# Stormwater Detention and Infiltration Design Data Sheet

Workbook Protected  Worksheet Protected

**Stormwater Facility Name:** **Abert Ranch Detention Pond I**

**Facility Location & Jurisdiction:** **Abert Ranch Drive, Abert Ranch Subdivision, El Paso County, CO**

**User Input: Watershed Characteristics**

| | | |
|---|---|---|
| Watershed Slope = | 0.041 | ft/ft |
| Watershed Length = | 2800 | ft |
| Watershed Area = | 95.10 | acres |
| Watershed Imperviousness = | 8.6% | percent |
| Percentage Hydrologic Soil Group A = | | percent |
| Percentage Hydrologic Soil Group B = | 100.0% | percent |
| Percentage Hydrologic Soil Groups C/D = | | percent |

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

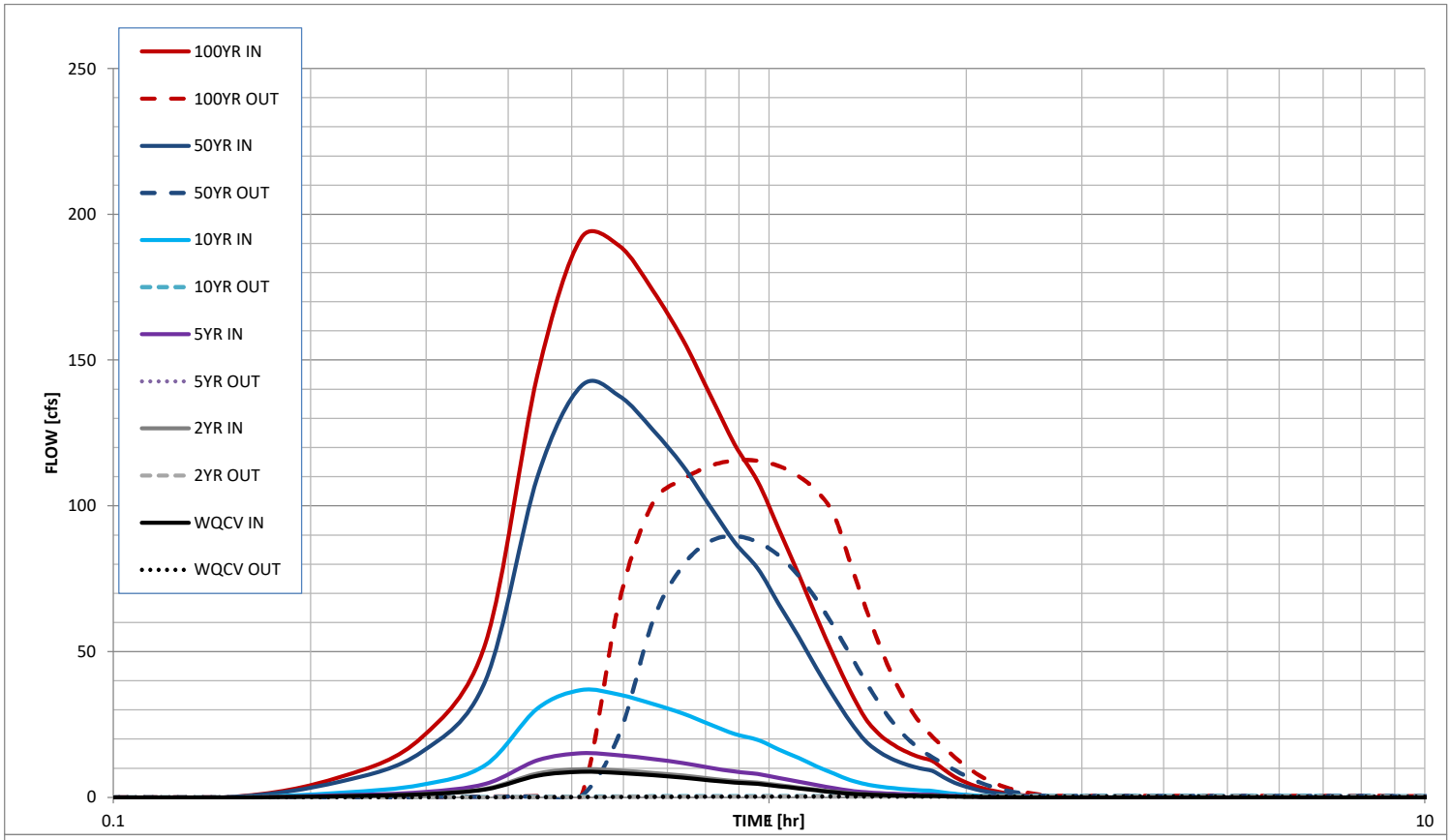
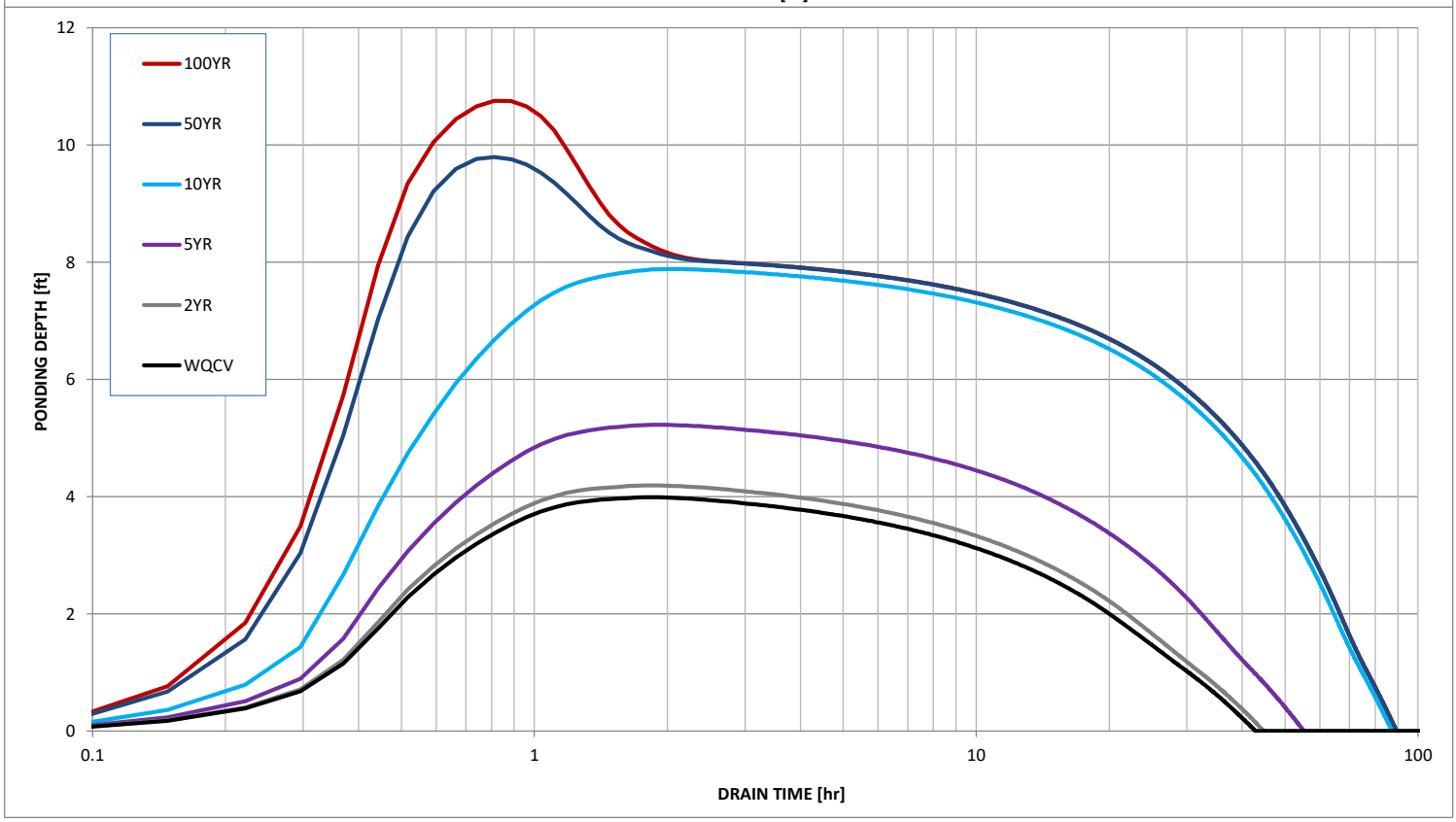
User Input

WQCV Treatment Method = Extended Detention

| User Defined Stage [ft] | User Defined Area [ft^2] | User Defined Stage [ft] | User Defined Discharge [cfs] |
|---|---|---|---|
| 0.00 | 10 | 0.00 | 0.00 |
| 1.00 | 3,154 | 1.00 | 0.07 |
| 2.00 | 4,061 | 2.00 | 0.13 |
| 4.00 | 9,656 | 4.00 | 0.29 |
| 6.00 | 16,274 | 6.00 | 0.41 |
| 8.00 | 25,480 | 8.00 | 0.50 |
| 10.00 | 39,095 | 10.00 | 100.08 |
| 11.00 | 46,559 | 11.00 | 120.74 |
| 12.00 | 54,023 | 12.00 | 356.30 |
| 13.00 | 61,500 | 13.00 | 778.36 |

**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 | |
|---|---|---|---|---|---|---|---|
| One-Hour Rainfall Depth = | 0.60 | 1.19 | 1.50 | 1.75 | 2.25 | 2.52 | in |
| Calculated Runoff Volume = | 0.466 | 0.514 | 0.810 | 1.991 | 7.841 | 10.774 | acre-ft |
| OPTIONAL Override Runoff Volume = | | | | | | | acre-ft |
| Inflow Hydrograph Volume = | 0.466 | 0.514 | 0.809 | 1.990 | 7.840 | 10.764 | acre-ft |
| Time to Drain 97% of Inflow Volume = | 35.0 | 36.6 | **44.8** | 71.2 | 58.2 | 53.6 | hours |
| Time to Drain 99% of Inflow Volume = | 38.3 | 40.0 | 49.2 | 78.0 | 70.9 | **67.8** | hours |
| Maximum Ponding Depth = | 3.99 | 4.19 | 5.23 | 7.88 | 9.79 | 10.75 | ft |
| Maximum Ponded Area = | 0.22 | 0.24 | 0.31 | 0.57 | 0.86 | **1.03** | acres |
| Maximum Volume Stored = | 0.429 | 0.474 | 0.761 | 1.913 | 3.284 | 4.184 | acre-ft |

# Stormwater Detention and Infiltration Design Data Sheet