HRGreen®

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October 15, 2025

El Paso County Engineering Division
Department of Public Works
3275 Akers Drive
Colorado Springs, Colorado 80922

Re: Professional Engineer's Certification of Permanent Control Measure
Flying Horse North Filing No. 3, Pond B

This letter serves as a Pond Certification for the constructed Full Spectrum Detention Facility "Pond B" located in Flying Horse North Filing No. 3. The permanent control measure is located at the west end of Allen Ranch Road, south of Lot 20 and west of Lot 19, Filing No. 3, El Paso County, Colorado.

The detention facility was designed by a Colorado Licensed Professional Engineer of HR Green Development, LLC. and the design is within the County approved Construction Drawings dated July 8, 2024 and is referred to as "Pond B" within Tract A of the development. A Colorado Licensed Professional Surveyor conducted an as-built survey of the facility in August of 2025 to verify the basin and infrastructure dimensions, elevations, materials, inverts, and slopes as required for determination of inflow and outflow hydraulics.

The September 2025 as-built conditions of the basin and its infrastructure were assessed and compared to the approved Construction Drawings and design worksheets within the approved Final Drainage Report. The facility was found to be in general compliance with the design, and it is anticipated that the facility will function as intended with no negative impacts to surrounding and downstream developments, property, or infrastructure. General compliance allows for construction tolerances and is based on the information provided by the as-built survey.

The facility is in a stabilized condition and there are no proposed modifications required at this time.

Sincerely,

HR GREEN, INC.
Richard D Lyon

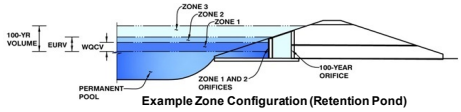
Richard D. Lyon, PE
Project Manager, Civil Engineer
HR Green Development, LLC.

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.06 (July 2022)

Project: FLYING HORSE NORTH FILING NO. 3

Basin ID: POND B - DESIGN POINT 17 (SW POND ESTATES AREA)



Example Zone Configuration (Retention Pond)

Watershed Information

Selected BMP Type =	EDB	
Watershed Area =	128.40	acres
Watershed Length =	4,000	ft
Watershed Length to Centroid =	665	ft
Watershed Slope =	0.050	ft/ft
Watershed Imperviousness =	10.04%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	100.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

			Optional User Overrides
Water Quality Capture Volume (WQCV) =	0.719	acre-feet	acre-feet
Excess Urban Runoff Volume (EURV) =	1.212	acre-feet	acre-feet
2-yr Runoff Volume (P1 = 1.19 in.) =	1.712	acre-feet	1.19 inches
5-yr Runoff Volume (P1 = 1.5 in.) =	3.777	acre-feet	1.50 inches
10-yr Runoff Volume (P1 = 1.75 in.) =	5.836	acre-feet	1.75 inches
25-yr Runoff Volume (P1 = 2 in.) =	9.505	acre-feet	2.00 inches
50-yr Runoff Volume (P1 = 2.25 in.) =	12.010	acre-feet	2.25 inches
100-yr Runoff Volume (P1 = 2.52 in.) =	15.612	acre-feet	2.52 inches
500-yr Runoff Volume (P1 = 3.14 in.) =	22.181	acre-feet	inches
Approximate 2-yr Detention Volume =	0.774	acre-feet	
Approximate 5-yr Detention Volume =	1.214	acre-feet	
Approximate 10-yr Detention Volume =	2.515	acre-feet	
Approximate 25-yr Detention Volume =	3.510	acre-feet	
Approximate 50-yr Detention Volume =	3.673	acre-feet	
Approximate 100-yr Detention Volume =	4.746	acre-feet	

Define Zones and Basin Geometry

Zone 1 Volume (WQCV) =	0.719	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.493	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	3.534	acre-feet
Total Detention Basin Volume =	4.746	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	

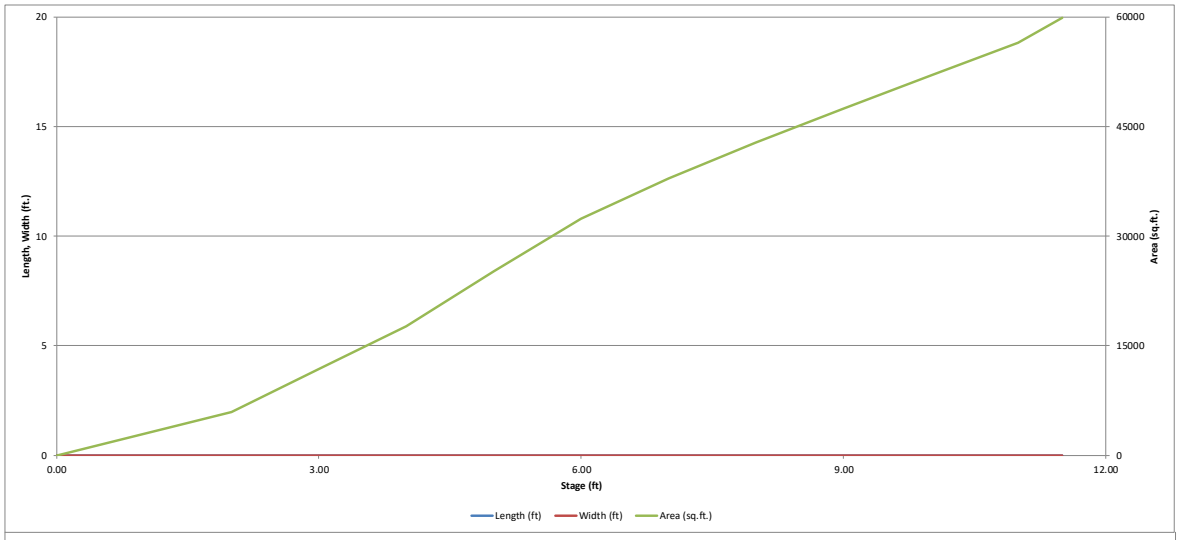
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

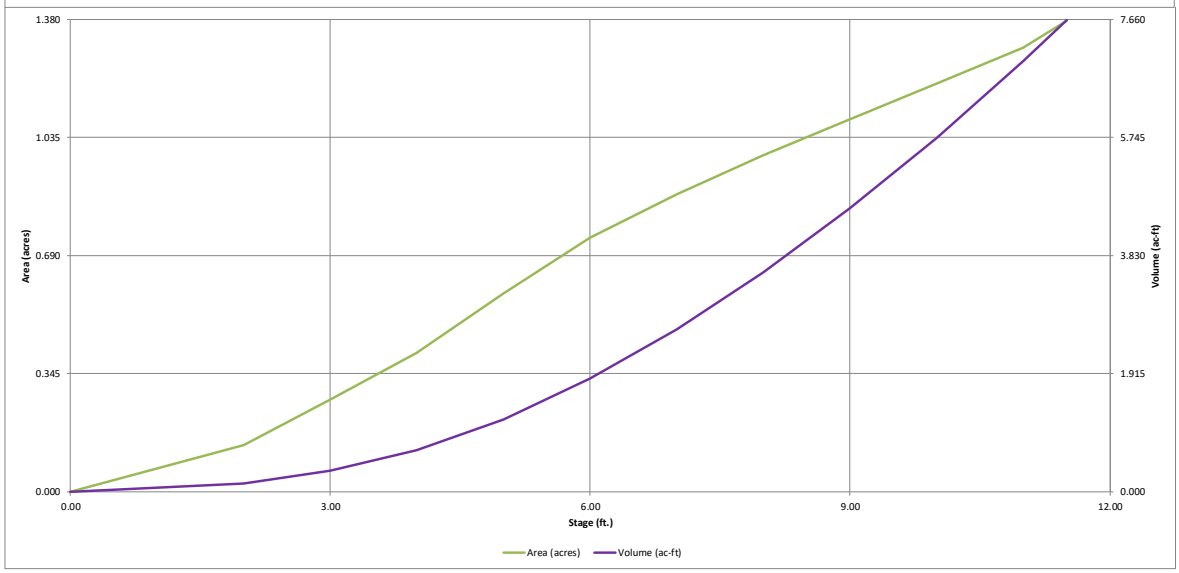
Depth Increment = ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
7365 **Top of Micropool**	--	0.00	--	--	--	15	0.000		
7367	--	2.00	--	--	--	5,942	0.136	5,957	0.137
7368	--	3.00	--	--	--	11,757	0.270	14,806	0.340
7369	--	4.00	--	--	--	17,655	0.405	29,513	0.678
7370	--	5.00	--	--	--	25,216	0.579	50,949	1.170
7371	--	6.00	--	--	--	32,345	0.743	79,729	1.830
7372	--	7.00	--	--	--	37,889	0.870	114,847	2.637
7373	--	8.00	--	--	--	42,809	0.983	155,196	3.563
7374	--	9.00	--	--	--	47,409	1.088	200,305	4.598
7375	--	10.00	--	--	--	51,973	1.193	249,996	5.739
7376	--	11.00	--	--	--	56,501	1.297	304,233	6.984
7676.5	--	11.50	--	--	--	59,927	1.376	333,341	7.652

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.06 (July 2022)



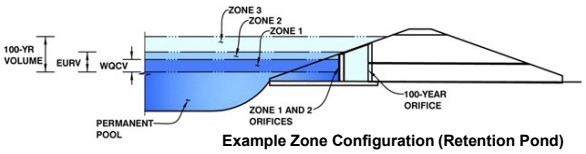


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

Project: **FLYING HORSE NORTH FILING NO. 3**

Basin ID: **POND B - DESIGN POINT 17 (SW POND ESTATES AREA)**



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	4.11	0.719	Orifice Plate
Zone 2 (EURV)	5.08	0.493	Orifice Plate
Zone 3 (100-year)	9.14	3.534	Weir&Pipe (Restrict)
Total (all zones)		4.746	

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

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)	Underdrain Orifice Area =	N/A	ft²
Underdrain Orifice Diameter =	N/A	inches	Underdrain Orifice Centroid =	N/A	feet

Calculated Parameters for Underdrain

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

Centroid of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	N/A	ft²
Depth at top of Zone using Orifice Plate =	6.50	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	N/A	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	N/A	sq. inches	Elliptical Slot Area =	N/A	ft²

Calculated Parameters for Plate

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	0.50	3.50					
Orifice Area (sq. inches)	1.98	1.98	10.00					

	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)

	Not Selected	Not Selected			Not Selected	Not Selected	
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	N/A	N/A	ft²
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	N/A	N/A	feet
Vertical Orifice Diameter =	N/A	N/A	inches				

Calculated Parameters for Vertical Orifice

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

	Zone 3 Weir	Not Selected			Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	8.16	N/A	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	8.16	N/A	feet
Overflow Weir Front Edge Length =	12.00	N/A	feet	Overflow Weir Slope Length =	12.00	N/A	feet
Overflow Weir Grate Slope =	0.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	11.26	N/A	
Horiz. Length of Weir Sides =	12.00	N/A	feet	Overflow Grate Open Area w/o Debris =	100.22	N/A	ft²
Overflow Grate Type =	Type C Grate	N/A		Overflow Grate Open Area w/ Debris =	50.11	N/A	ft²
Debris Clogging % =	50%	N/A	%				

Calculated Parameters for Overflow Weir

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

	Zone 3 Restrictor	Not Selected			Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.55	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	8.90	N/A	ft²
Outlet Pipe Diameter =	48.00	N/A	inches	Outlet Orifice Centroid =	1.50	N/A	feet
Restrictor Plate Height Above Pipe Invert =	32.00		inches	Half-Central Angle of Restrictor Plate on Pipe =	1.91	N/A	radians

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	10.90	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	1.51	feet
Spillway Crest Length =	42.00	feet	Stage at Top of Freeboard =	13.41	feet
Spillway End Slopes =	3.00	H:V	Basin Area at Top of Freeboard =	1.38	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	7.65	acre-ft

Calculated Parameters for Spillway

Routed Hydrograph Results

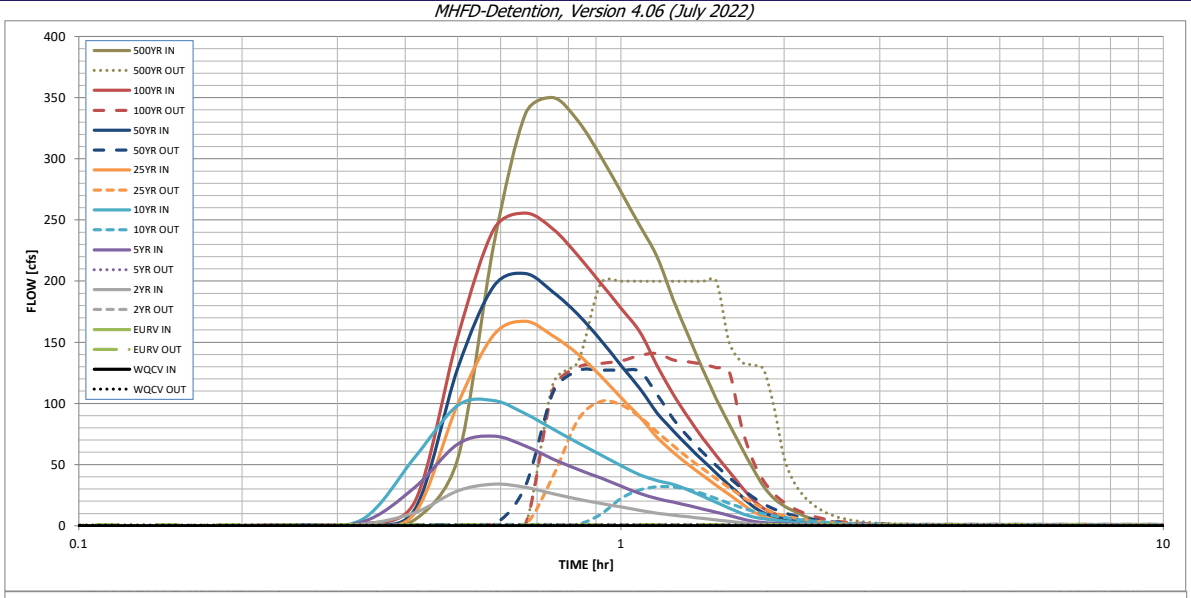
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

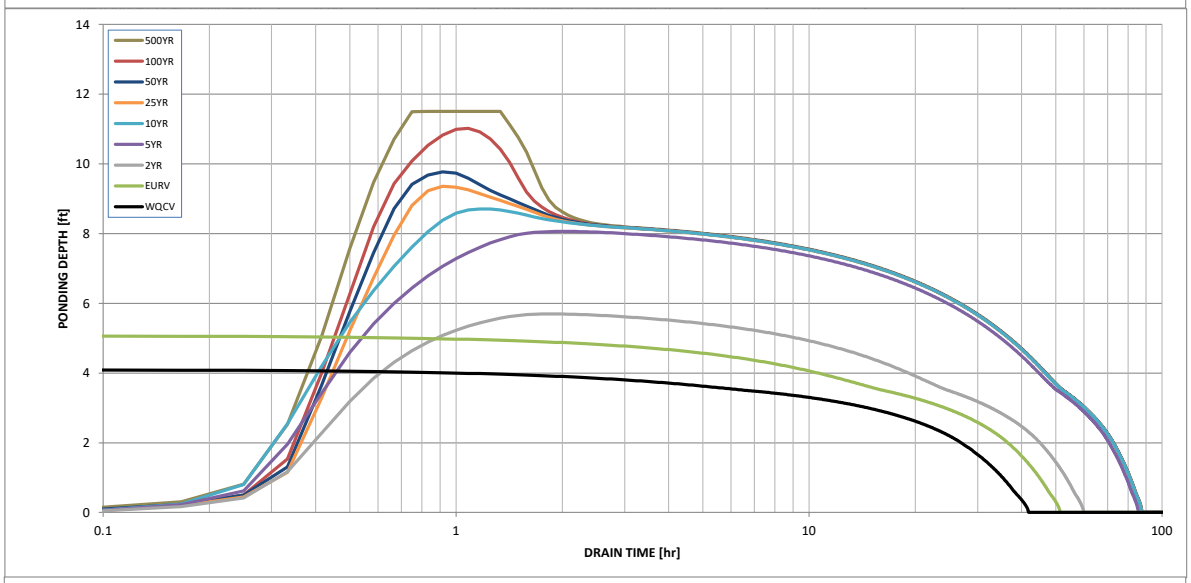
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	1.19	1.50	1.75	2.00	2.25	2.52	3.14
CUHP Runoff Volume (acre-ft) =	0.719	1.212	1.712	3.777	5.836	9.505	12.010	15.612	22.181
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	1.712	3.777	5.836	9.505	12.010	15.612	22.181
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	21.6	60.5	90.2	156.2	196.0	245.6	340.6
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A							
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.17	0.47	0.70	1.22	1.53	1.91	2.65
Peak Inflow Q (cfs) =	N/A	N/A	34.0	73.1	102.2	167.0	206.1	255.5	350.0
Peak Outflow Q (cfs) =	0.5	0.7	0.8	1.1	31.8	101.4	127.2	140.8	199.8
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.0	0.4	0.6	0.6	0.6	0.6
Structure Controlling Flow =	Plate	Plate	Plate	Plate	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1	Spillway	N/A
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	N/A	0.3	1.0	1.3	1.3	1.4
Max Velocity through Grate 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) =	37	45	52	73	70	63	59	54	47
Time to Drain 99% of Inflow Volume (hours) =	**39**	48	56	79	79	76	74	71	67
Maximum Ponding Depth (ft) =	4.11	5.08	5.69	8.06	8.70	9.35	9.76	11.01	11.50
Area at Maximum Ponding Depth (acres) =	0.42	0.59	0.69	0.99	1.06	1.12	1.17	1.30	1.38
Maximum Volume Stored (acre-ft) =	0.723	1.216	1.601	3.612	4.266	4.974	5.456	6.997	7.652

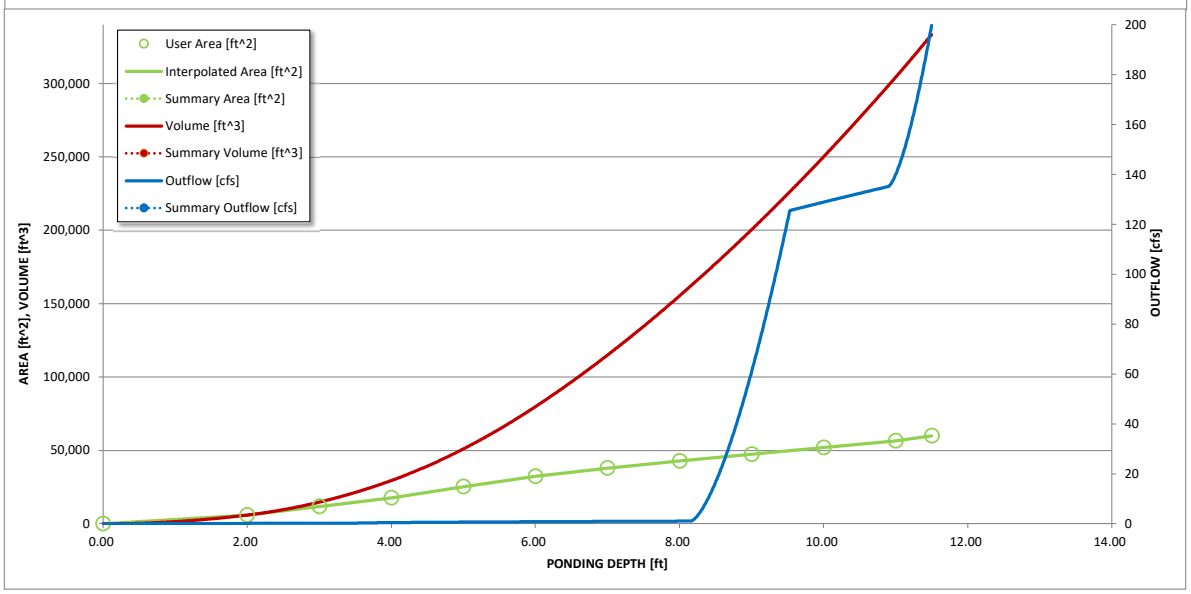
within construction tolerances

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)







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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.11
	0:15:00	0.00	0.00	0.31	0.51	0.63	0.43	0.54	0.52	0.78
	0:20:00	0.00	0.00	1.21	2.95	5.26	1.21	1.42	1.51	4.98
	0:25:00	0.00	0.00	10.68	31.36	55.82	10.14	13.30	19.55	54.54
	0:30:00	0.00	0.00	28.42	66.78	98.24	99.45	128.55	154.20	230.29
	0:35:00	0.00	0.00	33.98	73.15	102.23	156.12	195.91	242.38	336.87
	0:40:00	0.00	0.00	31.23	65.13	91.38	167.03	206.14	255.53	349.97
	0:45:00	0.00	0.00	26.10	54.48	79.00	155.12	190.98	242.47	330.99
	0:50:00	0.00	0.00	21.53	46.03	67.71	140.15	172.64	220.73	302.46
	0:55:00	0.00	0.00	18.23	39.06	58.09	122.53	151.98	198.55	273.07
	1:00:00	0.00	0.00	15.28	32.32	49.23	104.82	131.10	177.90	245.38
	1:05:00	0.00	0.00	12.59	26.33	41.63	88.96	112.21	158.58	219.77
	1:10:00	0.00	0.00	10.20	22.16	36.87	72.26	92.16	130.72	184.53
	1:15:00	0.00	0.00	8.53	19.20	33.63	59.86	77.41	107.13	154.57
	1:20:00	0.00	0.00	7.16	16.31	29.08	49.68	64.52	87.81	127.57
	1:25:00	0.00	0.00	5.93	13.56	23.88	40.98	53.21	71.37	103.66
	1:30:00	0.00	0.00	4.73	10.92	18.95	32.94	42.85	57.26	83.12
	1:35:00	0.00	0.00	3.56	8.38	14.35	25.48	33.28	44.28	64.35
	1:40:00	0.00	0.00	2.43	5.66	10.13	18.37	24.23	32.16	47.03
	1:45:00	0.00	0.00	1.53	3.55	7.20	11.75	15.84	21.26	32.02
	1:50:00	0.00	0.00	1.09	2.48	5.63	7.42	10.47	14.13	22.22
	1:55:00	0.00	0.00	0.87	1.95	4.59	4.93	7.35	9.78	16.10
	2:00:00	0.00	0.00	0.73	1.60	3.70	3.44	5.43	6.88	11.94
	2:05:00	0.00	0.00	0.57	1.24	2.88	2.31	3.82	4.59	8.37
	2:10:00	0.00	0.00	0.43	0.93	2.17	1.55	2.64	2.88	5.55
	2:15:00	0.00	0.00	0.32	0.69	1.59	1.03	1.80	1.68	3.50
	2:20:00	0.00	0.00	0.24	0.51	1.13	0.66	1.20	0.92	2.13
	2:25:00	0.00	0.00	0.18	0.37	0.78	0.45	0.83	0.60	1.42
	2:30:00	0.00	0.00	0.14	0.27	0.53	0.32	0.58	0.44	0.99
	2:35:00	0.00	0.00	0.11	0.19	0.37	0.22	0.41	0.33	0.73
	2:40:00	0.00	0.00	0.08	0.13	0.28	0.16	0.30	0.25	0.55
	2:45:00	0.00	0.00	0.06	0.09	0.20	0.12	0.23	0.19	0.42
	2:50:00	0.00	0.00	0.04	0.05	0.14	0.09	0.16	0.14	0.30
	2:55:00	0.00	0.00	0.03	0.03	0.09	0.06	0.11	0.09	0.21
	3:00:00	0.00	0.00	0.02	0.02	0.05	0.04	0.07	0.06	0.13
	3:05:00	0.00	0.00	0.01	0.01	0.02	0.02	0.04	0.03	0.07
	3:10:00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.01	0.03
	3:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00