Solace of Colorado Springs (Lot 1)

- SDI Pond A
- SDI Pond B

# Stormwater Detention and Infiltration Design Data Sheet

*SDI-Design Data v2.00, Released January 2020*

Stormwater Facility Name: **Solace Apartments Pond A**

Facility Location & Jurisdiction: **El Paso County**

User Input: Watershed Characteristics

| Extended Detention Basin (EDB) | EDB | |
|---|---|---|
| Watershed Area = | 7.89 | acres |
| Watershed Length = | 790 | ft |
| Watershed Length to Centroid = | 340 | ft |
| Watershed Slope = | 0.020 | ft/ft |
| Watershed Imperviousness = | 49.4% | percent |
| Percentage Hydrologic Soil Group A = | 1.0% | percent |
| Percentage Hydrologic Soil Group B = | 99.0% | percent |
| Percentage Hydrologic Soil Groups C/D = | 0.0% | percent |
| Target WQCV Drain Time = | 40.0 | hours |

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

User Input

| 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 | 909 | 1.00 | 0.02 |
| 2.00 | 4,500 | 2.00 | 0.05 |
| 3.00 | 8,857 | 3.00 | 0.09 |
| 4.00 | 13,976 | 4.00 | 2.75 |
| 5.00 | 17,609 | 5.00 | 3.09 |
| 6.00 | 20,879 | 6.00 | 22.72 |

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

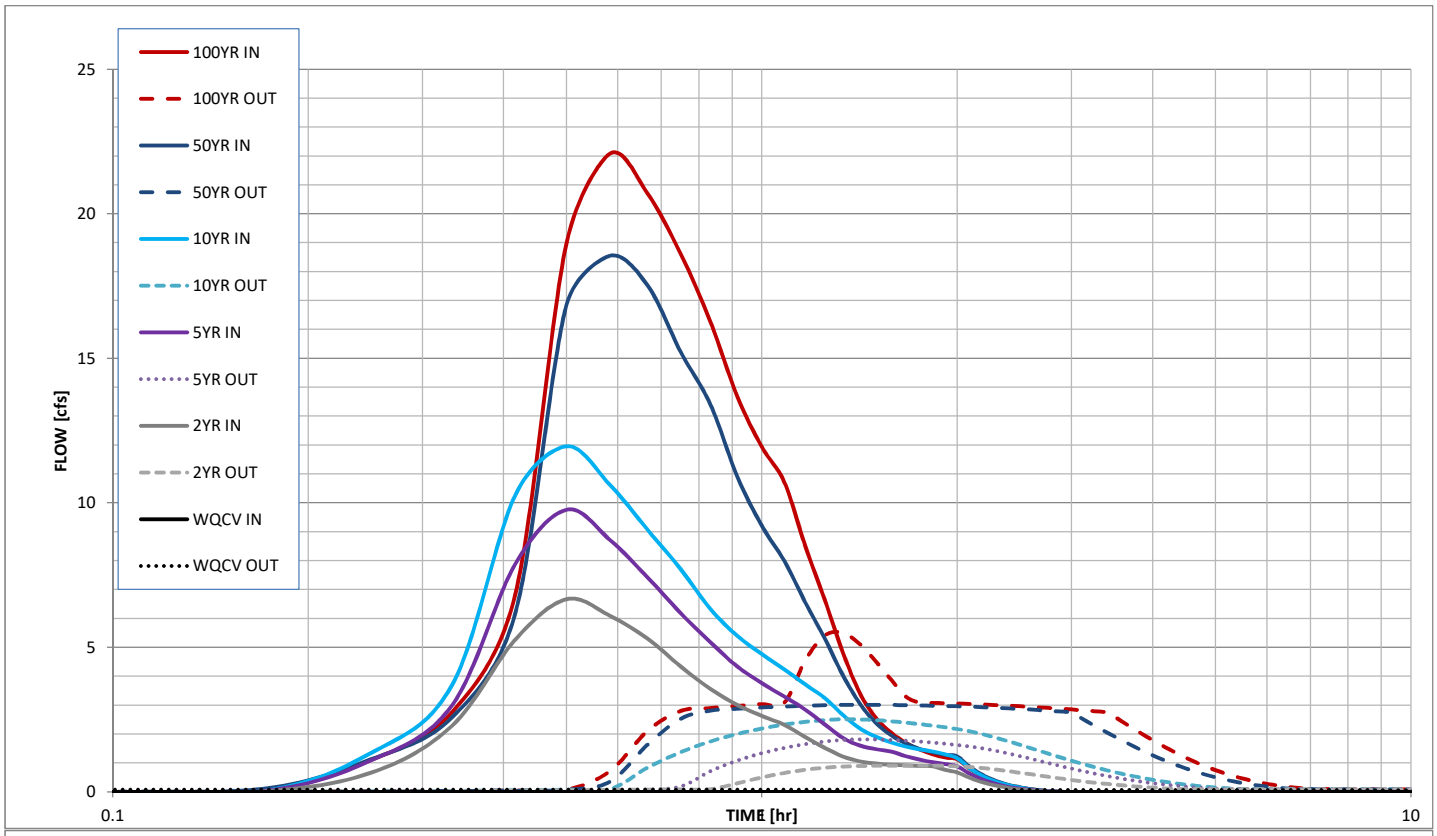
Once CUHP has been run and the Stage-Area-Discharge information has been provided, click 'Process Data' to interpolate the Stage-Area-Volume-Discharge data and generate summary results in the table below. Once this is complete, click 'Print to PDF'.

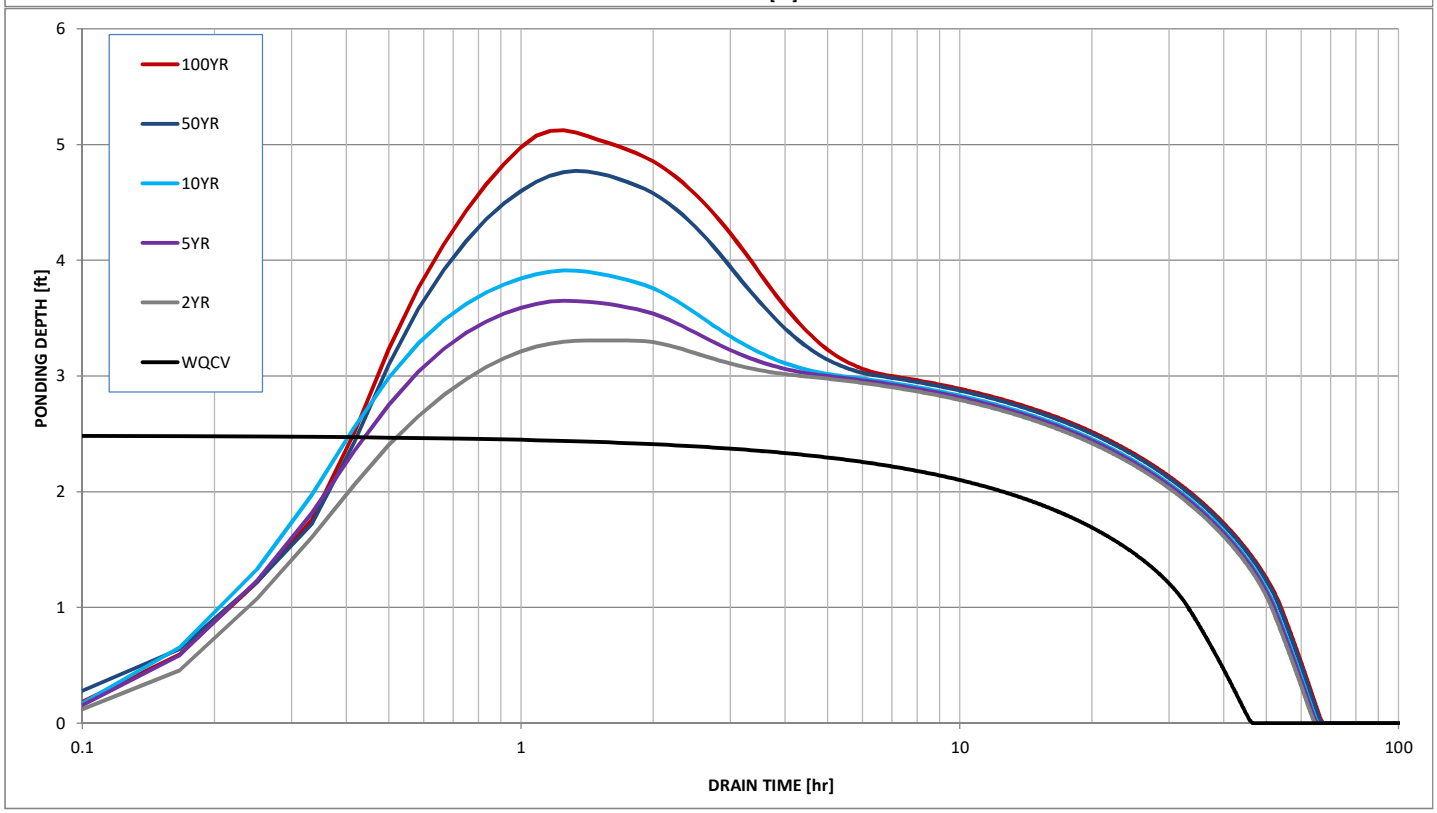
After completing and printing this worksheet to a pdf, go to:
https://maperture.digitaldataservices.com/gvh/?viewer=cswdif
Create a new stormwater facility, and attach the PDF of this worksheet to that record.

Routed Hydrograph Results

| Design Storm Return Period = | WQCV | 2 Year | 5 Year | 10 Year | 50 Year | 100 Year | |
|---|---|---|---|---|---|---|---|
| One-Hour Rainfall Depth = | N/A | 1.19 | 1.50 | 1.75 | 2.26 | 2.52 | in |
| CUHP Runoff Volume = | 0.135 | 0.382 | 0.546 | 0.691 | 1.052 | 1.247 | acre-ft |
| Inflow Hydrograph Volume = | N/A | 0.382 | 0.546 | 0.691 | 1.052 | 1.247 | acre-ft |
| Time to Drain 97% of Inflow Volume = | 38.1 | 50.8 | **48.9** | 47.4 | 44.6 | 43.0 | hours |
| Time to Drain 99% of Inflow Volume = | 41.5 | 56.5 | 55.6 | 54.8 | 53.6 | **52.9** | hours |
| Maximum Ponding Depth = | 2.49 | 3.31 | 3.65 | 3.91 | 4.77 | 5.12 | ft |
| Maximum Ponded Area = | 0.15 | 0.24 | 0.28 | 0.31 | 0.38 | **0.41** | acres |
| Maximum Volume Stored = | 0.135 | 0.294 | 0.381 | 0.460 | 0.758 | 0.899 | acre-ft |

# Stormwater Detention and Infiltration Design Data Sheet



# Stormwater Detention and Infiltration Design Data Sheet

*SDI-Design Data v2.00, Released January 2020*

Stormwater Facility Name: **Solace Apartments Pond B**

Facility Location & Jurisdiction: **El Paso County**

User Input: Watershed Characteristics

| Extended Detention Basin (EDB) | EDB | |
|---|---|---|
| Watershed Area = | 17.50 | acres |
| Watershed Length = | 1,631 | ft |
| Watershed Length to Centroid = | 740 | ft |
| Watershed Slope = | 0.014 | ft/ft |
| Watershed Imperviousness = | 40.6% | percent |
| Percentage Hydrologic Soil Group A = | 1.0% | percent |
| Percentage Hydrologic Soil Group B = | 99.0% | percent |
| Percentage Hydrologic Soil Groups C/D = | 0.0% | percent |
| Target WQCV Drain Time = | 40.0 | hours |

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

User Input

| User Defined Stage [ft] | User Defined Area [ft^2] | User Defined Stage [ft] | User Defined Discharge [cfs] |
|---|---|---|---|
| 0.00 | 10 | 0.00 | 0.00 |
| 0.83 | 332 | 1.00 | 0.03 |
| 1.83 | 6,042 | 2.00 | 0.08 |
| 2.83 | 18,264 | 3.00 | 0.23 |
| 3.83 | 26,278 | 4.00 | 2.75 |
| 4.83 | 30,833 | 5.00 | 3.09 |
| 5.83 | 32,872 | 6.00 | 3.39 |
| 6.33 | 37,812 | 6.33 | 12.37 |

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'.

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 = | N/A | 1.19 | 1.50 | 1.75 | 2.26 | 2.52 | in |
| CUHP Runoff Volume = | 0.264 | 0.729 | 1.088 | 1.408 | 2.246 | 2.702 | acre-ft |
| Inflow Hydrograph Volume = | N/A | 0.729 | 1.088 | 1.408 | 2.246 | 2.702 | acre-ft |
| Time to Drain 97% of Inflow Volume = | 35.7 | 47.7 | **46.6** | 45.5 | 43.7 | 42.9 | hours |
| Time to Drain 99% of Inflow Volume = | 38.0 | 52.3 | 52.6 | 52.6 | 53.2 | **53.6** | hours |
| Maximum Ponding Depth = | 2.60 | 3.37 | 3.79 | 4.15 | 5.24 | 5.81 | ft |
| Maximum Ponded Area = | 0.35 | 0.52 | 0.60 | 0.64 | 0.73 | **0.75** | acres |
| Maximum Volume Stored = | 0.265 | 0.608 | 0.843 | 1.066 | 1.810 | 2.238 | acre-ft |

# Stormwater Detention and Infiltration Design Data Sheet