

**Stormwater Detention and Infiltration Design Data Sheet**

Workbook Protected

Worksheet Protected

Stormwater Facility Name: **Freedom Springs Full Spectrum Detention Sand Filter Basin**

Facility Location & Jurisdiction: **734 Westerrn Drive, El Paso County, Colorado**

**User Input: Watershed Characteristics**

Watershed Slope = 0.036 ft/ft  
 Watershed Length = 430 ft  
 Watershed Area = 2.25 acres  
 Watershed Imperviousness = 61.8% percent  
 Percentage Hydrologic Soil Group A = 100.0% percent  
 Percentage Hydrologic Soil Group B = 0.0% percent  
 Percentage Hydrologic Soil Groups C/D = 0.0% percent

Location for 1-hr Rainfall Depths (use dropdown):

User Input ▼

WQCV Treatment Method = Sand Filter ▼

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	3,208	0.00	0.00
0.25	3,500	0.25	0.04
0.50	3,818	0.50	0.06
0.75	4,148	0.75	0.09
1.00	4,505	1.00	0.15
1.25	4,844	1.25	0.19
1.50	5,214	1.50	0.26
1.75	5,596	1.75	0.31
2.00	6,011	2.00	1.10
2.25	6,396	2.25	1.13
2.50	6,817	2.50	1.16
2.75	7,250	2.75	3.75
3.00	7,715	3.00	9.29
3.25	8,151	3.25	17.63
3.50	8,622	3.50	28.89
3.75	9,105	3.75	43.25
4.00	9,631	4.00	60.87

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**

	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year
Design Storm Return Period =						
One-Hour Rainfall Depth =	0.53	1.19	1.50	1.75	2.25	2.52
Calculated Runoff Volume =	0.036	0.117	0.153	0.186	0.273	0.327
OPTIONAL Override Runoff Volume =						
Inflow Hydrograph Volume =	0.035	0.117	0.152	0.186	0.272	0.326
Time to Drain 97% of Inflow Volume =	21.3	24.1	24.4	24.6	23.5	22.8
Time to Drain 99% of Inflow Volume =	27.6	30.3	30.6	30.9	29.8	29.1
Maximum Ponding Depth =	0.38	1.12	1.38	1.62	2.02	2.27
Maximum Ponded Area =	0.08	0.11	0.12	0.12	0.14	0.15
Maximum Volume Stored =	0.030	0.100	0.130	0.158	0.210	0.246

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