Stormwater Detention and Infiltration Design Data Sheet

SDI-Design Data v2.00, Released January 2020

Stormwater Facility Name: Villas at Claremont Ranch Extended Detention Basin

Facility Location & Jurisdiction: Villas at Claremont Ranch, El Paso County, CO

User Input: Watershed Characteristics

	Extended Detention Basin (EDB)	•	EDB			
Watershed Area =			7.83		acres	
	Watershed Lengtl	1,300		ft		
	Watershed Length to Centroid	1,130		ft		
	Watershed Slope	0.015		ft/ft		
	Watershed Imperviousnes	s =	52.7%		percent	
	Percentage Hydrologic Soil Group A	25.8%		percent		
	Percentage Hydrologic Soil Group I	74.2%		percent		
	Percentage Hydrologic Soil Groups C/[0.0%		percent		
	Target WQCV Drain Time		hours			
Location for 1-hr Rainfall Depths (use dropdown):						
	•					

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

Once CUHP has been run and the Stage-Area-Discharge information has been provided, click 'Process Data' to interpolate the Stage-Area-Volume-Discharge data and generate summary results in the table below. Once this is complete, click 'Print to PDF'.

User Defined	User Defined	User Defined	User Defined
Stage [ft]	Area [ft^2]	Stage [ft]	Discharge [cfs]
0.00	0	0.00	0.00
2.06	5,227	2.06	0.10
3.58	7,840	3.58	0.11
4.06	8,712	4.06	0.20
4.18	8,712	4.18	1.20
4.27	9,148	4.27	2.60
4.48	9,148	4.48	3.90
4.84	10,018	4.84	4.00
5.43	11,326	5.43	4.84
6.14	12,632	6.14	7.80

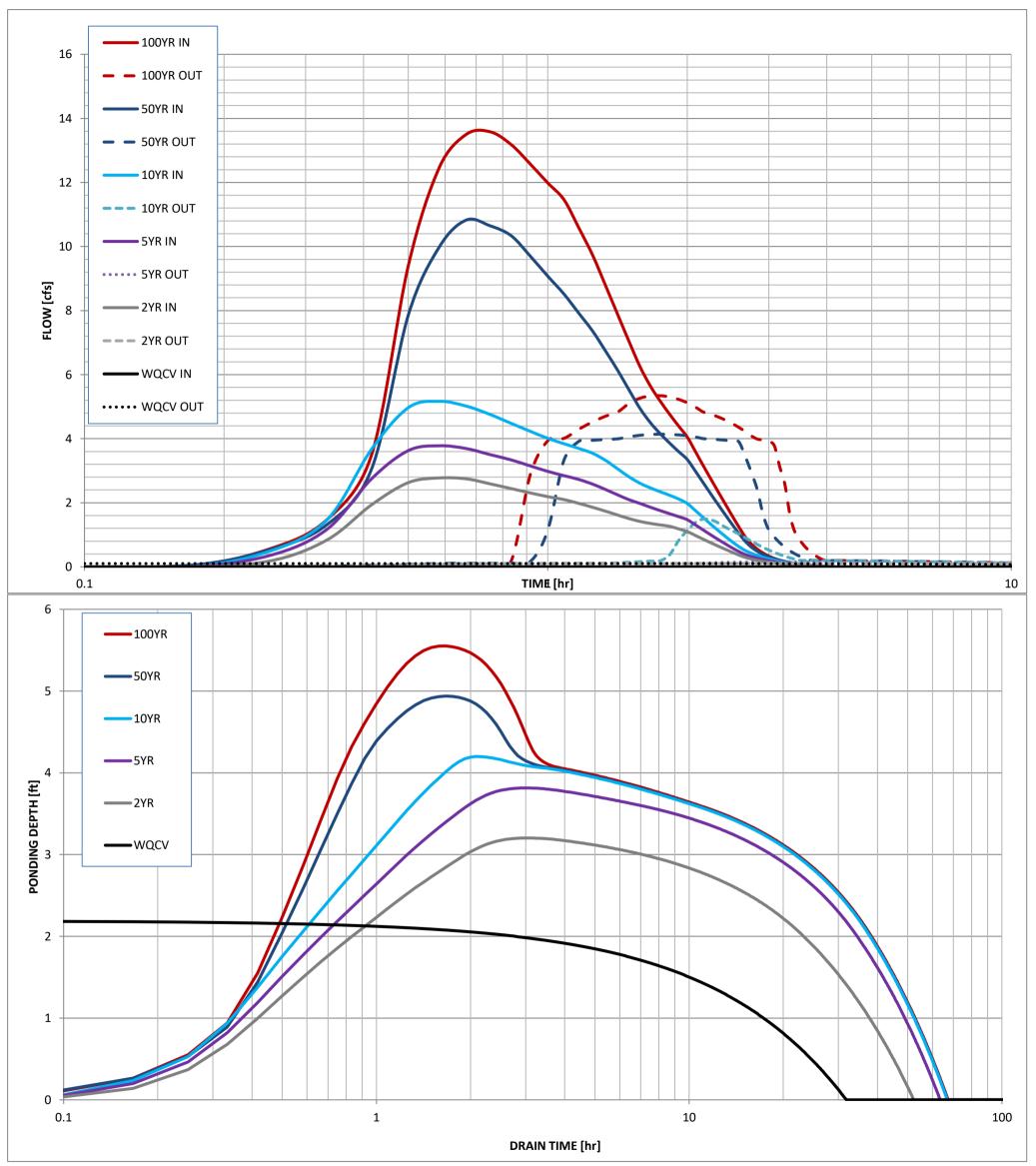
After completing and printing this worksheet to a pdf, go to: https://maperture.digitaldataservices.com/gvh/?viewer=cswdif Create a new stormwater facility, and attach the PDF of this worksheet to that record.

Routed Hydrograph Results

							
Design Storm Return Period =	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year	I
One-Hour Rainfall Depth =	N/A	0.99	1.27	1.54	2.29	2.67	in
CUHP Runoff Volume =	0.139	0.312	0.425	0.573	1.084	1.368	acre-ft
Inflow Hydrograph Volume =	N/A	0.312	0.425	0.573	1.084	1.368	acre-ft
Time to Drain 97% of Inflow Volume =	26.3	44.1	53.9	55.8	51.8	50.1	hours
Time to Drain 99% of Inflow Volume =	28.7	47.6	58.0	60.5	58.3	57.3	hours
Maximum Ponding Depth =	2.20	3.20	3.81	4.20	4.94	5.55	ft
Maximum Ponded Area =	0.13	0.16	0.19	0.20	0.23	0.26	acres
Maximum Volume Stored =	0.140	0.286	0.394	0.470	0.630	0.783	acre-ft

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