Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected Worksheet Protected

Stormwater Facility Name: Pond W-5

Facility Location & Jurisdiction: Sterling Ranch Sudivision, Marksheffel Road, El Paso County / El Paso County

User Input: Watershed Characteristics

Watershed Slope =	0.025	ft/ft
Watershed Length =	3888	ft
Watershed Area =	173.97	acres
Watershed Imperviousness =	57.6%	percent
Percentage Hydrologic Soil Group A =	85.0%	percent
Percentage Hydrologic Soil Group B =	15.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent

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

User Input

WQCV Treatment Method = Extended Detention

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	20	0.00	0.00
0.50	1,328	0.50	0.30
1.50	13,823	1.50	0.42
2.50	40,724	2.50	0.91
3.50	71,720	3.50	1.27
4.50	112,095	4.50	1.72
5.50	136,106	5.50	2.21
6.50	158,377	6.50	2.57
7.50	174,976	7.50	12.90
8.50	188,903	8.50	150.53
9.50	199,637	9.50	363.96
10.50	210,510	10.50	748.70

adjust inputs to meet 72hr requirement

After completing and printing this worksheet to a pdf, go to:
https://maperture.digitaldataservices.com/gvhx?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	
One-Hour Rainfall Depth =	0.53	1.19	1.50	1.75	2.25	2.52	in
Calculated Runoff Volume =	3.311	8.045	10.858	13.768	21.831	25.847	acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	3.310	8.037	10.852	13.759	21.823	25.841	acre-ft
Time to Drain 97% of Inflow Volume =	38.7	64.2	76.0	79.7	77.6	76.0	hours
Time to Drain 99% of Inflow Volume =	40.9	68.8	81.7	86.0	85.6	84.8	hours
Maximum Ponding Depth =	4.04	5.71	6.52	7.15	8.15	8.52	ft
Maximum Ponded Area =	2.13	3.23	3.64	3.88	4.22	4.34	acres
Maximum Volume Stored =	3.093	7.699	10.469	12.826	16.933	18.507	acre-ft

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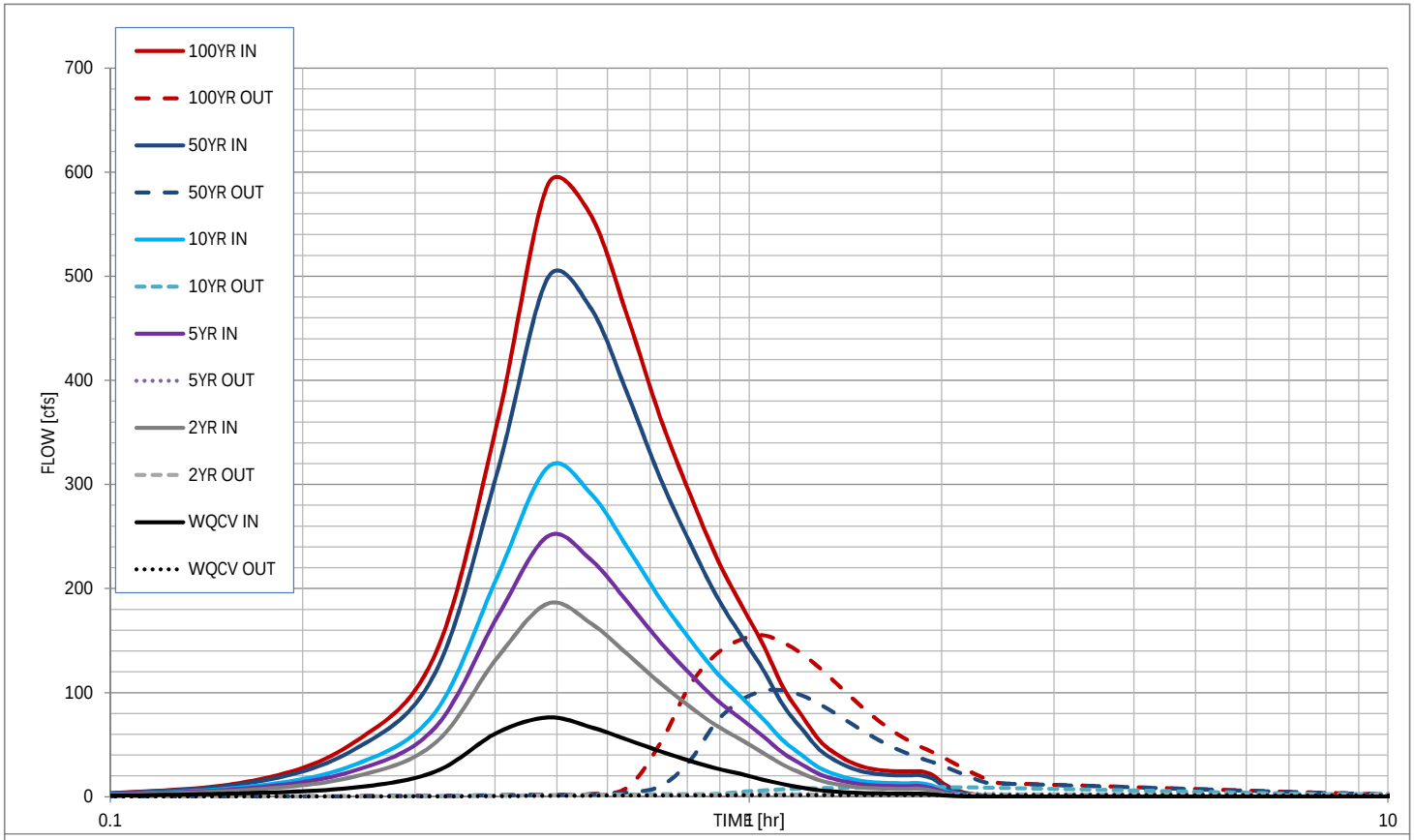

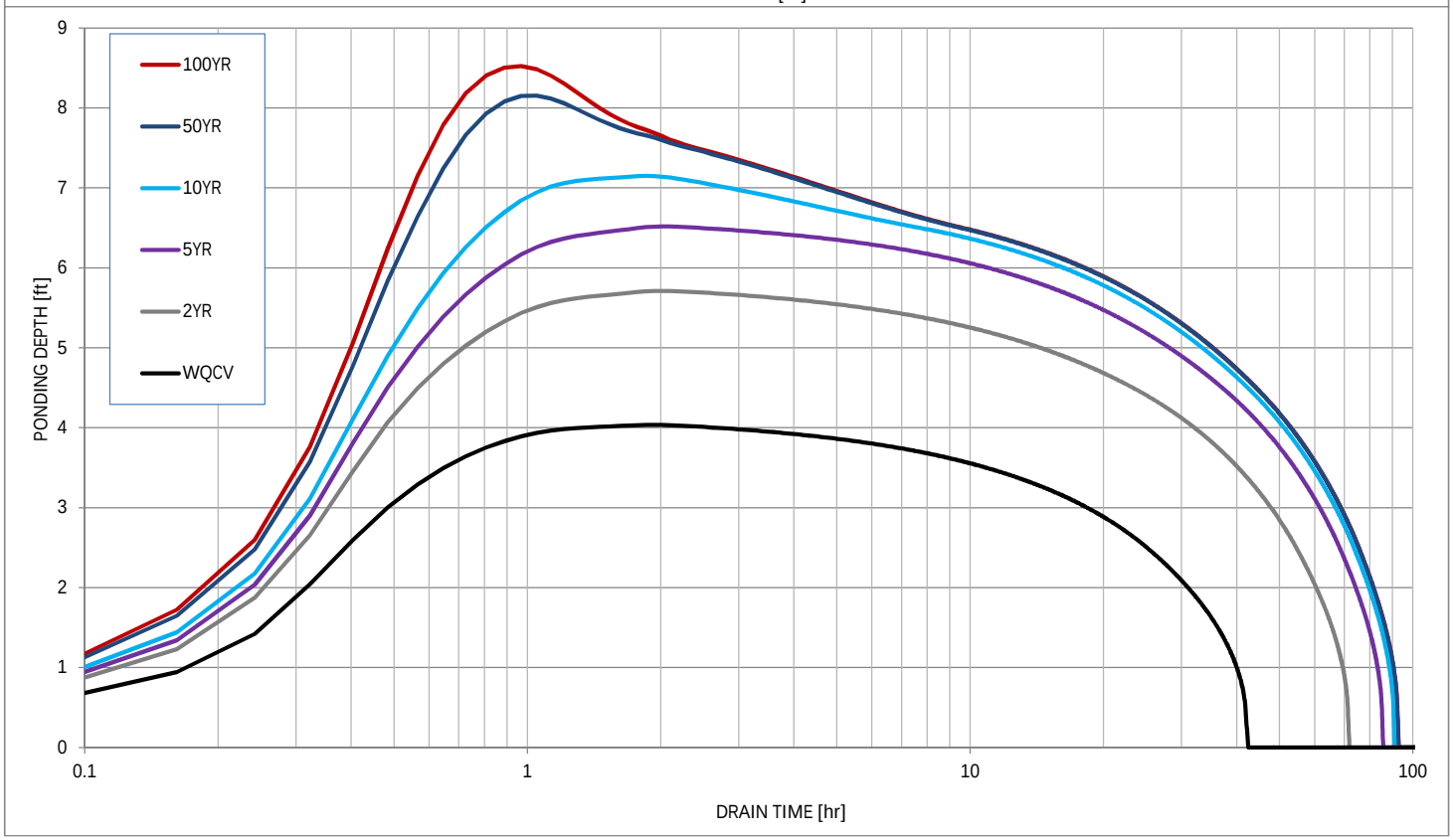

Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected Worksheet Protected

Stormwater Facility Name: Pond W-4

Facility Location & Jurisdiction: Sterling Ranch Sudivision, Vollmer Road, El Paso County / El Paso County

User Input: Watershed Characteristics

Watershed Slope =	0.060	ft/ft
Watershed Length =	9241	ft
Watershed Area =	350.74	acres
Watershed Imperviousness =	12.0%	percent
Percentage Hydrologic Soil Group A =	40.0%	percent
Percentage Hydrologic Soil Group B =	60.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent

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

User Input

WQCV Treatment Method = Extended Detention

User Defined Stage [ft]	User Defined Area [ft^2]	User Defined Stage [ft]	User Defined Discharge [cfs]
0.00	20	0.00	0.00
0.37	1,795	0.37	0.14
1.00	5,983	1.00	0.23
2.00	19,453	2.00	0.45
3.00	31,989	3.00	0.66
4.00	37,508	4.00	0.99
5.00	41,177	5.00	1.22
6.00	45,017	6.00	1.40
7.00	48,960	7.00	35.75
8.00	52,863	8.00	116.69
9.00	56,926	9.00	231.32
10.00	61,139	10.00	384.24
11.00	65,528	11.00	756.84

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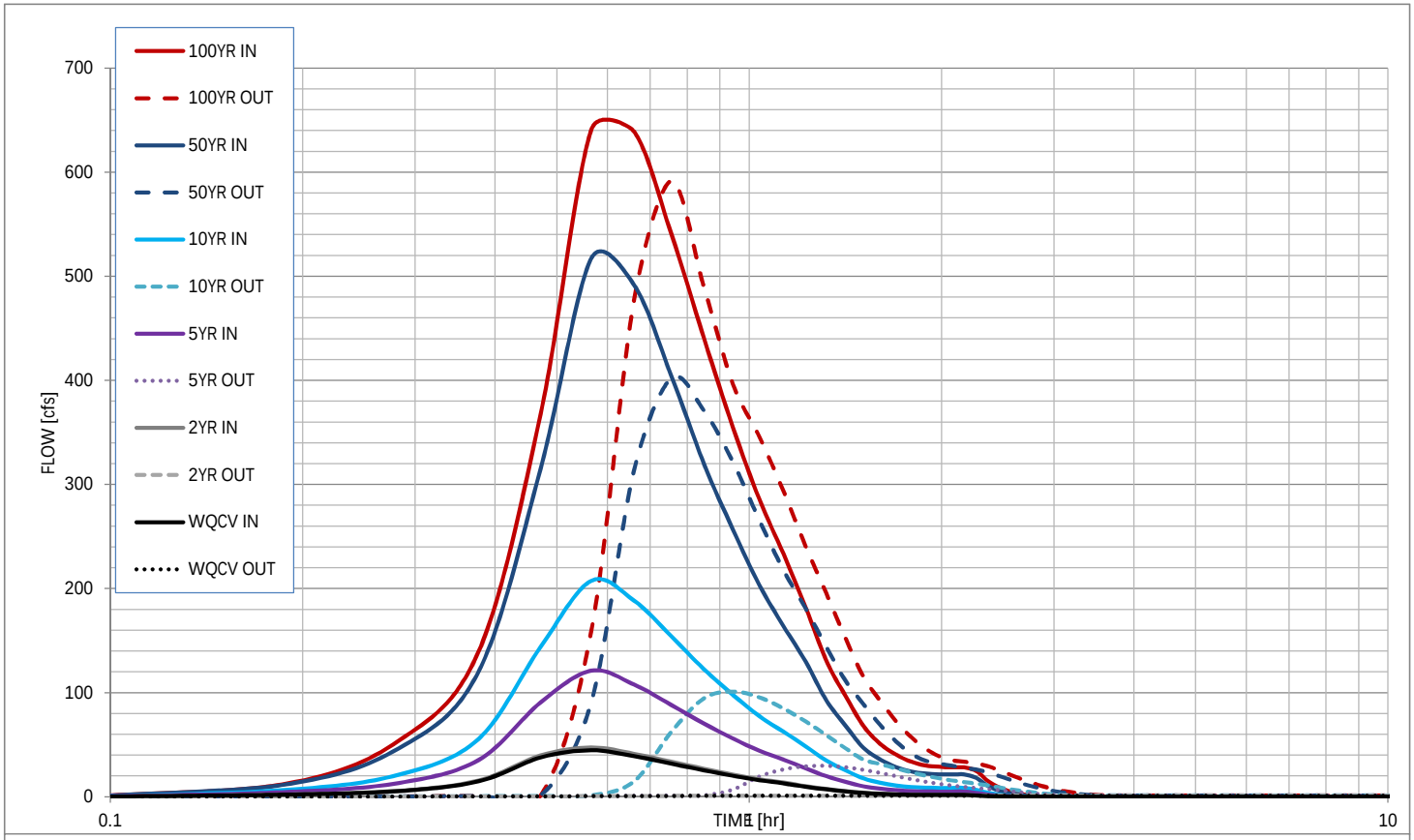
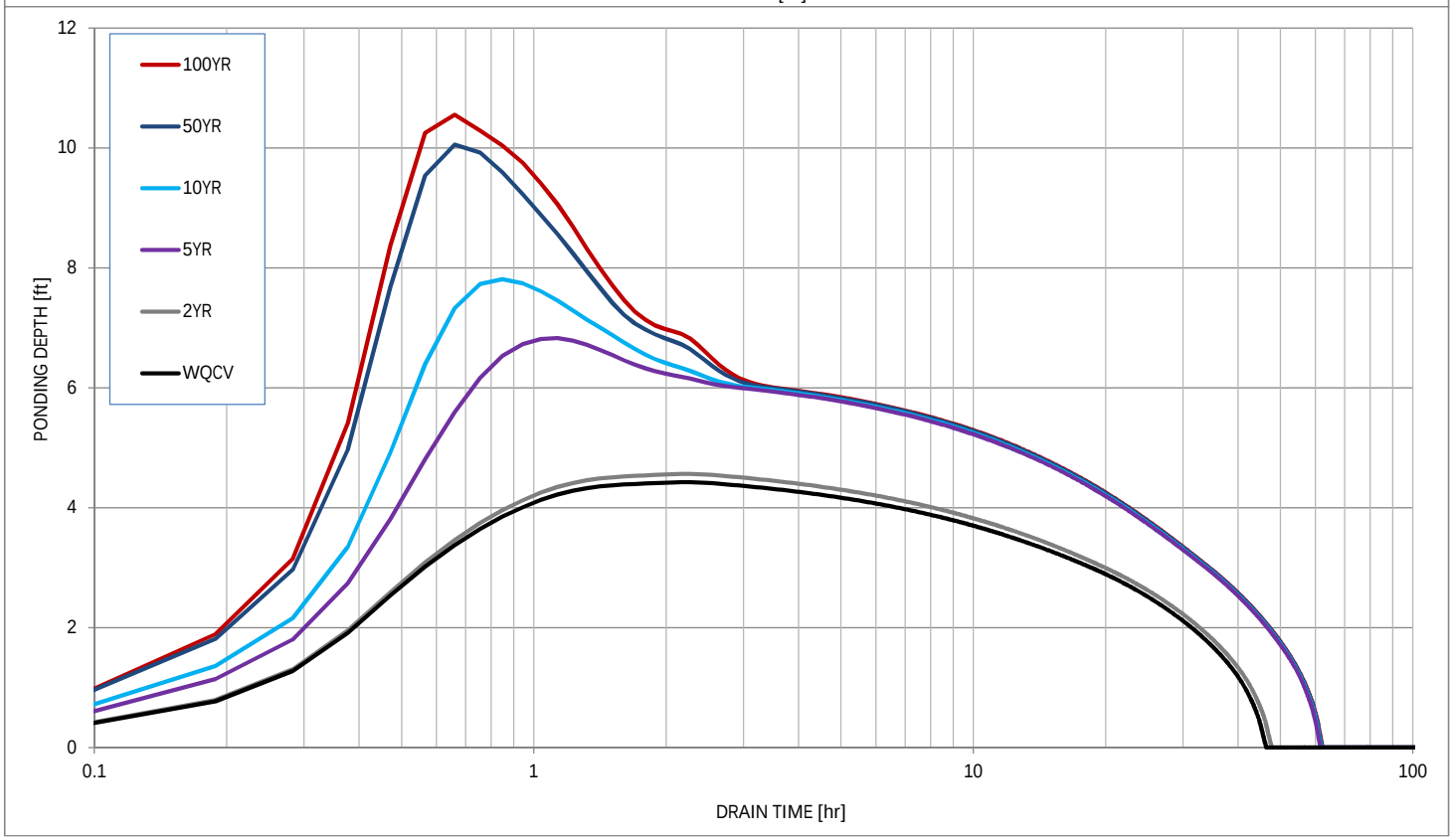
Routed Hydrograph Results

Design Storm Return Period =	WQCV	2 Year	5 Year	10 Year	50 Year	100 Year	
One-Hour Rainfall Depth =	0.53	1.19	1.50	1.75	2.25	2.52	in
Calculated Runoff Volume =	2.281	2.411	6.136	10.513	26.573	35.001	acre-ft
OPTIONAL Override Runoff Volume =							acre-ft
Inflow Hydrograph Volume =	2.281	2.410	6.128	10.504	26.566	34.997	acre-ft
Time to Drain 97% of Inflow Volume =	41.2	42.4	51.8	47.9	37.2	32.5	hours
Time to Drain 99% of Inflow Volume =	44.0	45.2	56.9	55.0	49.7	47.4	hours
Maximum Ponding Depth =	4.43	4.56	6.83	7.81	10.05	10.55	ft
Maximum Ponded Area =	0.90	0.91	1.11	1.20	1.41	1.46	acres
Maximum Volume Stored =	2.109	2.236	4.512	5.647	8.552	9.279	acre-ft

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