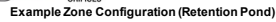


MHFD-Detention, Version 4.07 (June 2025)

Basin ID: DETENTION POND #2 (DESIGN POINT B) - REVISED 2026

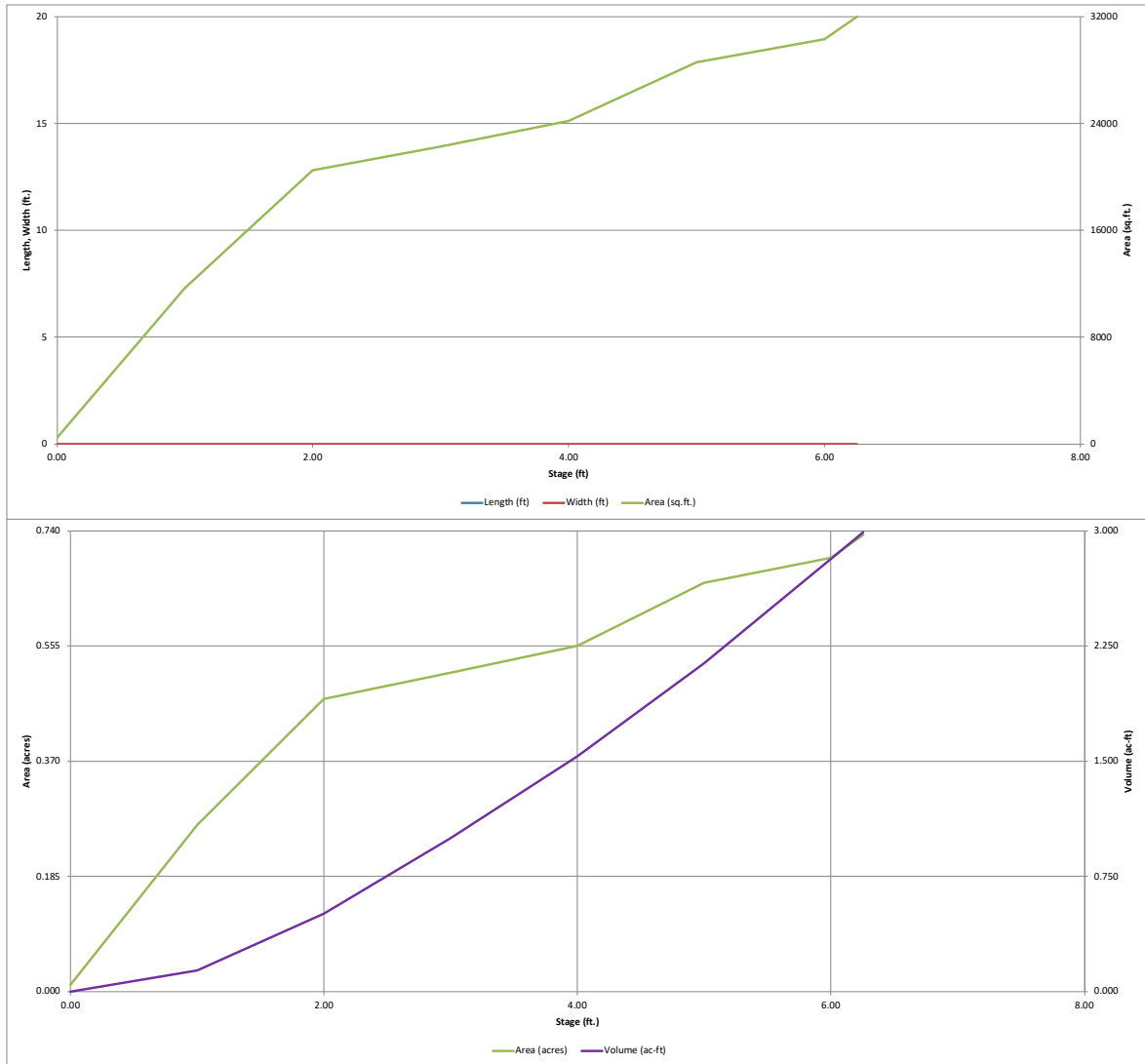


	acre-feet
	acre-feet
1.19	inches
1.50	inches
1.75	inches
2.00	inches
2.25	inches
2.52	inches
	inches

573

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.07 (June 2025)



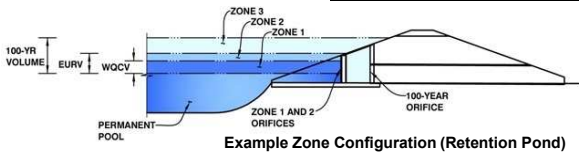
- ✓ = calcs match details in plans
✗ = calcs do not match details in plans

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.07 (June 2025)

Project: SUNSET VILLAGE FILING 4

Basin ID: DETENTION POND #2 (DESIGN POINT B) - REVISED 2026



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	1.52	0.303	Orifice Plate
Zone 2 (EURV)	2.57	0.480	Orifice Plate
Zone 3 (100-year)	3.76	0.614	Weir&Pipe (Restrict)
Total (all zones)		1.397	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration SCM)

Underdrain Orifice Invert Depth = N/A ft (distance below the filtration media surface)
Underdrain Orifice Diameter = N/A inches

Calculated Parameters for Underdrain
Underdrain Orifice Area = N/A ft²
Underdrain Orifice Centroid = N/A feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation SCM)

Centroid of Lowest Orifice = 0.00 ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate = 4.00 ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing = 10.80 inches
Orifice Plate: Orifice Area per Row = N/A sq. inches

Calculated Parameters for Plate
WQ Orifice Area per Row = N/A ft²
Elliptical Half-Width = N/A feet
Elliptical Slot Centroid = N/A feet
Elliptical Slot Area = N/A ft²

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	✓ 0.00	1.33	2.67					
Orifice Area (sq. inches)	✓ 2.85	2.85	20.00					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

Invert of Vertical Orifice = N/A ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice = N/A ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter = N/A inches

Calculated Parameters for Vertical Orifice
Vertical Orifice Area = N/A ft²
Vertical Orifice Centroid = N/A feet

User Input: Overflow Weir (Dropbox with Flat or Sloped Gate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

Overflow Weir Front Edge Height, H_o = ✓ 4.00 ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length = ✓ 3.00 feet
Overflow Weir Gate Slope = ✓ 0.00 H:V
Horiz. Length of Weir Sides = ✓ 3.00 feet
Overflow Gate Type = N/A
Debris Clogging % = 50% %

Calculated Parameters for Overflow Weir
Height of Gate Upper Edge, H_u = 4.00 feet
Overflow Weir Slope Length = 3.00 feet
Grate Open Area / 100-yr Orifice Area = 6.83
Overflow Gate Open Area w/o Debris = 6.26 ft²
Overflow Gate Open Area w/ Debris = 3.13 ft²

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

Depth to Invert of Outlet Pipe = ✗ 0.58 ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter = ✓ 24.00 inches
Restrictor Plate Height Above Pipe Invert = ✗ 8.00 inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate
Outlet Orifice Area = 0.92 ft²
Outlet Orifice Centroid = 0.39 feet
Half-Central Angle of Restrictor Plate on Pipe = 1.23 radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage = ✗ 5.40 ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length = ✓ 95.00 feet
Spillway End Slopes = ✓ 4.00 H:V
Freeboard above Max Water Surface = ✓ 1.00 feet

Calculated Parameters for Spillway
Spillway Design Flow Depth = ✗ 0.21 feet
Stage at Top of Freeboard = 6.61 feet
Basin Area at Top of Freeboard = 0.73 acres
Basin Volume at Top of Freeboard = 2.99 acre-ft

Routed Hydrograph Results

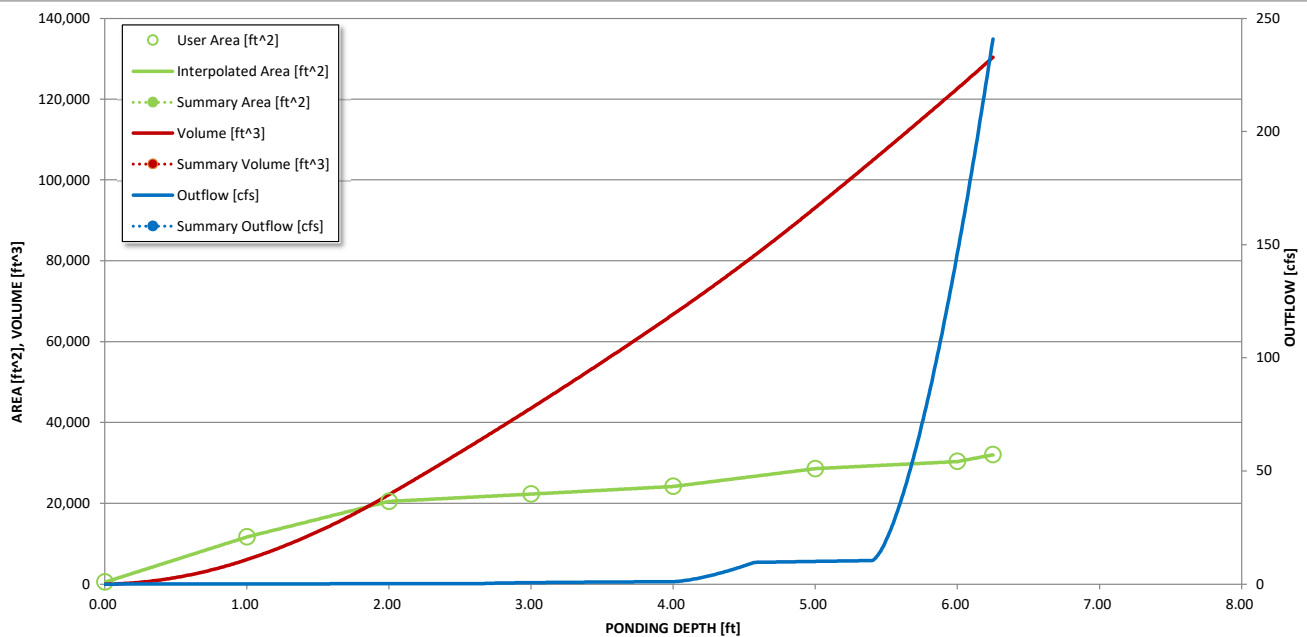
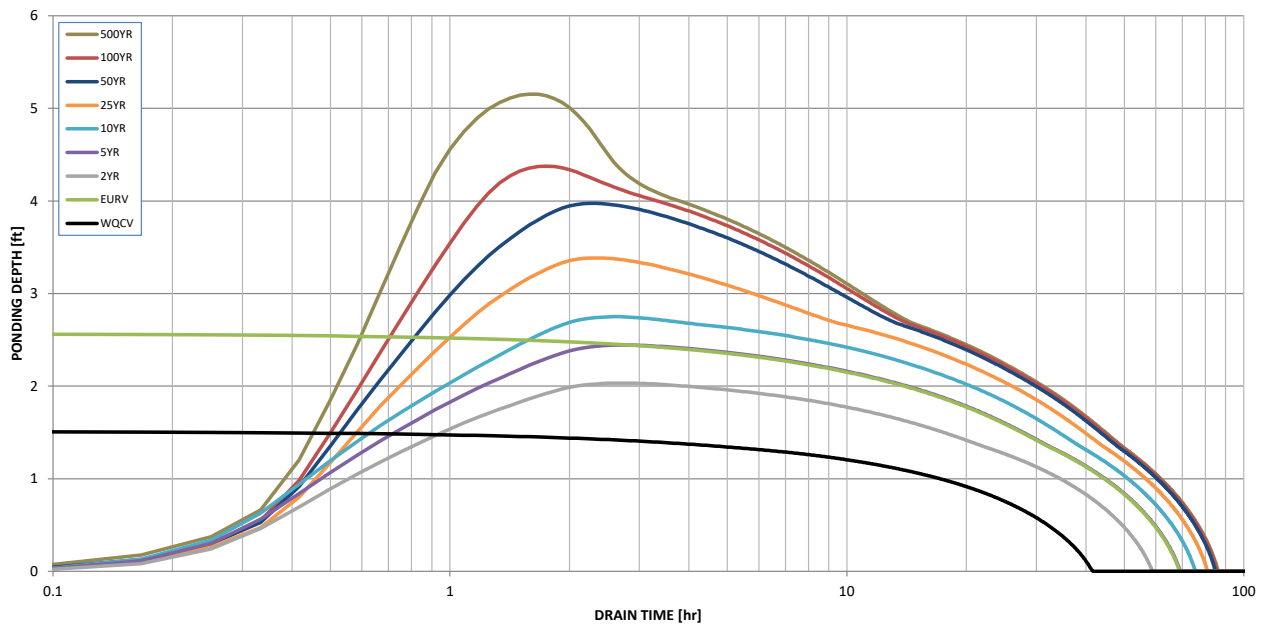
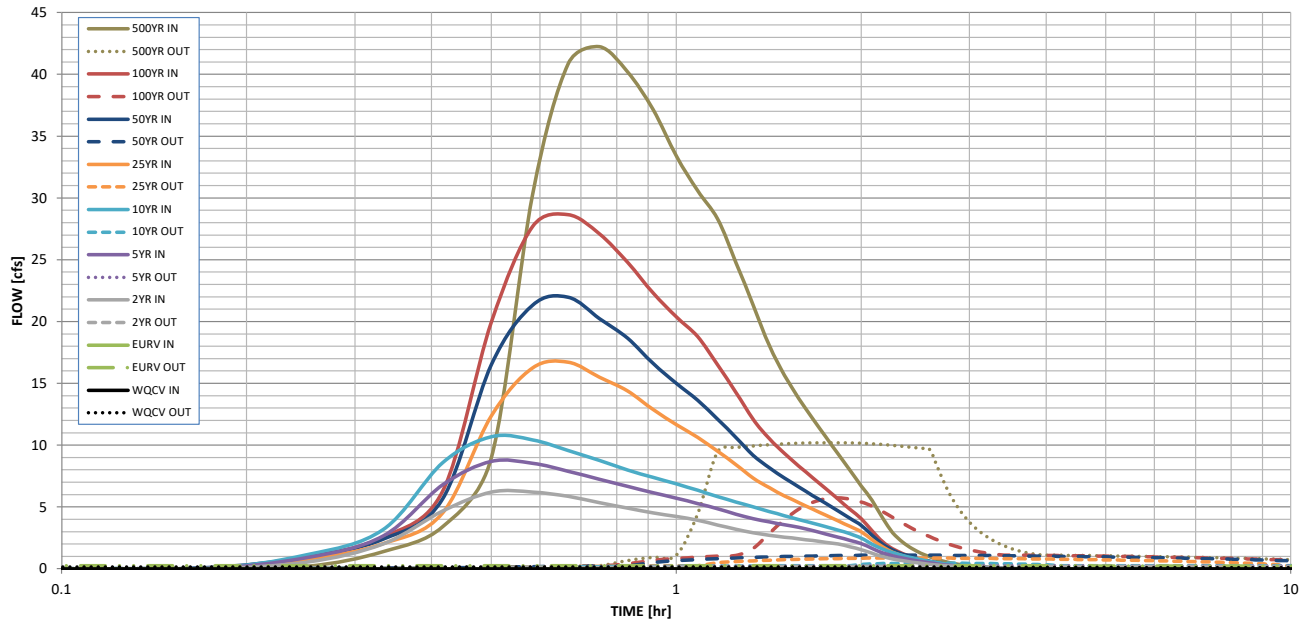
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Design Storm Return Period =	N/A	N/A	1.19	1.50	1.75	2.00	2.25	2.52	3.14
One-Hour Rainfall Depth (in) =	0.303	0.782	0.566	0.771	0.938	1.315	1.671	2.144	3.163
CUHP Runoff Volume (acre-ft) =	N/A	N/A	0.566	0.771	0.938	1.315	1.671	2.144	3.163
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.4	0.8	1.0	4.6	8.5	13.3	23.4
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A							
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A							
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.02	0.03	0.05	0.21	0.38	0.60	1.05
Peak Inflow Q (cfs) =	N/A	N/A	6.2	8.7	10.7	16.7	22.0	28.7	42.2
Peak Outflow Q (cfs) =	0.2	0.3	0.2	0.2	0.5	0.9	1.1	5.7	10.2
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.3	0.4	0.2	0.1	0.4	0.4
Structure Controlling Flow =	Plate	Plate	Plate	Plate	Plate	Plate	Plate	Overflow Weir 1	Outlet Plate 1
Max Velocity through Gate 1 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.7	1.4
Max Velocity through Gate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	62	54	62	68	71	73	72	68
Time to Drain 99% of Inflow Volume (hours) =	40	66	56	66	72	77	80	79	78
Maximum Ponding Depth (ft) =	1.52	2.57	2.04	2.45	2.75	3.39	3.98	4.38	5.16
Area at Maximum Ponding Depth (acres) =	0.37	0.49	0.47	0.49	0.50	0.53	0.55	0.59	0.66
Maximum Volume Stored (acre-ft) =	0.306	0.783	0.523	0.719	0.873	1.197	1.516	1.745	2.237

WQCV WSEL: 5736.52
EURV WSEL: 5737.57
100-YR WSEL: 5739.38
WEIR WSEL: 5739.40 (UNCHANGED)
TOP OF POND: 5741.25 (UNCHANGED)

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.07 (June 2025)



DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename: _____

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.21
	0:15:00	0	0.00	0.55	0.90	1.12	0.76	0.97	0.95	1.39
	0:20:00	0	0.00	2.02	2.66	3.18	2.03	2.40	2.57	3.42
	0:25:00	0	0.00	4.67	6.80	8.60	4.53	5.66	6.29	8.97
	0:30:00	0	0.00	6.22	8.70	10.68	12.38	16.52	19.96	30.28
	0:35:00	0	0.00	6.22	8.54	10.44	16.26	21.34	27.70	40.86
	0:40:00	0	0.00	5.87	7.90	9.58	16.73	21.99	28.66	42.24
	0:45:00	0	0.00	5.35	7.24	8.78	15.51	20.25	27.09	40.20
	0:50:00	0	0.00	4.91	6.68	8.00	14.40	18.65	24.79	37.15
	0:55:00	0	0.00	4.54	6.16	7.40	12.89	16.61	22.32	33.41
	1:00:00	0	0.00	4.23	5.72	6.87	11.67	15.02	20.39	30.60
	1:05:00	0	0.00	3.94	5.29	6.35	10.64	13.64	18.79	28.32
	1:10:00	0	0.00	3.56	4.87	5.85	9.52	12.12	16.51	24.80
	1:15:00	0	0.00	3.20	4.43	5.42	8.43	10.64	14.29	21.36
	1:20:00	0	0.00	2.92	4.05	5.02	7.36	9.20	12.10	18.06
	1:25:00	0	0.00	2.73	3.79	4.64	6.57	8.19	10.53	15.66
	1:30:00	0	0.00	2.57	3.57	4.31	5.91	7.34	9.33	13.78
	1:35:00	0	0.00	2.43	3.37	3.99	5.35	6.62	8.31	12.16
	1:40:00	0	0.00	2.29	3.10	3.70	4.83	5.94	7.38	10.69
	1:45:00	0	0.00	2.15	2.82	3.42	4.35	5.31	6.49	9.30
	1:50:00	0	0.00	2.01	2.56	3.14	3.89	4.69	5.64	7.97
	1:55:00	0	0.00	1.78	2.31	2.84	3.43	4.09	4.82	6.71
	2:00:00	0	0.00	1.56	2.04	2.49	3.00	3.52	4.05	5.53
	2:05:00	0	0.00	1.26	1.65	2.00	2.37	2.72	3.07	4.11
	2:10:00	0	0.00	1.00	1.30	1.60	1.78	2.00	2.19	2.93
	2:15:00	0	0.00	0.80	1.05	1.31	1.35	1.51	1.62	2.17
	2:20:00	0	0.00	0.67	0.87	1.09	1.06	1.19	1.25	1.66
	2:25:00	0	0.00	0.55	0.72	0.90	0.85	0.95	0.97	1.27
	2:30:00	0	0.00	0.45	0.60	0.74	0.69	0.77	0.76	0.98
	2:35:00	0	0.00	0.37	0.49	0.61	0.55	0.61	0.59	0.74
	2:40:00	0	0.00	0.30	0.40	0.49	0.44	0.49	0.45	0.56
	2:45:00	0	0.00	0.25	0.32	0.39	0.35	0.38	0.35	0.43
	2:50:00	0	0.00	0.20	0.26	0.31	0.28	0.30	0.28	0.34
	2:55:00	0	0.00	0.16	0.20	0.25	0.22	0.24	0.22	0.27
	3:00:00	0	0.00	0.13	0.16	0.20	0.18	0.19	0.18	0.21
	3:05:00	0	0.00	0.10	0.13	0.15	0.14	0.15	0.14	0.17
	3:10:00	0	0.00	0.08	0.10	0.12	0.10	0.11	0.10	0.12
	3:15:00	0	0.00	0.05	0.07	0.08	0.08	0.08	0.07	0.09
	3:20:00	0	0.00	0.04	0.05	0.06	0.05	0.05	0.05	0.06
	3:25:00	0	0.00	0.02	0.03	0.04	0.03	0.03	0.03	0.03
	3:30:00	0	0.00	0.01	0.02	0.02	0.02	0.02	0.01	0.02
	3:35:00	0	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00
	3:40:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:45:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:50:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:55:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:10:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:15:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:20:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:25:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:30:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:35:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:40:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:45:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:50:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:55:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:00:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:05:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:10:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:15:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:20:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:40:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:50:00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ELX FOREBAY SIZING CALCULATOR

PROJECT: SUNSET VILLAGE FILING NO. 4

DATE: 3/29/2026

DESIGNED BY: CDS

CHECKED BY: CDS

POND OR DP: POND 2

	INNER DIMENSIONS		OUTER DIMENSIONS	
LENGTH				
L1	3.50 FT		4.33 FT	
L2	7.00 FT		7.83 FT	
L3	3.50 FT		4.33 FT	
INNER L	14.00 FT		OUTER TOTAL L	15.666 FT
WIDTH				
W1	3.50 FT		4.33 FT	
W2	7.00 FT		7.83 FT	
W3	3.50 FT		4.33 FT	
INNER W	14.00 FT		OUTER TOTAL W	15.67 FT

BAFFLE (W2x1.50 x 0.83' + 4' x 0.83')
AREA 12.0785 SF

TRIANGLES 24.5
 RECTANGLE 49.0
 BAFFLE 12.0785
TOTAL SURFACE AREA 61.4 SQ FT

FOREBAY HT. **2.5 FT**

FOREBAY VOLUME **154 CF**
5.7 CY
0.004 AC-FT

Sub-Watershed Imperviousness	0.340	
Sub-Watershed Area	22.2	AC
Sub-Watershed WQCV	0.303	AC-FT
REQ'D VOL (1% SUB-WATERSHED WQCV)	0.003	AC-FT
(per UD-BMP calc)	132	CF
Notch Width per UD-BMP	1.2	in

*t = 5 mins

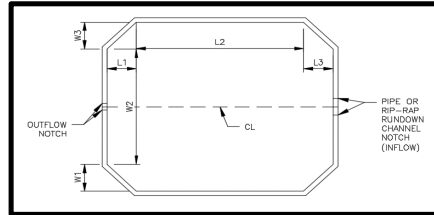


TABLE 4-12. FOREBAY SIZING CRITERIA

FOREBAY SIZING CRITERIA	WATERSHED IMPERVIOUS AREA (IA)				
	IA UP TO 2 ACRES	IA 2 UP TO 5 ACRES	IA 5 UP TO 10 ACRES	IA 10 UP TO 20 ACRES	IA GREATER THAN 20 ACRES
Forebay Release Rate and Configuration	Concrete sediment pad with dense grasses surrounding, concrete pad with slotted metal edge, or similar design				
Minimum Forebay Volume ¹	Size to drain in 4 to 5 minutes using Equation 4-1				
Forebay Depth ¹	1% of WQCV				
	12 to 15 inches	15 to 18 inches	18 to 24 inches	24 to 30 inches	

¹ Appropriate volume and depth should consider maintenance and access needs. The values provided are approximate and provide a starting point for design.

$$w = 9.23 (A_{FB} / t) (1 / \sqrt{h_{max}}) \quad \text{Equation 4-1}$$

Where:

w = width of the rectangular vertical notch (inches)

A_{FB} = surface area of the forebay (square feet)

t = emptying time of the brim-full forebay (seconds)

h_{max} = maximum depth of the forebay (feet)

Design Procedure Form: Extended Detention Basin (EDB)

UD-BMP (Version 3.07, March 2018)

Sheet 1 of 3

Designer: **CARLOS SERRANO, PE**
 Company: **ELX**
 Date: **March 30, 2026**
 Project: **SUNSET VILLAGE FILING NO. 4**
 Location: **POND B**

1. Basin Storage Volume

- A) Effective Imperviousness of Tributary Area, I_a
- B) Tributary Area's Imperviousness Ratio ($i = I_a / 100$)
- C) Contributing Watershed Area
- D) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm
- E) Design Concept
(Select EURV when also designing for flood control)
- F) Design Volume (WQCV) Based on 40-hour Drain Time
($V_{DESIGN} = (1.0 * (0.91 * i^3 - 1.19 * i^2 + 0.78 * i)) / 12 * \text{Area}$)
- G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume
($V_{WQCV \text{ OTHER}} = (d_b * (V_{DESIGN} / 0.43))$)
- H) User Input of Water Quality Capture Volume (WQCV) Design Volume
(Only if a different WQCV Design Volume is desired)
- I) NRCS Hydrologic Soil Groups of Tributary Watershed
 i) Percentage of Watershed consisting of Type A Soils
 ii) Percentage of Watershed consisting of Type B Soils
 iii) Percentage of Watershed consisting of Type C/D Soils
- J) Excess Urban Runoff Volume (EURV) Design Volume
 For HSG A: $EURV_A = 1.68 * i^{1.28}$
 For HSG B: $EURV_B = 1.36 * i^{1.08}$
 For HSG C/D: $EURV_{C/D} = 1.20 * i^{1.08}$
- K) User Input of Excess Urban Runoff Volume (EURV) Design Volume
(Only if a different EURV Design Volume is desired)

$I_a = 34.0$ %

$i = 0.340$

Area = 22,230 ac

$d_b =$ in

Choose One

- ☐ Water Quality Capture Volume (WQCV)
☒ Excess Urban Runoff Volume (EURV)

$V_{DESIGN} = 0.303$ ac-ft

$V_{DESIGN \text{ OTHER}} =$ ac-ft

$V_{DESIGN \text{ USER}} =$ ac-ft

HSG A = 100 %

HSG B = 0 %

HSG C/D = 0 %

$EURV_{DESIGN} =$ ac-ft

$EURV_{DESIGN \text{ USER}} = 0.782$ ac-ft

2. Basin Shape: Length to Width Ratio

(A basin length to width ratio of at least 2:1 will improve TSS reduction.)

L : W = 2.0 : 1

3. Basin Side Slopes

- A) Basin Maximum Side Slopes
(Horizontal distance per unit vertical, 4:1 or flatter preferred)

Z = 4.00 ft / ft

4. Inlet

- A) Describe means of providing energy dissipation at concentrated inflow locations:

5. Forebay

- A) Minimum Forebay Volume
($V_{MIN} = 3\%$ of the WQCV)

- B) Actual Forebay Volume

- C) Forebay Depth
($D_F = 18$ inch maximum)

- D) Forebay Discharge

- i) Undetained 100-year Peak Discharge

- ii) Forebay Discharge Design Flow
($Q_F = 0.02 * Q_{100}$)

- E) Forebay Discharge Design

- F) Discharge Pipe Size (minimum 8-inches)

- G) Rectangular Notch Width

$V_{MIN} = 0.009$ ac-ft

$V_F = 0.003$ ac-ft **VF < MINIMUM VF**

$D_F = 30.0$ in **DF > DF MAXIMUM**

$Q_{100} = 28.70$ cfs

$Q_F = 0.57$ cfs

Choose One

- ☐ Berm With Pipe
☒ Wall with Rect. Notch
☐ Wall with V-Notch Weir

Flow too small for berm w/ pipe

Calculated $D_P =$ in

Calculated $W_N = 6.5$ in

Design Procedure Form: Extended Detention Basin (EDB)

Sheet 2 of 3

Designer: CARLOS SERRANO, PE
 Company: ELX
 Date: March 30, 2026
 Project: SUNSET VILLAGE FILING NO. 4
 Location: POND B

6. Trickle Channel

A) Type of Trickle Channel

F) Slope of Trickle Channel

Choose One

☒ Concrete

☐ Soft Bottom

S = 0.0050 ft / ft

7. Micropool and Outlet Structure

A) Depth of Micropool (2.5-feet minimum)

B) Surface Area of Micropool (10 ft² minimum)

C) Outlet Type

D_M = 2.5 ft

A_M = 15 sq ft

Choose One

☒ Orifice Plate

☐ Other (Describe):

D) Smallest Dimension of Orifice Opening Based on Hydrograph Routing
(Use UD-Detention)

D_{orifice} = inches

E) Total Outlet Area

A_{ot} = square inches

8. Initial Surge Volume

A) Depth of Initial Surge Volume
(Minimum recommended depth is 4 inches)

B) Minimum Initial Surge Volume
(Minimum volume of 0.3% of the WQCV)

C) Initial Surge Provided Above Micropool

D_{is} = in

V_{is} = 40 cu ft

V_s = cu ft

9. Trash Rack

A) Water Quality Screen Open Area: $A_t = A_{ot} * 38.5 * (e^{-0.095D})$

B) Type of Screen (If specifying an alternative to the materials recommended in the USDCM, indicate "other" and enter the ratio of the total open area to the total screen area for the material specified.)

Other (Y/N): N

A_t = square inches

C) Ratio of Total Open Area to Total Area (only for type 'Other')

User Ratio =

D) Total Water Quality Screen Area (based on screen type)

A_{total} = sq. in.

E) Depth of Design Volume (EURV or WQCV)
(Based on design concept chosen under 1E)

H = feet

F) Height of Water Quality Screen (H_{TR})

H_{TR} = inches

G) Width of Water Quality Screen Opening (W_{opening})
(Minimum of 12 inches is recommended)

W_{opening} = inches