LFB	19.32 cfs	578.64

Future Dry Detention Basin

	Flow Rate	High Water
2 Year 20 Minute	1.00 cfs	576.80
15 Year 20 Minute	5.94 cfs	577.40
25 Year 20 Minute	8.96 cfs	577.67
100 Year 20 Minute	11.95 cfs	577.91
100 Year 20 Minute LFB	11.95 cfs	578.79

Sand Filter Size	3,600 sq ft
Bed Elevation	574.60
Low Flow Slot	0.5’ W x 0.2’ H
Flow Line	576.40 ft
Upper Flow Slot	2.5’ W x 1.55’ H
Flow Line	576.60
Outfall Structure	Double Area Inlet Base
Top of Structure	578.15
Outfall Pipe	24” RCP
Flow Line	572.34
Top of Berm	579.90
Freeboard	1.11 ft

BAX ENGINEERING CO.
221 Point West Blvd.
St. Charles, MO 63301
(636) 928-5552 Fax: (636) 928-1718
www.baxengineering.com

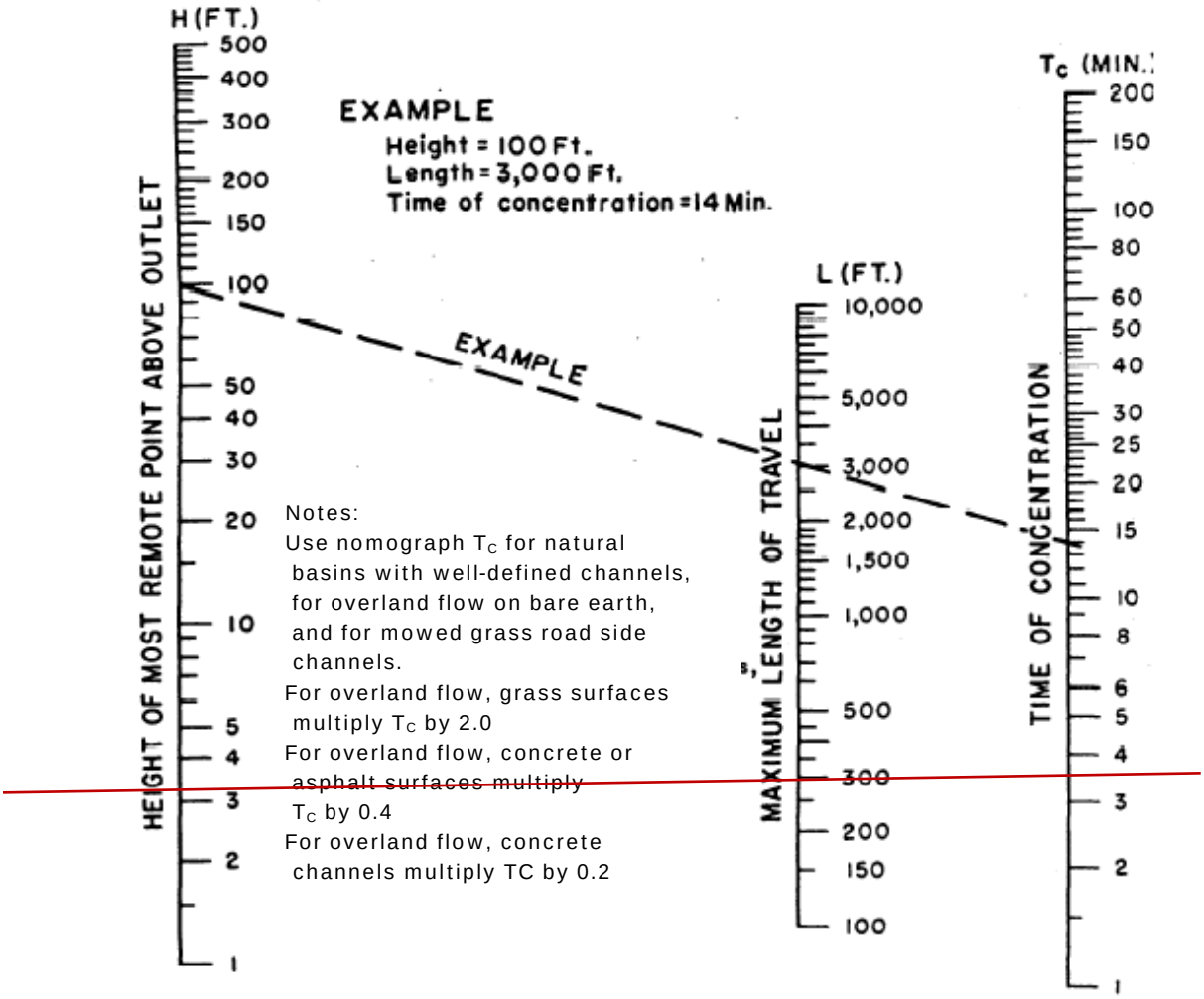
Appendix A

-Structure Details
-Time of Concentration
-Misc Figures

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

Project: First Community Credit Union
Date: 8/25/22 Project No: 16-18193
Designer: TCF Checked: TCF

TIME OF CONCENTRATION FOR SMALL DRAINAGE BASINS



OVERLAND FLOW

Δ Height = 589.5- 586.25=3.25

Length = 295 ft

$T_{Overland}$ = 0.4*3.6=1.44 min

STORM SEWER TRAVEL TIME

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

L = 570 ft

V = 7 ft/s

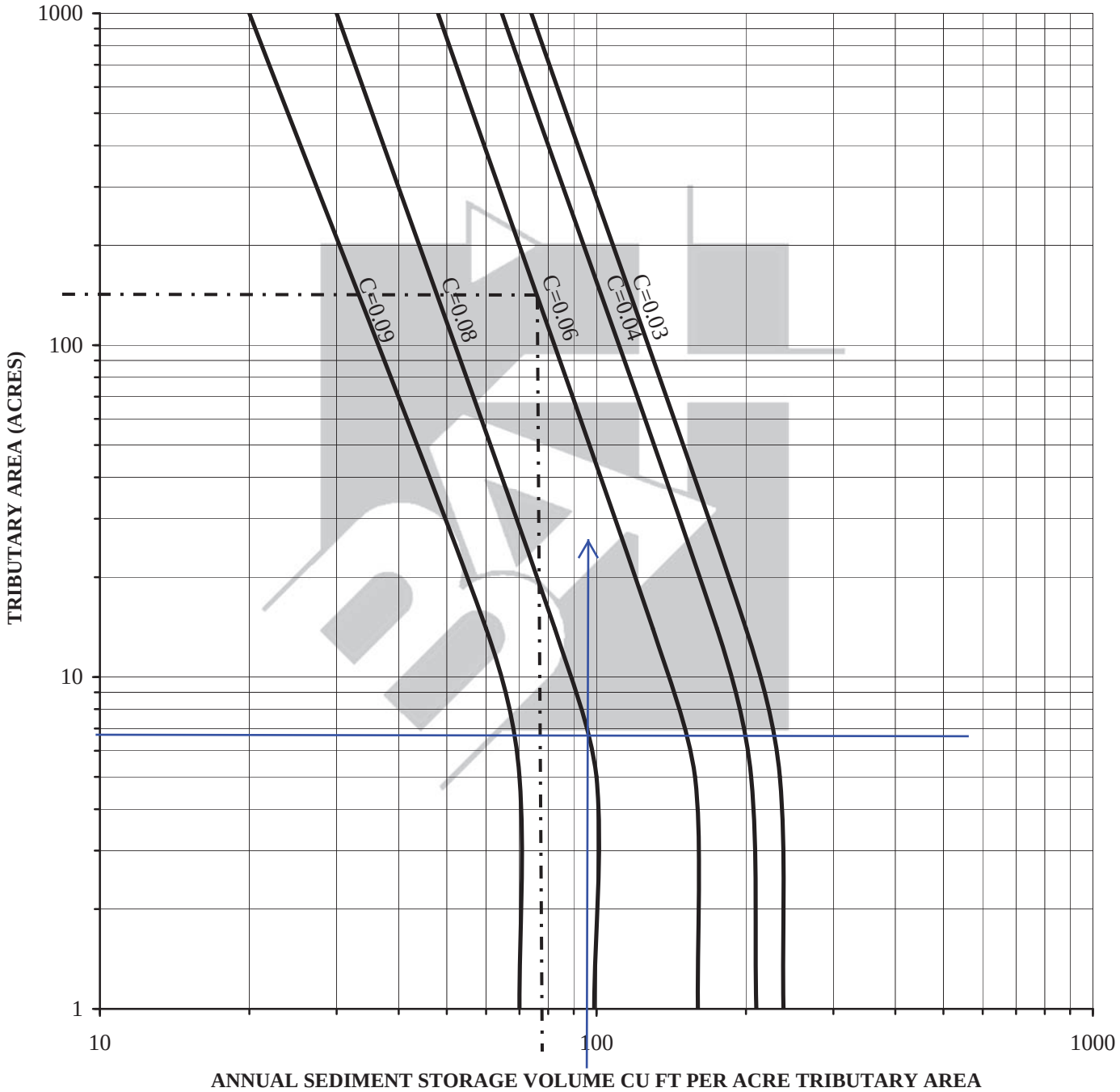
T_{storm} = 570 ft / 7 ft/s / 60 sec/min =1.36 min

Total Time of Concentration = $T_{Overland}$ + T_{storm} = 1.44 + 1.36 = 2.80 → USE 3.0 min.

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

Project: First Community Credit Union
Date: 8/24/2022 Project: 20-18193
Designer: TCF Checked: TCF

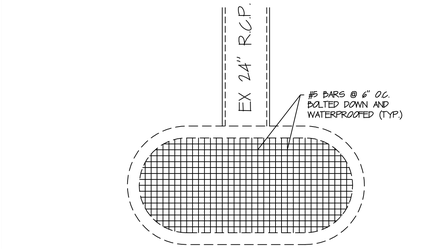
ANNUAL SEDIMENT STORAGE



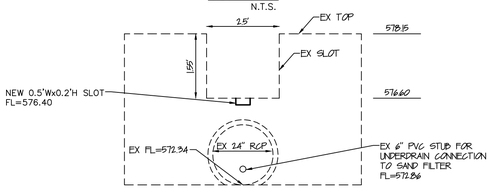
Storage Required = Years of Storage * Annual Sediment * Drainage Area

RUNOFF C VALUE = 0.8
DRAINAGE AREA = 6.71
ANNUAL SEDIMENT = 95*6.71=637.5 cu ft

YEARS OF STORAGE = 2
STORAGE REQUIRED = 2*637.5 = 1,275 cu ft



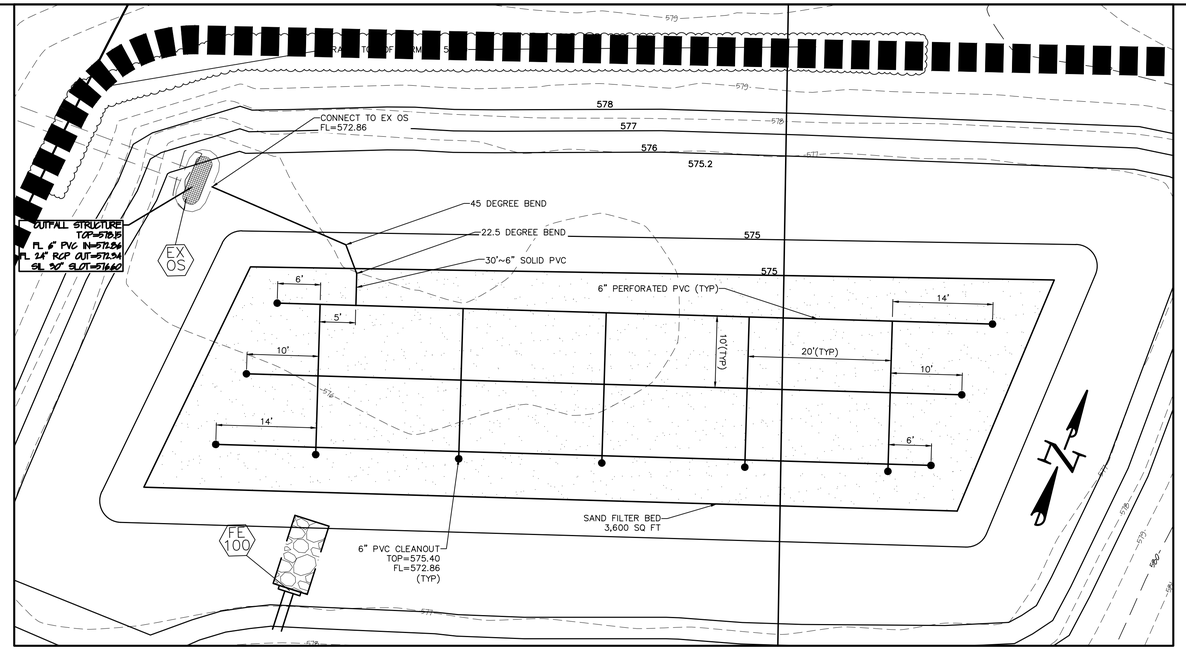
TOP VIEW
N.T.S.



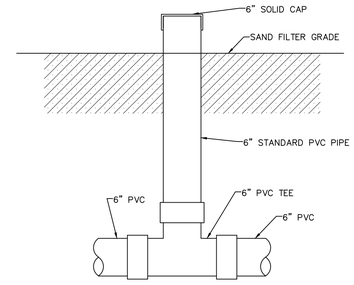
MODIFICATIONS TO EXISTING OVERFLOW STRUCTURE DETAIL
N.T.S.

2 YEAR HIGHWATER 576.18
15 YEAR HIGHWATER 576.78
25 YEAR HIGHWATER 577.05
100 YEAR HIGHWATER 577.28
100 YEAR HIGHWATER LFB 578.64

FUTURE DEVELOPED ELEVATIONS
2 YEAR HIGHWATER 576.27
15 YEAR HIGHWATER 576.81
25 YEAR HIGHWATER 577.05
100 YEAR HIGHWATER 577.27
100 YEAR HIGHWATER LFB 578.79

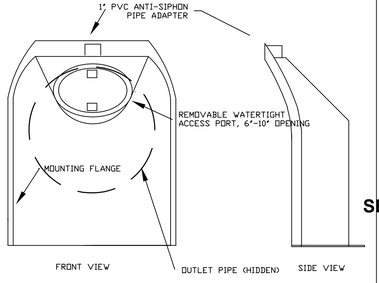


POCKET SAND FILTER SITE PLAN
1"=10'



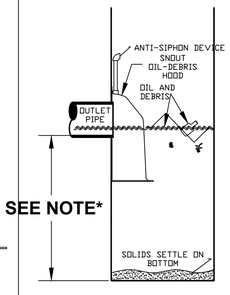
UNDERDRAIN/OVERFLOW CONNECTION DETAIL
NOT TO SCALE

SMALL STRUCTURE (SS) SNOUT
CONFIGURATION DETAIL
AKA "NP SNOUT"

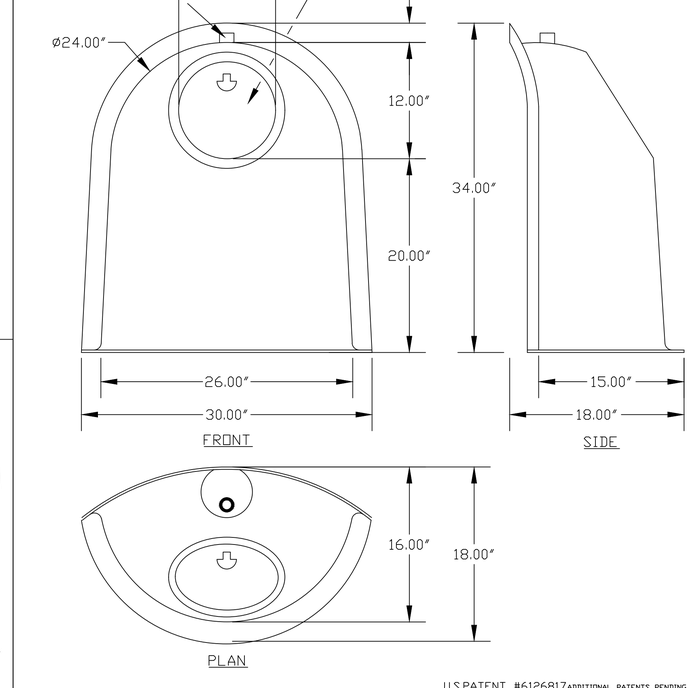


NP SNOUT OIL-WATER-DEBRIS SEPARATOR

TYPICAL INSTALLATION



*NOTE- SUMP DEPTH OF 36" MIN. FOR < OR= 12" DIAM. OUTLET. FOR OUTLETS >OR= 15", DEPTH = 2.5-3X DIAM.

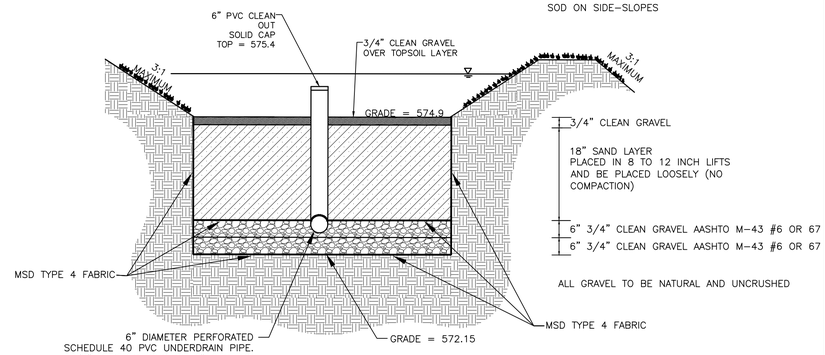


U.S.PATENT #6126817 ADDITIONAL PATENTS PENDING

DESIGNED TO FIT 48"-60" DIAM. STRUCTURES

RECOMMENDED SUMP DEPTH 2.5 TO 3X OUTLET PIPE I.D.

SOD ON SIDE-SLOPES



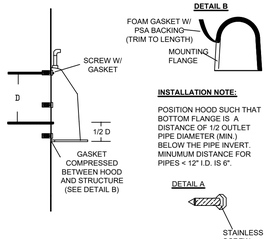
POCKET SAND FILTER CROSS-SECTION
NOT TO SCALE

NOTES:

1. ALL HOODS AND TRAPS FOR PVC CATCH BASINS AND OTHER WATER QUALITY STRUCTURES SHALL BE
   AS MANUFACTURED BY:
   BEST MANAGEMENT PRODUCTS, INC.
   9 MATHEWS DRIVE; UNIT A1-A2
   EAST HADDAM, CT 06423
   (800)504-8008 OR (888) 434-0277, (877) 434-3197 FAX
   WEB SITE: www.bmpinc.com
   OR PRE-APPROVED EQUAL
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN (SEE CONFIGURATION DETAIL)
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 12" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE HOOD SHALL BE INSTALLED IN PVC CATCH BASIN WITH SUMP AS MANUFACTURED BY NYLOPLAST OR PRE-APPROVED EQUAL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH STAINLESS STEEL SCREWS, STAINLESS RUBBER BACKED WASHERS, AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.
   INSTALLATION KIT SHALL INCLUDE:
   A. INSTALLATION INSTRUCTIONS
   B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
   C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
   D. STAINLESS STEEL SCREWS
   E. SCREW GASKETS

US Patent # 6126817

INSTALLATION DETAIL



INSTALLATION NOTE:

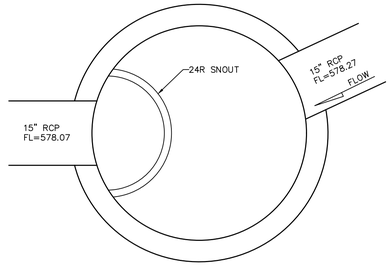
POSITION HOOD SUCH THAT BOTTOM FLANGE IS A DISTANCE OF 1/2 OUTLET PIPE DIAMETER (MIN.) BELOW THE PIPE INVERT. MINUMUM DISTANCE FOR PIPES < 12" I.D. IS 6".

HOOD SPECIFICATION FOR SMALL DIAMETER CATCH BASINS AND WATER QUALITY STRUCTURES

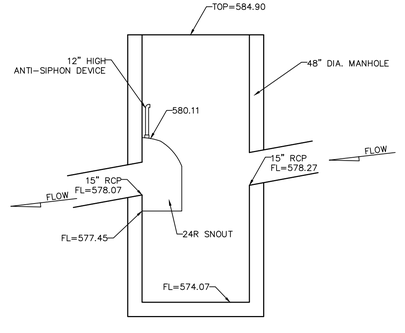
DESCRIPTION	DATE	SCALE
OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	06/15/18	NONE
	DRAWING NUMBER	
	SP-NPSN	

BMP, INC.
53 MT. ARCHER ROAD, LYME, CT. 06371
(800) 504-8008 FAX: (860)434-3195

DESCRIPTION	DATE	SCALE
24R SNOUT OIL & DEBRIS STOP	09/13/99	NONE
	DRAWING NUMBER	
	24R	



SNOUT DETAIL GI 101 PLAN VIEW
NOT TO SCALE



SNOUT DETAIL GI 101 SIDE VIEW
NOT TO SCALE

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.

PROJECT TITLE:
FIRST COMMUNITY CREDIT UNION
771 CALEDONIA PARKWAY
O'FALLON, MISSOURI 63368

Box Project # 20-16983 | Issue Date: 8/X/2022

ENGINEERING
PLANNING
SURVEYING
221 Point West 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.

CLIFFORD L. HEITMANN
CIVIL ENGINEER
E29817

REVISIONS

Developer / Owner:
FIRST COMMUNITY CREDIT UNION
17151 CHESTERFIELD AIRPORT ROAD
CHESTERFIELD, MO 63005
636-728-3333

DETENTION BASIN AND WATER QUALITY DETAILS

P+Z No. # 21-000854
Approval Date: June 2, 2022
City No. #

Page No.
11 of 18

Appendix B

Basin Routing

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

Table of Contents

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)
Watershed A	2 year	0	11,784.000	3.000	9.82
Watershed A	15 year	0	17,448.000	3.000	14.54
Watershed A	25 year	0	20,508.000	3.000	17.09
Watershed A	100 year	0	23,496.000	3.000	19.58
Watershed A	100 year LFB	0	23,496.000	3.000	19.58

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)
O-1	2 year	0	441.000	2.000	0.08
O-1	15 year	0	2,380.000	23.000	1.09
O-1	25 year	0	4,976.000	23.000	2.72
O-1	100 year	0	7,690.000	22.000	4.59
O-1	100 year LFB	0	23,457.000	20.000	19.32

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ft³)	Time to Peak (min)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ft³)
Detention Basin (IN)	2 year	0	11,784.000	3.000	9.82	(N/A)	(N/A)
Detention Basin (OUT)	2 year	0	441.000	2.000	0.08	576.27	11,675.000
Detention Basin (IN)	15 year	0	17,448.000	3.000	14.54	(N/A)	(N/A)
Detention Basin (OUT)	15 year	0	2,380.000	23.000	1.09	576.81	17,158.000
Detention Basin (IN)	25 year	0	20,508.000	3.000	17.09	(N/A)	(N/A)
Detention Basin (OUT)	25 year	0	4,976.000	23.000	2.72	577.05	19,742.000
Detention Basin (IN)	100 year	0	23,496.000	3.000	19.58	(N/A)	(N/A)
Detention Basin (OUT)	100 year	0	7,690.000	22.000	4.59	577.27	22,113.000
Detention Basin (IN)	100 year LFB	0	23,496.000	3.000	19.58	(N/A)	(N/A)
Detention Basin (OUT)	100 year LFB	0	23,457.000	20.000	19.32	578.64	38,854.000

Subsection: Read Hydrograph
Label: Watershed A
Scenario: 2 year

Return Event: 2 years
Storm Event:

Peak Discharge	9.82 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	11,784.000 ft³

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	3.27	6.55	9.82	9.82
5.000	9.82	9.82	9.82	9.82	9.82
10.000	9.82	9.82	9.82	9.82	9.82
15.000	9.82	9.82	9.82	9.82	9.82
20.000	9.82	6.55	3.27	0.00	0.00
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)

Subsection: Read Hydrograph
Label: Watershed A
Scenario: 15 year

Return Event: 15 years
Storm Event:

Peak Discharge	14.54 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	17,448.000 ft³

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	4.85	9.69	14.54	14.54
5.000	14.54	14.54	14.54	14.54	14.54
10.000	14.54	14.54	14.54	14.54	14.54
15.000	14.54	14.54	14.54	14.54	14.54
20.000	14.54	9.69	4.85	0.00	0.00
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)

Subsection: Read Hydrograph
Label: Watershed A
Scenario: 25 year

Return Event: 25 years
Storm Event:

Peak Discharge	17.09 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	20,508.000 ft³

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	5.70	11.39	17.09	17.09
5.000	17.09	17.09	17.09	17.09	17.09
10.000	17.09	17.09	17.09	17.09	17.09
15.000	17.09	17.09	17.09	17.09	17.09
20.000	17.09	11.39	5.70	0.00	0.00
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)

Subsection: Read Hydrograph
Label: Watershed A
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Peak Discharge	19.58 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	23,496.000 ft³

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	6.46	13.12	19.58	19.58
5.000	19.58	19.58	19.58	19.58	19.58
10.000	19.58	19.58	19.58	19.58	19.58
15.000	19.58	19.58	19.58	19.58	19.58
20.000	19.58	13.12	6.46	0.00	0.00
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)

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

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ft³)	Volume (Total) (ft³)
574.90	0.000	3,600.000	0.000	0.000	0.000
575.00	0.000	5,175.000	13,091.248	436.000	436.000
575.20	0.000	8,570.000	20,404.561	1,360.000	1,797.000
576.00	0.000	9,498.000	27,090.076	7,224.000	9,021.000
576.25	0.000	9,865.000	29,042.761	2,420.000	11,441.000
576.50	0.000	10,102.000	29,949.797	2,496.000	13,937.000
577.00	0.000	10,845.000	31,413.909	5,236.000	19,172.000
578.00	0.000	12,239.000	34,604.936	11,535.000	30,707.000
579.00	0.000	13,792.000	39,023.316	13,008.000	43,715.000
579.90	0.000	14,507.000	42,443.983	12,733.000	56,448.000

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

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

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

Subsection: Elevation-Area Volume Curve
Return Event: 100 years
Label: Detention Basin
Storm Event:
Scenario: 100 year LFB

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ft³)	Volume (Total) (ft³)
574.90	0.000	3,600.000	0.000	0.000	0.000
575.00	0.000	5,175.000	13,091.248	436.000	436.000
575.20	0.000	8,570.000	20,404.561	1,360.000	1,797.000
576.00	0.000	9,498.000	27,090.076	7,224.000	9,021.000
576.25	0.000	9,865.000	29,042.761	2,420.000	11,441.000
576.50	0.000	10,102.000	29,949.797	2,496.000	13,937.000
577.00	0.000	10,845.000	31,413.909	5,236.000	19,172.000
578.00	0.000	12,239.000	34,604.936	11,535.000	30,707.000
579.00	0.000	13,792.000	39,023.316	13,008.000	43,715.000
579.90	0.000	14,507.000	42,443.983	12,733.000	56,448.000

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

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

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

Requested Pond Water Surface Elevations	
Minimum (Headwater)	574.90 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	579.90 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Area	Orifice - 2	Forward	Culvert - 1	576.60	579.90
Rectangular Weir	Weir - 2	Forward	Culvert - 1	576.40	576.60
Orifice-Area	Orifice - 1	Forward	Culvert - 1	578.15	579.90
Rectangular Weir	Weir - 1	Forward	Culvert - 1	576.60	578.15
Inlet Box	Riser - 1	Forward	Culvert - 1	578.15	579.90
User Defined Table	Sand Filter Area	Forward	Culvert - 1	574.90	579.90
Culvert-Circular	Culvert - 1	Forward	TW	572.34	579.90
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	578.15 ft
Orifice Area	21.070 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Subsection: Outlet Input Data
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	24.0 in
Length	101.28 ft
Length (Computed Barrel)	101.53 ft
Slope (Computed)	0.070 ft/ft

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

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.060
T2 ratio (HW/D)	1.162
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	574.46 ft	T1 Flow	15.55 ft³/s
T2 Elevation	574.66 ft	T2 Flow	17.77 ft³/s

Structure ID: Weir - 1
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	576.60 ft
Weir Length	2.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

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

Number of Openings	1
Elevation	576.60 ft
Orifice Area	3.875 ft²
Top Elevation	578.15 ft
Datum Elevation	577.38 ft
Orifice Coefficient	0.600

Structure ID: Sand Filter Area
Structure Type: User Defined Table

Elevation (ft)	Flow (ft³/s)
574.90	0.00
574.90	0.08
577.00	0.08
579.90	0.08

Structure ID: Weir - 2
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	576.40 ft
Weir Length	0.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

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

Number of Openings	1
Elevation	576.40 ft
Orifice Area	0.100 ft²
Top Elevation	576.60 ft
Datum Elevation	576.50 ft
Orifice Coefficient	0.600

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

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

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft^3/s
Flow Tolerance (Maximum)	10.000 ft^3/s

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
574.90	0.00	(N/A)	0.00
574.95	0.08	(N/A)	0.00
575.00	0.08	(N/A)	0.00
575.05	0.08	(N/A)	0.00
575.10	0.08	(N/A)	0.00
575.15	0.08	(N/A)	0.00
575.20	0.08	(N/A)	0.00
575.25	0.08	(N/A)	0.00
575.30	0.08	(N/A)	0.00
575.35	0.08	(N/A)	0.00
575.40	0.08	(N/A)	0.00
575.45	0.08	(N/A)	0.00
575.50	0.08	(N/A)	0.00
575.55	0.08	(N/A)	0.00
575.60	0.08	(N/A)	0.00
575.65	0.08	(N/A)	0.00
575.70	0.08	(N/A)	0.00
575.75	0.08	(N/A)	0.00
575.80	0.08	(N/A)	0.00
575.85	0.08	(N/A)	0.00
575.90	0.08	(N/A)	0.00
575.95	0.08	(N/A)	0.00
576.00	0.08	(N/A)	0.00
576.05	0.08	(N/A)	0.00
576.10	0.08	(N/A)	0.00
576.15	0.08	(N/A)	0.00
576.20	0.08	(N/A)	0.00
576.25	0.08	(N/A)	0.00
576.30	0.08	(N/A)	0.00
576.35	0.08	(N/A)	0.00
576.40	0.08	(N/A)	0.00
576.45	0.10	(N/A)	0.00
576.50	0.13	(N/A)	0.00
576.55	0.17	(N/A)	0.00
576.60	0.24	(N/A)	0.00
576.65	0.35	(N/A)	0.00
576.70	0.54	(N/A)	0.00
576.75	0.76	(N/A)	0.00
576.80	1.02	(N/A)	0.00
576.85	1.31	(N/A)	0.00
576.90	1.62	(N/A)	0.00
576.95	1.96	(N/A)	0.00
577.00	2.32	(N/A)	0.00
577.05	2.70	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 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)
577.10	3.11	(N/A)	0.00
577.15	3.53	(N/A)	0.00
577.20	3.97	(N/A)	0.00
577.25	4.43	(N/A)	0.00
577.30	4.90	(N/A)	0.00
577.35	5.40	(N/A)	0.00
577.40	5.91	(N/A)	0.00
577.45	6.43	(N/A)	0.00
577.50	6.97	(N/A)	0.00
577.55	7.52	(N/A)	0.00
577.60	8.08	(N/A)	0.00
577.65	8.67	(N/A)	0.00
577.70	9.27	(N/A)	0.00
577.75	9.87	(N/A)	0.00
577.80	10.50	(N/A)	0.00
577.85	11.13	(N/A)	0.00
577.90	11.76	(N/A)	0.00
577.95	12.42	(N/A)	0.00
578.00	13.10	(N/A)	0.00
578.05	13.78	(N/A)	0.00
578.10	14.48	(N/A)	0.00
578.15	17.07	(N/A)	0.00
578.20	18.23	(N/A)	0.00
578.25	19.89	(N/A)	0.00
578.30	21.89	(N/A)	0.00
578.35	24.14	(N/A)	0.00
578.40	26.62	(N/A)	0.00
578.45	29.28	(N/A)	0.00
578.50	32.04	(N/A)	0.00
578.55	34.39	(N/A)	0.00
578.60	35.42	(N/A)	0.00
578.65	36.43	(N/A)	0.00
578.70	37.37	(N/A)	0.00
578.75	38.27	(N/A)	0.00
578.80	39.08	(N/A)	0.00
578.85	39.76	(N/A)	0.00
578.90	40.29	(N/A)	0.00
578.95	40.62	(N/A)	0.00
579.00	40.82	(N/A)	0.00
579.05	41.01	(N/A)	0.00
579.10	41.19	(N/A)	0.00
579.15	41.38	(N/A)	0.00
579.20	41.57	(N/A)	0.00
579.25	41.76	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
579.30	41.94	(N/A)	0.00
579.35	42.13	(N/A)	0.00
579.40	42.31	(N/A)	0.00
579.45	42.50	(N/A)	0.00
579.50	42.68	(N/A)	0.00
579.55	42.86	(N/A)	0.00
579.60	43.04	(N/A)	0.00
579.65	43.23	(N/A)	0.00
579.70	43.40	(N/A)	0.00
579.75	43.58	(N/A)	0.00
579.80	43.76	(N/A)	0.00
579.85	43.93	(N/A)	0.00
579.90	44.11	(N/A)	0.00

Contributing Structures
(no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1,Sand Filter Area,Culvert - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)

Composite Outflow Summary

Contributing Structures
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Weir - 2,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Orifice - 1,Weir - 1,Riser - 1)

Composite Outflow Summary

Contributing Structures
Weir - 2,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Orifice - 1,Weir - 1,Riser - 1)
Weir - 2,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Orifice - 1,Weir - 1,Riser - 1)
Orifice - 2,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Orifice - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)

Composite Outflow Summary

Contributing Structures
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)

Subsection: Composite Rating Curve | Return Event: 2 years
Label: OS 101 | Storm Event:
Scenario: 2 year

Composite Outflow Summary

Contributing Structures
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)

Requested Pond Water Surface Elevations	
Minimum (Headwater)	574.90 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	579.90 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	Culvert - 1	578.15	579.90
Culvert-Circular	Culvert - 1	Forward	TW	572.34	579.90
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	578.15 ft
Orifice Area	21.070 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	24.0 in
Length	101.28 ft
Length (Computed Barrel)	101.53 ft
Slope (Computed)	0.070 ft/ft

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

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.060
T2 ratio (HW/D)	1.162
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	574.46 ft	T1 Flow	15.55 ft³/s
T2 Elevation	574.66 ft	T2 Flow	17.77 ft³/s

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

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft^3/s
Flow Tolerance (Maximum)	10.000 ft^3/s

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
574.90	0.00	(N/A)	0.00
574.95	0.00	(N/A)	0.00
575.00	0.00	(N/A)	0.00
575.05	0.00	(N/A)	0.00
575.10	0.00	(N/A)	0.00
575.15	0.00	(N/A)	0.00
575.20	0.00	(N/A)	0.00
575.25	0.00	(N/A)	0.00
575.30	0.00	(N/A)	0.00
575.35	0.00	(N/A)	0.00
575.40	0.00	(N/A)	0.00
575.45	0.00	(N/A)	0.00
575.50	0.00	(N/A)	0.00
575.55	0.00	(N/A)	0.00
575.60	0.00	(N/A)	0.00
575.65	0.00	(N/A)	0.00
575.70	0.00	(N/A)	0.00
575.75	0.00	(N/A)	0.00
575.80	0.00	(N/A)	0.00
575.85	0.00	(N/A)	0.00
575.90	0.00	(N/A)	0.00
575.95	0.00	(N/A)	0.00
576.00	0.00	(N/A)	0.00
576.05	0.00	(N/A)	0.00
576.10	0.00	(N/A)	0.00
576.15	0.00	(N/A)	0.00
576.20	0.00	(N/A)	0.00
576.25	0.00	(N/A)	0.00
576.30	0.00	(N/A)	0.00
576.35	0.00	(N/A)	0.00
576.40	0.00	(N/A)	0.00
576.45	0.00	(N/A)	0.00
576.50	0.00	(N/A)	0.00
576.55	0.00	(N/A)	0.00
576.60	0.00	(N/A)	0.00
576.65	0.00	(N/A)	0.00
576.70	0.00	(N/A)	0.00
576.75	0.00	(N/A)	0.00
576.80	0.00	(N/A)	0.00
576.85	0.00	(N/A)	0.00
576.90	0.00	(N/A)	0.00
576.95	0.00	(N/A)	0.00
577.00	0.00	(N/A)	0.00
577.05	0.00	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
577.10	0.00	(N/A)	0.00
577.15	0.00	(N/A)	0.00
577.20	0.00	(N/A)	0.00
577.25	0.00	(N/A)	0.00
577.30	0.00	(N/A)	0.00
577.35	0.00	(N/A)	0.00
577.40	0.00	(N/A)	0.00
577.45	0.00	(N/A)	0.00
577.50	0.00	(N/A)	0.00
577.55	0.00	(N/A)	0.00
577.60	0.00	(N/A)	0.00
577.65	0.00	(N/A)	0.00
577.70	0.00	(N/A)	0.00
577.75	0.00	(N/A)	0.00
577.80	0.00	(N/A)	0.00
577.85	0.00	(N/A)	0.00
577.90	0.00	(N/A)	0.00
577.95	0.00	(N/A)	0.00
578.00	0.00	(N/A)	0.00
578.05	0.00	(N/A)	0.00
578.10	0.00	(N/A)	0.00
578.15	0.00	(N/A)	0.00
578.20	0.63	(N/A)	0.00
578.25	1.78	(N/A)	0.00
578.30	3.27	(N/A)	0.00
578.35	5.03	(N/A)	0.00
578.40	7.04	(N/A)	0.00
578.45	9.24	(N/A)	0.00
578.50	11.66	(N/A)	0.00
578.55	14.25	(N/A)	0.00
578.60	16.99	(N/A)	0.00
578.65	19.89	(N/A)	0.00
578.70	22.96	(N/A)	0.00
578.75	26.15	(N/A)	0.00
578.80	29.49	(N/A)	0.00
578.85	32.96	(N/A)	0.00
578.90	36.56	(N/A)	0.00
578.95	40.27	(N/A)	0.00
579.00	40.81	(N/A)	0.00
579.05	41.00	(N/A)	0.00
579.10	41.19	(N/A)	0.00
579.15	41.38	(N/A)	0.00
579.20	41.57	(N/A)	0.00
579.25	41.76	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
579.30	41.94	(N/A)	0.00
579.35	42.13	(N/A)	0.00
579.40	42.31	(N/A)	0.00
579.45	42.50	(N/A)	0.00
579.50	42.68	(N/A)	0.00
579.55	42.86	(N/A)	0.00
579.60	43.04	(N/A)	0.00
579.65	43.23	(N/A)	0.00
579.70	43.40	(N/A)	0.00
579.75	43.58	(N/A)	0.00
579.80	43.76	(N/A)	0.00
579.85	43.93	(N/A)	0.00
579.90	44.11	(N/A)	0.00

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

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

Subsection: Composite Rating Curve Return Event: 100 years
Label: OS 101LFB Storm Event:
Scenario: 100 year LFB

Composite Outflow Summary

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

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

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

Return Event: 2 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 2 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 2 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 15 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 25 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 25 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 25 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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)	578.15 ft
Volume (Initial)	32,560.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.00	198.500	4,351.874	0.00	0.00	6.62
575.00	0.00	436.375	5,175.000	0.00	0.00	14.55
575.05	0.00	714.126	5,943.898	0.00	0.00	23.80
575.10	0.00	1,031.652	6,766.030	0.00	0.00	34.39
575.15	0.00	1,391.616	7,641.398	0.00	0.00	46.39
575.20	0.00	1,796.679	8,570.000	0.00	0.00	59.89
575.25	0.00	2,226.593	8,626.603	0.00	0.00	74.22
575.30	0.00	2,659.342	8,683.392	0.00	0.00	88.64
575.35	0.00	3,094.936	8,740.367	0.00	0.00	103.16
575.40	0.00	3,533.382	8,797.529	0.00	0.00	117.78
575.45	0.00	3,974.692	8,854.877	0.00	0.00	132.49
575.50	0.00	4,418.873	8,912.411	0.00	0.00	147.30
575.55	0.00	4,865.936	8,970.131	0.00	0.00	162.20
575.60	0.00	5,315.889	9,028.038	0.00	0.00	177.20
575.65	0.00	5,768.743	9,086.131	0.00	0.00	192.29
575.70	0.00	6,224.505	9,144.411	0.00	0.00	207.48
575.75	0.00	6,683.187	9,202.877	0.00	0.00	222.77
575.80	0.00	7,144.796	9,261.529	0.00	0.00	238.16
575.85	0.00	7,609.343	9,320.367	0.00	0.00	253.64
575.90	0.00	8,076.836	9,379.392	0.00	0.00	269.23
575.95	0.00	8,547.285	9,438.603	0.00	0.00	284.91
576.00	0.00	9,020.699	9,498.000	0.00	0.00	300.69
576.05	0.00	9,497.419	9,570.843	0.00	0.00	316.58
576.10	0.00	9,977.788	9,643.965	0.00	0.00	332.59
576.15	0.00	10,461.820	9,717.365	0.00	0.00	348.73
576.20	0.00	10,949.529	9,791.043	0.00	0.00	364.98
576.25	0.00	11,440.929	9,865.000	0.00	0.00	381.36
576.30	0.00	11,935.358	9,912.175	0.00	0.00	397.85
576.35	0.00	12,432.149	9,959.462	0.00	0.00	414.40

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 (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
576.40	0.00	12,931.306	10,006.862	0.00	0.00	431.04
576.45	0.00	13,432.837	10,054.375	0.00	0.00	447.76
576.50	0.00	13,936.746	10,102.000	0.00	0.00	464.56
576.55	0.00	14,443.673	10,175.114	0.00	0.00	481.46
576.60	0.00	14,954.262	10,248.491	0.00	0.00	498.48
576.65	0.00	15,468.526	10,322.132	0.00	0.00	515.62
576.70	0.00	15,986.479	10,396.036	0.00	0.00	532.88
576.75	0.00	16,508.134	10,470.205	0.00	0.00	550.27
576.80	0.00	17,033.504	10,544.636	0.00	0.00	567.78
576.85	0.00	17,562.602	10,619.332	0.00	0.00	585.42
576.90	0.00	18,095.442	10,694.291	0.00	0.00	603.18
576.95	0.00	18,632.036	10,769.514	0.00	0.00	621.07
577.00	0.00	19,172.397	10,845.000	0.00	0.00	639.08
577.05	0.00	19,716.339	10,912.699	0.00	0.00	657.21
577.10	0.00	20,263.671	10,980.608	0.00	0.00	675.46
577.15	0.00	20,814.403	11,048.729	0.00	0.00	693.81
577.20	0.00	21,368.547	11,117.059	0.00	0.00	712.28
577.25	0.00	21,926.113	11,185.601	0.00	0.00	730.87
577.30	0.00	22,487.111	11,254.353	0.00	0.00	749.57
577.35	0.00	23,051.552	11,323.316	0.00	0.00	768.39
577.40	0.00	23,619.446	11,392.489	0.00	0.00	787.31
577.45	0.00	24,190.804	11,461.873	0.00	0.00	806.36
577.50	0.00	24,765.637	11,531.468	0.00	0.00	825.52
577.55	0.00	25,343.954	11,601.273	0.00	0.00	844.80
577.60	0.00	25,925.767	11,671.289	0.00	0.00	864.19
577.65	0.00	26,511.087	11,741.516	0.00	0.00	883.70
577.70	0.00	27,099.922	11,811.953	0.00	0.00	903.33
577.75	0.00	27,692.285	11,882.601	0.00	0.00	923.08
577.80	0.00	28,288.186	11,953.459	0.00	0.00	942.94
577.85	0.00	28,887.635	12,024.529	0.00	0.00	962.92
577.90	0.00	29,490.642	12,095.808	0.00	0.00	983.02
577.95	0.00	30,097.219	12,167.299	0.00	0.00	1,003.24
578.00	0.00	30,707.376	12,239.000	0.00	0.00	1,023.58
578.05	0.00	31,321.211	12,314.448	0.00	0.00	1,044.04
578.10	0.00	31,938.824	12,390.127	0.00	0.00	1,064.63
578.15	0.00	32,560.228	12,466.038	0.00	0.00	1,085.34
578.20	0.63	33,185.432	12,542.181	0.00	0.63	1,106.81
578.25	1.78	33,814.450	12,618.556	0.00	1.78	1,128.93
578.30	3.27	34,447.292	12,695.163	0.00	3.27	1,151.51
578.35	5.03	35,083.970	12,772.002	0.00	5.03	1,174.50
578.40	7.04	35,724.496	12,849.072	0.00	7.04	1,197.85
578.45	9.24	36,368.881	12,926.374	0.00	9.24	1,221.53
578.50	11.66	37,017.137	13,003.908	0.00	11.66	1,245.56
578.55	14.25	37,669.276	13,081.674	0.00	14.25	1,269.89
578.60	16.99	38,325.308	13,159.672	0.00	16.99	1,294.50

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

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	19.89	38,985.247	13,237.902	0.00	19.89	1,319.40
578.70	22.96	39,649.102	13,316.363	0.00	22.96	1,344.60
578.75	26.15	40,316.887	13,395.056	0.00	26.15	1,370.05
578.80	29.49	40,988.612	13,473.981	0.00	29.49	1,395.78
578.85	32.96	41,664.289	13,553.138	0.00	32.96	1,421.77
578.90	36.56	42,343.929	13,632.527	0.00	36.56	1,448.02
578.95	40.27	43,027.545	13,712.148	0.00	40.27	1,474.52
579.00	40.81	43,715.148	13,792.000	0.00	40.81	1,497.98
579.05	41.00	44,405.729	13,831.248	0.00	41.00	1,521.19
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 2 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	9.82 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	0.08 ft³/s	Time to Peak (Flow, Outlet)	2.000 min

Elevation (Water Surface, Peak)	576.27 ft
Volume (Peak)	11,674.690 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	11,784.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	441.000 ft³
Volume (Retained)	11,338.000 ft³
Volume (Unrouted)	-5.000 ft³
Error (Mass Balance)	0.0 %

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

Return Event: 15 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	14.54 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	1.09 ft³/s	Time to Peak (Flow, Outlet)	23.000 min

Elevation (Water Surface, Peak)	576.81 ft
Volume (Peak)	17,158.010 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	17,448.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	2,380.000 ft³
Volume (Retained)	15,052.000 ft³
Volume (Unrouted)	-16.000 ft³
Error (Mass Balance)	0.1 %

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

Return Event: 25 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	17.09 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	2.72 ft³/s	Time to Peak (Flow, Outlet)	23.000 min

Elevation (Water Surface, Peak)	577.05 ft
Volume (Peak)	19,742.147 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	20,508.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	4,976.000 ft³
Volume (Retained)	15,509.000 ft³
Volume (Unrouted)	-22.000 ft³
Error (Mass Balance)	0.1 %

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)	578.15 ft
Volume (Initial)	32,560.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	19.58 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	19.32 ft³/s	Time to Peak (Flow, Outlet)	20.000 min

Elevation (Water Surface, Peak)	578.64 ft
Volume (Peak)	38,853.800 ft³

Mass Balance (ft³)	
Volume (Initial)	32,560.000 ft³
Volume (Total Inflow)	23,496.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	23,457.000 ft³
Volume (Retained)	32,597.000 ft³
Volume (Unrouted)	-2.000 ft³
Error (Mass Balance)	0.0 %

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

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	19.58 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	4.59 ft³/s	Time to Peak (Flow, Outlet)	22.000 min

Elevation (Water Surface, Peak)	577.27 ft
Volume (Peak)	22,112.965 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	23,496.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	7,690.000 ft³
Volume (Retained)	15,778.000 ft³
Volume (Unrouted)	-28.000 ft³
Error (Mass Balance)	0.1 %

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	11,784.000	3.000	9.82
Flow (In)	Detention Basin	11,784.000	3.000	9.82

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	17,448.000	3.000	14.54
Flow (In)	Detention Basin	17,448.000	3.000	14.54

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	20,508.000	3.000	17.09
Flow (In)	Detention Basin	20,508.000	3.000	17.09

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	23,496.000	3.000	19.58
Flow (In)	Detention Basin	23,496.000	3.000	19.58

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	23,496.000	3.000	19.58
Flow (In)	Detention Basin	23,496.000	3.000	19.58

Index

Appendix C

Future Basin Routing

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

Table of Contents

Subsection: Read Hydrograph
Label: Watershed A
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Peak Discharge	14.39 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	17,268.000 ft³

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	4.75	9.64	14.39	14.39
5.000	14.39	14.39	14.39	14.39	14.39
10.000	14.39	14.39	14.39	14.39	14.39
15.000	14.39	14.39	14.39	14.39	14.39
20.000	14.39	9.64	4.75	0.00	0.00
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)

Subsection: Read Hydrograph
Label: Watershed A
Scenario: Future 15 year

Return Event: 15 years
Storm Event:

Peak Discharge	21.30 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	25,560.000 ft³

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	7.03	14.27	21.30	21.30
5.000	21.30	21.30	21.30	21.30	21.30
10.000	21.30	21.30	21.30	21.30	21.30
15.000	21.30	21.30	21.30	21.30	21.30
20.000	21.30	14.27	7.03	0.00	0.00
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)

Subsection: Read Hydrograph
Label: Watershed A
Scenario: Future 25 year

Return Event: 25 years
Storm Event:

Peak Discharge	25.04 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	30,048.000 ft³

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	8.26	16.78	25.04	25.04
5.000	25.04	25.04	25.04	25.04	25.04
10.000	25.04	25.04	25.04	25.04	25.04
15.000	25.04	25.04	25.04	25.04	25.04
20.000	25.04	16.78	8.26	0.00	0.00
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)

Subsection: Read Hydrograph
Label: Watershed A
Scenario: Future 100 year LFB

Return Event: 100 years
Storm Event:

Peak Discharge	28.72 ft³/s
Time to Peak	13.000 min
Hydrograph Volume	34,464.000 ft³

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	9.56	19.16	28.72	28.72
5.000	28.72	28.72	28.72	28.72	28.72
10.000	28.72	28.72	28.72	28.72	28.72
15.000	28.72	28.72	28.72	28.72	28.72
20.000	28.72	19.16	9.56	0.00	0.00
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)

Subsection: Elevation-Area Volume Curve
Return Event: 2 years
Label: Detention Basin
Storm Event:
Scenario: Future 2 year

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ft³)	Volume (Total) (ft³)
574.90	0.000	3,600.000	0.000	0.000	0.000
575.00	0.000	5,175.000	13,091.248	436.000	436.000
575.20	0.000	8,570.000	20,404.561	1,360.000	1,797.000
576.00	0.000	9,498.000	27,090.076	7,224.000	9,021.000
576.25	0.000	9,865.000	29,042.761	2,420.000	11,441.000
576.50	0.000	10,102.000	29,949.797	2,496.000	13,937.000
577.00	0.000	10,845.000	31,413.909	5,236.000	19,172.000
578.00	0.000	12,239.000	34,604.936	11,535.000	30,707.000
579.00	0.000	13,792.000	39,023.316	13,008.000	43,715.000
579.90	0.000	14,507.000	42,443.983	12,733.000	56,448.000

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

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

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

Subsection: Elevation-Area Volume Curve
Return Event: 100 years
Label: Detention Basin
Storm Event:
Scenario: Future 100 year LFB

Elevation (ft)	Planimeter (ft²)	Area (ft²)	A1+A2+sqr (A1*A2) (ft²)	Volume (ft³)	Volume (Total) (ft³)
574.90	0.000	3,600.000	0.000	0.000	0.000
575.00	0.000	5,175.000	13,091.248	436.000	436.000
575.20	0.000	8,570.000	20,404.561	1,360.000	1,797.000
576.00	0.000	9,498.000	27,090.076	7,224.000	9,021.000
576.25	0.000	9,865.000	29,042.761	2,420.000	11,441.000
576.50	0.000	10,102.000	29,949.797	2,496.000	13,937.000
577.00	0.000	10,845.000	31,413.909	5,236.000	19,172.000
578.00	0.000	12,239.000	34,604.936	11,535.000	30,707.000
579.00	0.000	13,792.000	39,023.316	13,008.000	43,715.000
579.90	0.000	14,507.000	42,443.983	12,733.000	56,448.000

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

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

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

Subsection: Outlet Input Data
Label: OS 101
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	574.90 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	579.90 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Area	Orifice - 2	Forward	Culvert - 1	576.60	579.90
Rectangular Weir	Weir - 2	Forward	Culvert - 1	576.40	576.60
Orifice-Area	Orifice - 1	Forward	Culvert - 1	578.15	579.90
Rectangular Weir	Weir - 1	Forward	Culvert - 1	576.60	578.15
Inlet Box	Riser - 1	Forward	Culvert - 1	578.15	579.90
User Defined Table	Sand Filter Area	Forward	Culvert - 1	574.90	579.90
Culvert-Circular	Culvert - 1	Forward	TW	572.34	579.90
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	578.15 ft
Orifice Area	21.070 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Subsection: Outlet Input Data
Label: OS 101
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	24.0 in
Length	101.28 ft
Length (Computed Barrel)	101.53 ft
Slope (Computed)	0.070 ft/ft

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

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.060
T2 ratio (HW/D)	1.162
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	574.46 ft	T1 Flow	15.55 ft³/s
T2 Elevation	574.66 ft	T2 Flow	17.77 ft³/s

Structure ID: Weir - 1
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	576.60 ft
Weir Length	2.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

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

Number of Openings	1
Elevation	576.60 ft
Orifice Area	3.875 ft²
Top Elevation	578.15 ft
Datum Elevation	577.38 ft
Orifice Coefficient	0.600

Structure ID: Sand Filter Area
Structure Type: User Defined Table

Elevation (ft)	Flow (ft³/s)
574.90	0.00
574.90	0.08
577.00	0.08
579.90	0.08

Structure ID: Weir - 2
Structure Type: Rectangular Weir

Number of Openings	1
Elevation	576.40 ft
Weir Length	0.50 ft
Weir Coefficient	3.00 (ft^0.5)/s

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

Number of Openings	1
Elevation	576.40 ft
Orifice Area	0.100 ft²
Top Elevation	576.60 ft
Datum Elevation	576.50 ft
Orifice Coefficient	0.600

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

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

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft^3/s
Flow Tolerance (Maximum)	10.000 ft^3/s

Subsection: Composite Rating Curve
Label: OS 101
Scenario: Future 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)
574.90	0.00	(N/A)	0.00
574.95	0.08	(N/A)	0.00
575.00	0.08	(N/A)	0.00
575.05	0.08	(N/A)	0.00
575.10	0.08	(N/A)	0.00
575.15	0.08	(N/A)	0.00
575.20	0.08	(N/A)	0.00
575.25	0.08	(N/A)	0.00
575.30	0.08	(N/A)	0.00
575.35	0.08	(N/A)	0.00
575.40	0.08	(N/A)	0.00
575.45	0.08	(N/A)	0.00
575.50	0.08	(N/A)	0.00
575.55	0.08	(N/A)	0.00
575.60	0.08	(N/A)	0.00
575.65	0.08	(N/A)	0.00
575.70	0.08	(N/A)	0.00
575.75	0.08	(N/A)	0.00
575.80	0.08	(N/A)	0.00
575.85	0.08	(N/A)	0.00
575.90	0.08	(N/A)	0.00
575.95	0.08	(N/A)	0.00
576.00	0.08	(N/A)	0.00
576.05	0.08	(N/A)	0.00
576.10	0.08	(N/A)	0.00
576.15	0.08	(N/A)	0.00
576.20	0.08	(N/A)	0.00
576.25	0.08	(N/A)	0.00
576.30	0.08	(N/A)	0.00
576.35	0.08	(N/A)	0.00
576.40	0.08	(N/A)	0.00
576.45	0.10	(N/A)	0.00
576.50	0.13	(N/A)	0.00
576.55	0.17	(N/A)	0.00
576.60	0.24	(N/A)	0.00
576.65	0.35	(N/A)	0.00
576.70	0.54	(N/A)	0.00
576.75	0.76	(N/A)	0.00
576.80	1.02	(N/A)	0.00
576.85	1.31	(N/A)	0.00
576.90	1.62	(N/A)	0.00
576.95	1.96	(N/A)	0.00
577.00	2.32	(N/A)	0.00
577.05	2.70	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)
577.10	3.11	(N/A)	0.00
577.15	3.53	(N/A)	0.00
577.20	3.97	(N/A)	0.00
577.25	4.43	(N/A)	0.00
577.30	4.90	(N/A)	0.00
577.35	5.40	(N/A)	0.00
577.40	5.91	(N/A)	0.00
577.45	6.43	(N/A)	0.00
577.50	6.97	(N/A)	0.00
577.55	7.52	(N/A)	0.00
577.60	8.08	(N/A)	0.00
577.65	8.67	(N/A)	0.00
577.70	9.27	(N/A)	0.00
577.75	9.87	(N/A)	0.00
577.80	10.50	(N/A)	0.00
577.85	11.13	(N/A)	0.00
577.90	11.76	(N/A)	0.00
577.95	12.42	(N/A)	0.00
578.00	13.10	(N/A)	0.00
578.05	13.78	(N/A)	0.00
578.10	14.48	(N/A)	0.00
578.15	17.07	(N/A)	0.00
578.20	18.23	(N/A)	0.00
578.25	19.89	(N/A)	0.00
578.30	21.89	(N/A)	0.00
578.35	24.14	(N/A)	0.00
578.40	26.62	(N/A)	0.00
578.45	29.28	(N/A)	0.00
578.50	32.04	(N/A)	0.00
578.55	34.39	(N/A)	0.00
578.60	35.42	(N/A)	0.00
578.65	36.43	(N/A)	0.00
578.70	37.37	(N/A)	0.00
578.75	38.27	(N/A)	0.00
578.80	39.08	(N/A)	0.00
578.85	39.76	(N/A)	0.00
578.90	40.29	(N/A)	0.00
578.95	40.62	(N/A)	0.00
579.00	40.82	(N/A)	0.00
579.05	41.01	(N/A)	0.00
579.10	41.19	(N/A)	0.00
579.15	41.38	(N/A)	0.00
579.20	41.57	(N/A)	0.00
579.25	41.76	(N/A)	0.00

Subsection: Composite Rating Curve　Return Event: 2 years
Label: OS 101　Storm Event:
Scenario: Future 2 year

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
579.30	41.94	(N/A)	0.00
579.35	42.13	(N/A)	0.00
579.40	42.31	(N/A)	0.00
579.45	42.50	(N/A)	0.00
579.50	42.68	(N/A)	0.00
579.55	42.86	(N/A)	0.00
579.60	43.04	(N/A)	0.00
579.65	43.23	(N/A)	0.00
579.70	43.40	(N/A)	0.00
579.75	43.58	(N/A)	0.00
579.80	43.76	(N/A)	0.00
579.85	43.93	(N/A)	0.00
579.90	44.11	(N/A)	0.00

Contributing Structures
(no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1,Sand Filter Area,Culvert - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)

Composite Outflow Summary

Contributing Structures
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Weir - 2,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Orifice - 1,Weir - 1,Riser - 1)

Subsection: Composite Rating Curve　　Return Event: 2 years
Label: OS 101　　Storm Event:
Scenario: Future 2 year

Composite Outflow Summary

Contributing Structures
Weir - 2,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Orifice - 1,Weir - 1,Riser - 1)
Weir - 2,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Orifice - 1,Weir - 1,Riser - 1)
Orifice - 2,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Weir - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)

Subsection: Composite Rating Curve
Label: OS 101
Scenario: Future 2 year

Return Event: 2 years
Storm Event:

Composite Outflow Summary

Contributing Structures
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Weir - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Orifice - 1,Riser - 1)
Orifice - 2,Orifice - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1,Riser - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)

Composite Outflow Summary

Contributing Structures
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)

Composite Outflow Summary

Contributing Structures
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Orifice - 2,Orifice - 1,Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Weir - 2,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)

Composite Outflow Summary

Contributing Structures
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)
Riser - 1,Sand Filter Area,Culvert - 1 (no Q: Orifice - 2,Weir - 2,Orifice - 1,Weir - 1)

Subsection: Outlet Input Data
Label: OS 101LFB
Scenario: Future 100 year LFB

Return Event: 100 years
Storm Event:

Requested Pond Water Surface Elevations	
Minimum (Headwater)	574.90 ft
Increment (Headwater)	0.05 ft
Maximum (Headwater)	579.90 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Inlet Box	Riser - 1	Forward	Culvert - 1	578.15	579.90
Culvert-Circular	Culvert - 1	Forward	TW	572.34	579.90
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Riser - 1 Structure Type: Inlet Box	
Number of Openings	1
Elevation	578.15 ft
Orifice Area	21.070 ft²
Orifice Coefficient	0.600
Weir Length	18.76 ft
Weir Coefficient	3.00 (ft^0.5)/s
K Reverse	1.000
Manning's n	0.000
Kev, Charged Riser	0.000
Weir Submergence	False
Orifice H to crest	False

Structure ID: Culvert - 1 Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	24.0 in
Length	101.28 ft
Length (Computed Barrel)	101.53 ft
Slope (Computed)	0.070 ft/ft

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

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.060
T2 ratio (HW/D)	1.162
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	574.46 ft	T1 Flow	15.55 ft³/s
T2 Elevation	574.66 ft	T2 Flow	17.77 ft³/s

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

Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft^3/s
Flow Tolerance (Maximum)	10.000 ft^3/s

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: Future 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
574.90	0.00	(N/A)	0.00
574.95	0.00	(N/A)	0.00
575.00	0.00	(N/A)	0.00
575.05	0.00	(N/A)	0.00
575.10	0.00	(N/A)	0.00
575.15	0.00	(N/A)	0.00
575.20	0.00	(N/A)	0.00
575.25	0.00	(N/A)	0.00
575.30	0.00	(N/A)	0.00
575.35	0.00	(N/A)	0.00
575.40	0.00	(N/A)	0.00
575.45	0.00	(N/A)	0.00
575.50	0.00	(N/A)	0.00
575.55	0.00	(N/A)	0.00
575.60	0.00	(N/A)	0.00
575.65	0.00	(N/A)	0.00
575.70	0.00	(N/A)	0.00
575.75	0.00	(N/A)	0.00
575.80	0.00	(N/A)	0.00
575.85	0.00	(N/A)	0.00
575.90	0.00	(N/A)	0.00
575.95	0.00	(N/A)	0.00
576.00	0.00	(N/A)	0.00
576.05	0.00	(N/A)	0.00
576.10	0.00	(N/A)	0.00
576.15	0.00	(N/A)	0.00
576.20	0.00	(N/A)	0.00
576.25	0.00	(N/A)	0.00
576.30	0.00	(N/A)	0.00
576.35	0.00	(N/A)	0.00
576.40	0.00	(N/A)	0.00
576.45	0.00	(N/A)	0.00
576.50	0.00	(N/A)	0.00
576.55	0.00	(N/A)	0.00
576.60	0.00	(N/A)	0.00
576.65	0.00	(N/A)	0.00
576.70	0.00	(N/A)	0.00
576.75	0.00	(N/A)	0.00
576.80	0.00	(N/A)	0.00
576.85	0.00	(N/A)	0.00
576.90	0.00	(N/A)	0.00
576.95	0.00	(N/A)	0.00
577.00	0.00	(N/A)	0.00
577.05	0.00	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: Future 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
577.10	0.00	(N/A)	0.00
577.15	0.00	(N/A)	0.00
577.20	0.00	(N/A)	0.00
577.25	0.00	(N/A)	0.00
577.30	0.00	(N/A)	0.00
577.35	0.00	(N/A)	0.00
577.40	0.00	(N/A)	0.00
577.45	0.00	(N/A)	0.00
577.50	0.00	(N/A)	0.00
577.55	0.00	(N/A)	0.00
577.60	0.00	(N/A)	0.00
577.65	0.00	(N/A)	0.00
577.70	0.00	(N/A)	0.00
577.75	0.00	(N/A)	0.00
577.80	0.00	(N/A)	0.00
577.85	0.00	(N/A)	0.00
577.90	0.00	(N/A)	0.00
577.95	0.00	(N/A)	0.00
578.00	0.00	(N/A)	0.00
578.05	0.00	(N/A)	0.00
578.10	0.00	(N/A)	0.00
578.15	0.00	(N/A)	0.00
578.20	0.63	(N/A)	0.00
578.25	1.78	(N/A)	0.00
578.30	3.27	(N/A)	0.00
578.35	5.03	(N/A)	0.00
578.40	7.04	(N/A)	0.00
578.45	9.24	(N/A)	0.00
578.50	11.66	(N/A)	0.00
578.55	14.25	(N/A)	0.00
578.60	16.99	(N/A)	0.00
578.65	19.89	(N/A)	0.00
578.70	22.96	(N/A)	0.00
578.75	26.15	(N/A)	0.00
578.80	29.49	(N/A)	0.00
578.85	32.96	(N/A)	0.00
578.90	36.56	(N/A)	0.00
578.95	40.27	(N/A)	0.00
579.00	40.81	(N/A)	0.00
579.05	41.00	(N/A)	0.00
579.10	41.19	(N/A)	0.00
579.15	41.38	(N/A)	0.00
579.20	41.57	(N/A)	0.00
579.25	41.76	(N/A)	0.00

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: Future 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)
579.30	41.94	(N/A)	0.00
579.35	42.13	(N/A)	0.00
579.40	42.31	(N/A)	0.00
579.45	42.50	(N/A)	0.00
579.50	42.68	(N/A)	0.00
579.55	42.86	(N/A)	0.00
579.60	43.04	(N/A)	0.00
579.65	43.23	(N/A)	0.00
579.70	43.40	(N/A)	0.00
579.75	43.58	(N/A)	0.00
579.80	43.76	(N/A)	0.00
579.85	43.93	(N/A)	0.00
579.90	44.11	(N/A)	0.00

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

Subsection: Composite Rating Curve
Label: OS 101LFB
Scenario: Future 100 year LFB

Return Event: 100 years
Storm Event:

Composite Outflow Summary

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

Composite Outflow Summary

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

Subsection: Composite Rating Curve Return Event: 100 years
Label: OS 101LFB Storm Event:
Scenario: Future 100 year LFB

Composite Outflow Summary

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

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

Return Event: 2 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 2 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 15 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 15 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 25 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 25 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 25 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	578.15 ft
Volume (Initial)	32,560.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.00	198.500	4,351.874	0.00	0.00	6.62
575.00	0.00	436.375	5,175.000	0.00	0.00	14.55
575.05	0.00	714.126	5,943.898	0.00	0.00	23.80
575.10	0.00	1,031.652	6,766.030	0.00	0.00	34.39
575.15	0.00	1,391.616	7,641.398	0.00	0.00	46.39
575.20	0.00	1,796.679	8,570.000	0.00	0.00	59.89
575.25	0.00	2,226.593	8,626.603	0.00	0.00	74.22
575.30	0.00	2,659.342	8,683.392	0.00	0.00	88.64
575.35	0.00	3,094.936	8,740.367	0.00	0.00	103.16
575.40	0.00	3,533.382	8,797.529	0.00	0.00	117.78
575.45	0.00	3,974.692	8,854.877	0.00	0.00	132.49
575.50	0.00	4,418.873	8,912.411	0.00	0.00	147.30
575.55	0.00	4,865.936	8,970.131	0.00	0.00	162.20
575.60	0.00	5,315.889	9,028.038	0.00	0.00	177.20
575.65	0.00	5,768.743	9,086.131	0.00	0.00	192.29
575.70	0.00	6,224.505	9,144.411	0.00	0.00	207.48
575.75	0.00	6,683.187	9,202.877	0.00	0.00	222.77
575.80	0.00	7,144.796	9,261.529	0.00	0.00	238.16
575.85	0.00	7,609.343	9,320.367	0.00	0.00	253.64
575.90	0.00	8,076.836	9,379.392	0.00	0.00	269.23
575.95	0.00	8,547.285	9,438.603	0.00	0.00	284.91
576.00	0.00	9,020.699	9,498.000	0.00	0.00	300.69
576.05	0.00	9,497.419	9,570.843	0.00	0.00	316.58
576.10	0.00	9,977.788	9,643.965	0.00	0.00	332.59
576.15	0.00	10,461.820	9,717.365	0.00	0.00	348.73
576.20	0.00	10,949.529	9,791.043	0.00	0.00	364.98
576.25	0.00	11,440.929	9,865.000	0.00	0.00	381.36
576.30	0.00	11,935.358	9,912.175	0.00	0.00	397.85
576.35	0.00	12,432.149	9,959.462	0.00	0.00	414.40

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

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
576.40	0.00	12,931.306	10,006.862	0.00	0.00	431.04
576.45	0.00	13,432.837	10,054.375	0.00	0.00	447.76
576.50	0.00	13,936.746	10,102.000	0.00	0.00	464.56
576.55	0.00	14,443.673	10,175.114	0.00	0.00	481.46
576.60	0.00	14,954.262	10,248.491	0.00	0.00	498.48
576.65	0.00	15,468.526	10,322.132	0.00	0.00	515.62
576.70	0.00	15,986.479	10,396.036	0.00	0.00	532.88
576.75	0.00	16,508.134	10,470.205	0.00	0.00	550.27
576.80	0.00	17,033.504	10,544.636	0.00	0.00	567.78
576.85	0.00	17,562.602	10,619.332	0.00	0.00	585.42
576.90	0.00	18,095.442	10,694.291	0.00	0.00	603.18
576.95	0.00	18,632.036	10,769.514	0.00	0.00	621.07
577.00	0.00	19,172.397	10,845.000	0.00	0.00	639.08
577.05	0.00	19,716.339	10,912.699	0.00	0.00	657.21
577.10	0.00	20,263.671	10,980.608	0.00	0.00	675.46
577.15	0.00	20,814.403	11,048.729	0.00	0.00	693.81
577.20	0.00	21,368.547	11,117.059	0.00	0.00	712.28
577.25	0.00	21,926.113	11,185.601	0.00	0.00	730.87
577.30	0.00	22,487.111	11,254.353	0.00	0.00	749.57
577.35	0.00	23,051.552	11,323.316	0.00	0.00	768.39
577.40	0.00	23,619.446	11,392.489	0.00	0.00	787.31
577.45	0.00	24,190.804	11,461.873	0.00	0.00	806.36
577.50	0.00	24,765.637	11,531.468	0.00	0.00	825.52
577.55	0.00	25,343.954	11,601.273	0.00	0.00	844.80
577.60	0.00	25,925.767	11,671.289	0.00	0.00	864.19
577.65	0.00	26,511.087	11,741.516	0.00	0.00	883.70
577.70	0.00	27,099.922	11,811.953	0.00	0.00	903.33
577.75	0.00	27,692.285	11,882.601	0.00	0.00	923.08
577.80	0.00	28,288.186	11,953.459	0.00	0.00	942.94
577.85	0.00	28,887.635	12,024.529	0.00	0.00	962.92
577.90	0.00	29,490.642	12,095.808	0.00	0.00	983.02
577.95	0.00	30,097.219	12,167.299	0.00	0.00	1,003.24
578.00	0.00	30,707.376	12,239.000	0.00	0.00	1,023.58
578.05	0.00	31,321.211	12,314.448	0.00	0.00	1,044.04
578.10	0.00	31,938.824	12,390.127	0.00	0.00	1,064.63
578.15	0.00	32,560.228	12,466.038	0.00	0.00	1,085.34
578.20	0.63	33,185.432	12,542.181	0.00	0.63	1,106.81
578.25	1.78	33,814.450	12,618.556	0.00	1.78	1,128.93
578.30	3.27	34,447.292	12,695.163	0.00	3.27	1,151.51
578.35	5.03	35,083.970	12,772.002	0.00	5.03	1,174.50
578.40	7.04	35,724.496	12,849.072	0.00	7.04	1,197.85
578.45	9.24	36,368.881	12,926.374	0.00	9.24	1,221.53
578.50	11.66	37,017.137	13,003.908	0.00	11.66	1,245.56
578.55	14.25	37,669.276	13,081.674	0.00	14.25	1,269.89
578.60	16.99	38,325.308	13,159.672	0.00	16.99	1,294.50

Subsection: Elevation-Volume-Flow Table (Pond) Return Event: 100 years
Label: Detention Basin Storm Event:
Scenario: Future 100 year LFB

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	19.89	38,985.247	13,237.902	0.00	19.89	1,319.40
578.70	22.96	39,649.102	13,316.363	0.00	22.96	1,344.60
578.75	26.15	40,316.887	13,395.056	0.00	26.15	1,370.05
578.80	29.49	40,988.612	13,473.981	0.00	29.49	1,395.78
578.85	32.96	41,664.289	13,553.138	0.00	32.96	1,421.77
578.90	36.56	42,343.929	13,632.527	0.00	36.56	1,448.02
578.95	40.27	43,027.545	13,712.148	0.00	40.27	1,474.52
579.00	40.81	43,715.148	13,792.000	0.00	40.81	1,497.98
579.05	41.00	44,405.729	13,831.248	0.00	41.00	1,521.19
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Elevation (ft)	Outflow (ft³/s)	Storage (ft³)	Area (ft²)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
574.90	0.00	0.000	3,600.000	0.00	0.00	0.00
574.95	0.08	198.500	4,351.874	0.00	0.08	6.70
575.00	0.08	436.375	5,175.000	0.00	0.08	14.63
575.05	0.08	714.126	5,943.898	0.00	0.08	23.89
575.10	0.08	1,031.652	6,766.030	0.00	0.08	34.47
575.15	0.08	1,391.616	7,641.398	0.00	0.08	46.47
575.20	0.08	1,796.679	8,570.000	0.00	0.08	59.97
575.25	0.08	2,226.593	8,626.603	0.00	0.08	74.30
575.30	0.08	2,659.342	8,683.392	0.00	0.08	88.73
575.35	0.08	3,094.936	8,740.367	0.00	0.08	103.25
575.40	0.08	3,533.382	8,797.529	0.00	0.08	117.86
575.45	0.08	3,974.692	8,854.877	0.00	0.08	132.57
575.50	0.08	4,418.873	8,912.411	0.00	0.08	147.38
575.55	0.08	4,865.936	8,970.131	0.00	0.08	162.28
575.60	0.08	5,315.889	9,028.038	0.00	0.08	177.28
575.65	0.08	5,768.743	9,086.131	0.00	0.08	192.37
575.70	0.08	6,224.505	9,144.411	0.00	0.08	207.57
575.75	0.08	6,683.187	9,202.877	0.00	0.08	222.86
575.80	0.08	7,144.796	9,261.529	0.00	0.08	238.24
575.85	0.08	7,609.343	9,320.367	0.00	0.08	253.73
575.90	0.08	8,076.836	9,379.392	0.00	0.08	269.31
575.95	0.08	8,547.285	9,438.603	0.00	0.08	284.99
576.00	0.08	9,020.699	9,498.000	0.00	0.08	300.77
576.05	0.08	9,497.419	9,570.843	0.00	0.08	316.66
576.10	0.08	9,977.788	9,643.965	0.00	0.08	332.68
576.15	0.08	10,461.820	9,717.365	0.00	0.08	348.81
576.20	0.08	10,949.529	9,791.043	0.00	0.08	365.07
576.25	0.08	11,440.929	9,865.000	0.00	0.08	381.45
576.30	0.08	11,935.358	9,912.175	0.00	0.08	397.93
576.35	0.08	12,432.149	9,959.462	0.00	0.08	414.49

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

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
576.40	0.08	12,931.306	10,006.862	0.00	0.08	431.13
576.45	0.10	13,432.837	10,054.375	0.00	0.10	447.86
576.50	0.13	13,936.746	10,102.000	0.00	0.13	464.69
576.55	0.17	14,443.673	10,175.114	0.00	0.17	481.63
576.60	0.24	14,954.262	10,248.491	0.00	0.24	498.71
576.65	0.35	15,468.526	10,322.132	0.00	0.35	515.97
576.70	0.54	15,986.479	10,396.036	0.00	0.54	533.42
576.75	0.76	16,508.134	10,470.205	0.00	0.76	551.03
576.80	1.02	17,033.504	10,544.636	0.00	1.02	568.80
576.85	1.31	17,562.602	10,619.332	0.00	1.31	586.73
576.90	1.62	18,095.442	10,694.291	0.00	1.62	604.80
576.95	1.96	18,632.036	10,769.514	0.00	1.96	623.03
577.00	2.32	19,172.397	10,845.000	0.00	2.32	641.40
577.05	2.70	19,716.339	10,912.699	0.00	2.70	659.92
577.10	3.11	20,263.671	10,980.608	0.00	3.11	678.56
577.15	3.53	20,814.403	11,048.729	0.00	3.53	697.34
577.20	3.97	21,368.547	11,117.059	0.00	3.97	716.26
577.25	4.43	21,926.113	11,185.601	0.00	4.43	735.30
577.30	4.90	22,487.111	11,254.353	0.00	4.90	754.47
577.35	5.40	23,051.552	11,323.316	0.00	5.40	773.78
577.40	5.91	23,619.446	11,392.489	0.00	5.91	793.22
577.45	6.43	24,190.804	11,461.873	0.00	6.43	812.80
577.50	6.97	24,765.637	11,531.468	0.00	6.97	832.49
577.55	7.52	25,343.954	11,601.273	0.00	7.52	852.32
577.60	8.08	25,925.767	11,671.289	0.00	8.08	872.28
577.65	8.67	26,511.087	11,741.516	0.00	8.67	892.37
577.70	9.27	27,099.922	11,811.953	0.00	9.27	912.60
577.75	9.87	27,692.285	11,882.601	0.00	9.87	932.95
577.80	10.50	28,288.186	11,953.459	0.00	10.50	953.44
577.85	11.13	28,887.635	12,024.529	0.00	11.13	974.05
577.90	11.76	29,490.642	12,095.808	0.00	11.76	994.79
577.95	12.42	30,097.219	12,167.299	0.00	12.42	1,015.66
578.00	13.10	30,707.376	12,239.000	0.00	13.10	1,036.68
578.05	13.78	31,321.211	12,314.448	0.00	13.78	1,057.82
578.10	14.48	31,938.824	12,390.127	0.00	14.48	1,079.10
578.15	17.07	32,560.228	12,466.038	0.00	17.07	1,102.41
578.20	18.23	33,185.432	12,542.181	0.00	18.23	1,124.41
578.25	19.89	33,814.450	12,618.556	0.00	19.89	1,147.04
578.30	21.89	34,447.292	12,695.163	0.00	21.89	1,170.13
578.35	24.14	35,083.970	12,772.002	0.00	24.14	1,193.61
578.40	26.62	35,724.496	12,849.072	0.00	26.62	1,217.44
578.45	29.28	36,368.881	12,926.374	0.00	29.28	1,241.57
578.50	32.04	37,017.137	13,003.908	0.00	32.04	1,265.95
578.55	34.39	37,669.276	13,081.674	0.00	34.39	1,290.03
578.60	35.42	38,325.308	13,159.672	0.00	35.42	1,312.93

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

Return Event: 100 years
Storm Event:

Elevation (ft)	Outflow (ft^3/s)	Storage (ft^3)	Area (ft^2)	Infiltration (ft^3/s)	Flow (Total) (ft^3/s)	2S/t + O (ft^3/s)
578.65	36.43	38,985.247	13,237.902	0.00	36.43	1,335.94
578.70	37.37	39,649.102	13,316.363	0.00	37.37	1,359.01
578.75	38.27	40,316.887	13,395.056	0.00	38.27	1,382.16
578.80	39.08	40,988.612	13,473.981	0.00	39.08	1,405.36
578.85	39.76	41,664.289	13,553.138	0.00	39.76	1,428.57
578.90	40.29	42,343.929	13,632.527	0.00	40.29	1,451.76
578.95	40.62	43,027.545	13,712.148	0.00	40.62	1,474.87
579.00	40.82	43,715.148	13,792.000	0.00	40.82	1,497.99
579.05	41.01	44,405.729	13,831.248	0.00	41.01	1,521.20
579.10	41.19	45,098.274	13,870.552	0.00	41.19	1,544.47
579.15	41.38	45,792.785	13,909.912	0.00	41.38	1,567.81
579.20	41.57	46,489.266	13,949.327	0.00	41.57	1,591.21
579.25	41.76	47,187.719	13,988.799	0.00	41.76	1,614.68
579.30	41.94	47,888.147	14,028.326	0.00	41.94	1,638.22
579.35	42.13	48,590.552	14,067.909	0.00	42.13	1,661.81
579.40	42.31	49,294.938	14,107.547	0.00	42.31	1,685.48
579.45	42.50	50,001.308	14,147.241	0.00	42.50	1,709.21
579.50	42.68	50,709.664	14,186.992	0.00	42.68	1,733.00
579.55	42.86	51,420.008	14,226.797	0.00	42.86	1,756.86
579.60	43.04	52,132.344	14,266.659	0.00	43.04	1,780.79
579.65	43.23	52,846.675	14,306.577	0.00	43.23	1,804.78
579.70	43.40	53,563.003	14,346.550	0.00	43.40	1,828.84
579.75	43.58	54,281.331	14,386.579	0.00	43.58	1,852.96
579.80	43.76	55,001.662	14,426.663	0.00	43.76	1,877.15
579.85	43.93	55,723.998	14,466.804	0.00	43.93	1,901.40
579.90	44.11	56,448.343	14,507.000	0.00	44.11	1,925.72

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

Return Event: 2 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	14.39 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	1.00 ft³/s	Time to Peak (Flow, Outlet)	23.000 min

Elevation (Water Surface, Peak)	576.80 ft
Volume (Peak)	16,997.296 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	17,268.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	2,240.000 ft³
Volume (Retained)	15,013.000 ft³
Volume (Unrouted)	-15.000 ft³
Error (Mass Balance)	0.1 %

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

Return Event: 15 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	21.30 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	5.94 ft³/s	Time to Peak (Flow, Outlet)	22.000 min

Elevation (Water Surface, Peak)	577.40 ft
Volume (Peak)	23,655.258 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	25,560.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	9,610.000 ft³
Volume (Retained)	15,918.000 ft³
Volume (Unrouted)	-31.000 ft³
Error (Mass Balance)	0.1 %

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

Return Event: 25 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	25.04 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	8.96 ft³/s	Time to Peak (Flow, Outlet)	22.000 min

Elevation (Water Surface, Peak)	577.67 ft
Volume (Peak)	26,791.747 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	30,048.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	13,859.000 ft³
Volume (Retained)	16,152.000 ft³
Volume (Unrouted)	-37.000 ft³
Error (Mass Balance)	0.1 %

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

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	578.15 ft
Volume (Initial)	32,560.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	28.72 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	28.51 ft³/s	Time to Peak (Flow, Outlet)	20.000 min

Elevation (Water Surface, Peak)	578.79 ft
Volume (Peak)	40,790.896 ft³

Mass Balance (ft³)	
Volume (Initial)	32,560.000 ft³
Volume (Total Inflow)	34,464.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	34,422.000 ft³
Volume (Retained)	32,600.000 ft³
Volume (Unrouted)	-3.000 ft³
Error (Mass Balance)	0.0 %

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

Return Event: 100 years
Storm Event:

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	574.90 ft
Volume (Initial)	0.000 ft³
Flow (Initial Outlet)	0.00 ft³/s
Flow (Initial Infiltration)	0.00 ft³/s
Flow (Initial, Total)	0.00 ft³/s
Time Increment	1.000 min

Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	28.72 ft³/s	Time to Peak (Flow, In)	3.000 min
Flow (Peak Outlet)	11.95 ft³/s	Time to Peak (Flow, Outlet)	22.000 min

Elevation (Water Surface, Peak)	577.91 ft
Volume (Peak)	29,659.137 ft³

Mass Balance (ft³)	
Volume (Initial)	0.000 ft³
Volume (Total Inflow)	34,464.000 ft³
Volume (Total Infiltration)	0.000 ft³
Volume (Total Outlet Outflow)	18,094.000 ft³
Volume (Retained)	16,328.000 ft³
Volume (Unrouted)	-42.000 ft³
Error (Mass Balance)	0.1 %

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft³)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Watershed A	17,268.000	3.000	14.39
Flow (In)	Detention Basin	17,268.000	3.000	14.39

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	25,560.000	3.000	21.30
Flow (In)	Detention Basin	25,560.000	3.000	21.30

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	30,048.000	3.000	25.04
Flow (In)	Detention Basin	30,048.000	3.000	25.04

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	34,464.000	3.000	28.72
Flow (In)	Detention Basin	34,464.000	3.000	28.72

Summary for Hydrograph Addition at 'Detention Basin'

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

Node Inflows

Inflow Type	Element	Volume (ft^3)	Time to Peak (min)	Flow (Peak) (ft^3/s)
Flow (From)	Watershed A	34,464.000	3.000	28.72
Flow (In)	Detention Basin	34,464.000	3.000	28.72

Index

Appendix D
Drainage Maps

Exhibit A
Predeveloped Drainage Map
FIRST COMMUNITY CREDIT UNION
20-18193

GRAPHIC SCALE
80 0 40 80
(IN FEET)
1 inch = 40 ft.

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

CALEDONIA DRIVE
(A.K.A. SOUTH SERVICE ROAD OF INTERSTATE ROUTE 64
(WIDTH VARIES)

MISSOURI STATE HIGHWAY ROUTE DD
(WIDTH VARIES)

INTERSTATE HIGHWAY 64
(MISSOURI STATE HIGHWAY 40-61)

48" RCP
24" HDPE
CURB INLET
TOP=585.13
FL=574.95
STORM MANHOLE
TOP=577.29
DROP (SE)=564.71±
FL=559.64
STORM MANHOLE
TOP=577.53
FL=561.67
STORM MANHOLE
TOP=575.59
FL=564.48
FLARED END
48" RCP
FL=565.25
DISCHARGE POINT A
CURB INLET
TOP=585.15
FL=576.52
CONC. CURB
35.89'
WATERSHED A-PREDEVELOPED
LAND USE / ACRE / P.I
GREENSPACE / 7.46 / 1.70
15 YR Q =12.68 cfs
WATERSHED B-PREDEVELOPED
LAND USE / ACRE / P.I
GREENSPACE / 1.29 / 1.70
15 YR Q =2.19 cfs
WATERSHED C-PREDEVELOPED
LAND USE / ACRE / P.I
GREENSPACE / 0.43 / 1.70
15 YR Q =0.73 cfs
DISCHARGE POINT B
AT&T UTILITY VAULT
60" CHAIN LINK FENCE
TREE LINE
FENCE LINE (2.7'S.)
48" WIRE FENCE
FENCE LINE (4.8'S.)
STANDING WATER
6" BOLLARD (TYPICAL)
UTILITY VAULT
DISCHARGE POINT C

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


Exhibit B
Postdeveloped Drainage Map
FIRST COMMUNITY CREDIT UNION
20-18193
GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.
ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718
LOT 7
STREETS OF CALEDONIA
P.B. 51 PG. 87
ZONED:C-2
LOT 6
OF CALEDONIA
51 PG. 87
CALEDONIA DRIVE
(A.K.A. SOUTH SERVICE ROAD OF INTERSTATE ROUTE 64
(WIDTH VARIES)
DISCHARGE POINT A
WATERSHED A-DIRECT RUNOFF
LAND USE ACRE P.I.
GREENSPACE 1.58 1.70
PAVEMENT 0.10 3.54
15 YR Q =3.04 cfs
MODOT R.O.W.
0.437 AC.
COMMON GROUND
DETENTION AND UTILITY
EASEMENT
0.526 AC.
DETENTION &
WATER QUALITY
STREETS OF CALEDONIA PLAT 1
PL 51, PG 85
LOT 11
ZONED C-2
WATERSHED B-POSTDEVELOPED
LAND USE ACRE P.I.
GREENSPACE 0.53 1.70
PAVEMENT 0.14 3.54
15 YR Q =1.40 cfs
DISCHARGE POINT B
WATERSHED A-BASIN INFLOW
LAND USE ACRE P.I.
GREENSPACE 5.01 1.70
PAVEMENT/BUILDING 1.42 3.54
BASIN SURFACE 0.28 1.28
15 YR Q =14.54 cfs
LOT 1
2.303 AC.
ZONED:HTCD
PROPERTY N/F
THF 40/DD DEVELOPMENT, LLC
D.B. 3407 PG. 919
(PARCEL 1)
FRACTIONAL SECTION 14
FRACTIONAL SECTION 13
FENCE LINE
(0.3'W.)
INCLUDED IN DIRECT RUNOFF AREA
TREE LINE
U.S. SURVEY 297
FRACTIONAL SECTION 13
FUTURE DEVELOPMENT
5.918 AC.
ZONED:HTCD
MISSOURI STATE HIGHWAY ROUTE DD
(WIDTH VARIES)
INTERSTATE HIGHWAY 64
(MISSOURI STATE HIGHWAY 40-61)
WATERSHED C-POSTDEVELOPED
LAND USE ACRE P.I.
ONSITE GREENSPACE 0.12 1.70
15 YR Q =0.20 cfs
DISCHARGE POINT C
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
2022
Copyright
Bax Engineering Company, Inc.
Authority No. 000655
All Rights Reserved

Exhibit C
Future Postdeveloped Drainage Map
FIRST COMMUNITY CREDIT UNION
20-18193

GRAPHIC SCALE
80 0 40 80
(IN FEET)
1 inch = 40 ft.

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

LOT 8
ZONED:C-2

LOT 7
STREETS OF CALEDONIA
P.B. 51 PG. 87
ZONED:C-2

LOT 6
OF CALEDONIA
51 PG. 87
NED:C-2

CALEDONIA DRIVE
(A.K.A. SOUTH SERVICE
ROAD OF INTERSTATE
ROUTE 64
(WIDTH VARIES)

MODOT R.O.W.
0.437 AC.

STREETS OF CALEDONIA PLAT 1
PL 51, PG 85
LOT 11
ZONED C-2

PROPERTY N/F
THF 40/DD DEVELOPMENT, LLC
D.B. 3407 PG. 919
(PARCEL 1)

LOT 1
2.303 AC.
ZONED:HTCD

FUTURE DEVELOPMENT
5.918 AC.
ZONED:HTCD

COMMON GROUND
DETENTION AND UTILITY
EASEMENT
0.526 AC.
DETENTION &
WATER QUALITY

FRACTIONAL SECTION 14
FRACTIONAL SECTION 13
U.S. SURVEY 297

FENCE LINE
(0.3'W.)

TREE LINE

INCLUDED IN DIRECT
RUNOFF AREA

MISSOURI STATE
HIGHWAY ROUTE DD
(WIDTH VARIES)

INTERSTATE HIGHWAY 64
(MISSOURI STATE HIGHWAY 40-61)

DISCHARGE
POINT A

DISCHARGE
POINT B

DISCHARGE
POINT C

FUTURE BUILD-OUT
WATERSHED A-DIRECT RUNOFF
LAND USE AC P.I.
GREENSPACE 0.27 1.70
PAVEMENT 0.17 3.54
15 YR Q =2.38 cfs

FUTURE BUILD-OUT
WATERSHED A-BASIN INFLOW
LAND USE ACRES P.I.
GREENSPACE 3.33 1.70
PAVEMENT/BUILDING 0.58 3.54
BASIN SURFACE 5.09 3.28
15 YR Q =21.39 cfs

FUTURE BUILD-OUT
WATERSHED B-POSTDEVELOPED
LAND USE ACRES P.I.
GREENSPACE 0.32 1.70
PAVEMENT 0.35 3.54
15 YR Q =1.78 cfs

FUTURE BUILD-OUT
WATERSHED C-POSTDEVELOPED FUTURE
LAND USE ACRES P.I.
ONSITE GREENSPACE 0.12 1.70
15 YR Q =0.20 cfs

CURB INLET
TOP=575.24
FL=567.17

CURB INLET
TOP=574.97
FL=563.47

STORM MANHOLE
TOP=577.59
FL=564.18

STORM MANHOLE
TOP=577.59
FL=567.67

AREA INLET
TOP=571.35
FL=565.22

FLARED END
FL=566.51

OUTFALL STRUCTURE
TOP=578.15
FL 6" PVC IN=572.86
FL 24" RCP OUT=572.34
SIL 30" SLOT=571.60

CURB INLET
TOP=575.13
FL=571.93

STORM MANHOLE
TOP=571.29
DROP (SE)=564.71
FL=559.64

CURB INLET
TOP=582.15
FL=575.82

FLARED END
24" RCP
FL=582.15

ADD FILL TO RAISE
TOP OF BERM TO 579.9

Todd C. Flaugus
Civil Engineer
2005000982
2022

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.