## Rainfall Events Listing

<table>
<thead>
<tr>
<th>Event#</th>
<th>Event Name</th>
<th>Storm Type</th>
<th>Curve Mode</th>
<th>Duration (hours)</th>
<th>B/B</th>
<th>Depth (inches)</th>
<th>AMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 Yr</td>
<td>Type II 24-hr</td>
<td>Default</td>
<td>24.00</td>
<td>1</td>
<td>3.18</td>
<td>2</td>
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<tr>
<td>2</td>
<td>10 Yr</td>
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<td>4.90</td>
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<td>3</td>
<td>100 Yr</td>
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<tr>
<td>Area (acres)</td>
<td>CN</td>
<td>Description</td>
<td>Subcatchment-numbers</td>
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<td></td>
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<td></td>
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<td>-------------</td>
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<td>--------------------------------------------</td>
<td>----------------------</td>
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<tr>
<td>0.436</td>
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<td>&gt;75% Grass cover, Good, HSG A</td>
<td>S3, S5, S6</td>
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<tr>
<td>0.166</td>
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<td>&gt;75% Grass cover, Good, HSG B</td>
<td>S2, S3, S4, S5, S6, S7, S9</td>
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<tr>
<td>0.698</td>
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<td>S2, S3, S4, S5, S8, S9</td>
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<td>0.193</td>
<td>98</td>
<td>Roofs, HSG B</td>
<td>S1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0.033</td>
<td>98</td>
<td>Unconnected roofs, HSG B</td>
<td>S5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1.526</strong></td>
<td><strong>77</strong></td>
<td><strong>TOTAL AREA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
Time span=0.00-28.00 hrs, dt=0.02 hrs, 1401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S1: Roof
Runoff Area=8,413 sf  100.00% Impervious  Runoff Depth=2.95"
  Tc=6.0 min   CN=98   Runoff=0.87 cfs  0.047 af

Subcatchment S2: pvmnt & DThru
Runoff Area=15,340 sf  98.40% Impervious  Runoff Depth=2.84"
  Tc=6.0 min   CN=97   Runoff=1.56 cfs  0.083 af

Subcatchment S3: pvmnt & abutter
Runoff Area=8,325 sf  53.37% Impervious  Runoff Depth=0.87"
  Tc=6.0 min   CN=71   Runoff=0.29 cfs  0.014 af

Subcatchment S4: West Front
Runoff Area=5,620 sf  78.63% Impervious  Runoff Depth=2.15"
  Tc=6.0 min   CN=90   Runoff=0.48 cfs  0.023 af

Subcatchment S5: East Front
Runoff Area=19,617 sf  27.76% Impervious  Runoff Depth=0.22"
  Tc=6.0 min   UI Adjusted CN=54   Runoff=0.07 cfs  0.008 af

Subcatchment S6: NW offsite
Runoff Area=4,979 sf  0.00% Impervious  Runoff Depth=0.17"
  Tc=6.0 min   CN=52   Runoff=0.01 cfs  0.002 af

Subcatchment S7: West Offsite
Runoff Area=931 sf  0.00% Impervious  Runoff Depth=0.44"
  Tc=6.0 min   CN=61   Runoff=0.01 cfs  0.001 af

Subcatchment S8: Driveway to CB2R
Runoff Area=1,074 sf  100.00% Impervious  Runoff Depth=2.95"
  Tc=6.0 min   CN=98   Runoff=0.11 cfs  0.006 af

Subcatchment S9: Runoff to St
Runoff Area=2,188 sf  63.12% Impervious  Runoff Depth=1.67"
  Tc=6.0 min   CN=84   Runoff=0.15 cfs  0.007 af

Reach 3R: 8" ADS
Avg. Flow Depth=0.00'  Max Vel=0.00 fps  Inflow=0.00 cfs  0.000 af
  8.0" Round Pipe  n=0.010  L=69.0'  S=0.0580 '/'  Capacity=3.78 cfs  Outflow=0.00 cfs  0.000 af

Reach 6R: 10" ADS(CB2R)
Avg. Flow Depth=0.09'  Max Vel=3.53 fps  Inflow=0.11 cfs  0.006 af
  10.0" Round Pipe  n=0.010  L=65.0'  S=0.0262 '/'  Capacity=4.61 cfs  Outflow=0.11 cfs  0.006 af

Reach 7R: Total Offsite
Inflow=0.27 cfs  0.015 af
  Outflow=0.27 cfs  0.015 af

Pond P1: N Infilt
Peak Elev=57.88'  Storage=3,022 cf  Inflow=2.70 cfs  0.144 af
  Discarded=0.12 cfs  0.144 af   Primary=0.00 cfs  0.000 af  Outflow=0.12 cfs  0.144 af

Pond P2: W Infilt
Peak Elev=56.90'  Storage=471 cf  Inflow=0.48 cfs  0.023 af
  Discarded=0.02 cfs  0.023 af   Primary=0.00 cfs  0.000 af  Outflow=0.02 cfs  0.023 af

Pond P3: E Infilt
Peak Elev=57.05'  Storage=20 cf  Inflow=0.07 cfs  0.008 af
  Discarded=0.03 cfs  0.008 af   Primary=0.00 cfs  0.000 af  Outflow=0.03 cfs  0.008 af

Total Runoff Area = 1.526 ac  Runoff Volume = 0.191 af  Average Runoff Depth = 1.50"
  39.43% Pervious = 0.602 ac   60.57% Impervious = 0.924 ac
Summary for Subcatchment S1: Roof

Runoff = 0.87 cfs @ 11.97 hrs, Volume= 0.047 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,845</td>
<td>98</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>3,568</td>
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<tr>
<td>8,413</td>
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<td>Weighted Average</td>
</tr>
<tr>
<td>8,413</td>
<td>100.00%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description  
6.0      | Direct Entry, Min Tc

Subcatchment S1: Roof

Hydrograph

Type II 24-hr 2 Yr Rainfall=3.18"
Runoff Area=8,413 sf
Runoff Volume=0.047 af
Runoff Depth=2.95"
Tc=6.0 min
CN=98
Summary for Subcatchment S2: pvmnt & DThru

Runoff = 1.56 cfs @ 11.97 hrs, Volume= 0.083 af, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,094</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>246</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
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<tr>
<td>15,340</td>
<td>97</td>
<td>Weighted Average</td>
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<tr>
<td>246</td>
<td></td>
<td>1.60% Pervious Area</td>
</tr>
<tr>
<td>15,094</td>
<td>98.40% Impervious Area</td>
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</table>

Subcatchment S2: pvmnt & DThru

Type II 24-hr 2 Yr Rainfall=3.18"
Runoff Area=15,340 sf
Runoff Volume=0.083 af
Runoff Depth=2.84"
Tc=6.0 min
CN=97
Summary for Subcatchment S3: pvmnt & abutter

Runoff = 0.29 cfs @ 11.98 hrs, Volume= 0.014 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>4,443</td>
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<td>Paved parking, HSG B</td>
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<tr>
<td>360</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
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<tr>
<td>3,522</td>
<td>39</td>
<td>&gt;75% Grass cover, Good, HSG A</td>
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<tr>
<td>8,325</td>
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<td>Weighted Average</td>
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<tr>
<td>3,882</td>
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<td>46.63% Pervious Area</td>
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<tr>
<td>4,443</td>
<td></td>
<td>53.37% Impervious Area</td>
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</table>

Tc Length Slope Velocity Capacity Description
(min) (feet) (ft/ft) (ft/sec) (cfs)
6.0 Direct Entry, Min Tc

Subcatchment S3: pvmnt & abutter

Hydrograph

Type II 24-hr
2 Yr Rainfall=3.18"
Runoff Area=8,325 sf
Runoff Volume=0.014 af
Runoff Depth=0.87"
Tc=6.0 min
CN=71
Summary for Subcatchment S4: West Front

Runoff = 0.48 cfs @ 11.97 hrs, Volume= 0.023 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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</thead>
<tbody>
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<td>4,419</td>
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<td>Paved parking, HSG B</td>
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<tr>
<td>1,201</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
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<tr>
<td>5,620</td>
<td>90</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>1,201</td>
<td>21.37%</td>
<td>Pervious Area</td>
</tr>
<tr>
<td>4,419</td>
<td>78.63%</td>
<td>Impervious Area</td>
</tr>
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</table>

Tc = 6.0 min
Length (feet)  Slope (ft/ft)  Velocity (ft/sec)  Capacity (cfs)  Description
Direct Entry, minimum

Subcatchment S4: West Front

Hydrograph

Type II 24-hr
2 Yr Rainfall=3.18"
Runoff Area=5,620 sf
Runoff Volume=0.023 af
Runoff Depth=2.15"
Tc=6.0 min
CN=90
Summary for Subcatchment S5: East Front

Runoff = 0.07 cfs @ 12.02 hrs, Volume= 0.008 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr  2 Yr Rainfall=3.18"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Adj</th>
<th>Description</th>
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</thead>
<tbody>
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<td>4,015</td>
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<td>739</td>
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<td>&gt;75% Grass cover, Good, HSG B</td>
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<tr>
<td>1,431</td>
<td>98</td>
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<td>Unconnected roofs, HSG B</td>
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<tr>
<td>13,432</td>
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<td></td>
<td>&gt;75% Grass cover, Good, HSG A</td>
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<tr>
<td>19,617</td>
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<td>54</td>
<td>Weighted Average, UI Adjusted</td>
</tr>
<tr>
<td>14,171</td>
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<td></td>
<td>72.24% Pervious Area</td>
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<tr>
<td>5,446</td>
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<td></td>
<td>27.76% Impervious Area</td>
</tr>
<tr>
<td>1,431</td>
<td></td>
<td></td>
<td>26.28% Unconnected</td>
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<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>6.0</td>
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<td></td>
<td></td>
<td></td>
<td>Direct Entry, minimum</td>
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</tbody>
</table>

Subcatchment S5: East Front

Hydrograph

Type II 24-hr  2 Yr Rainfall=3.18"
Runoff Area=19,617 sf
Runoff Volume=0.008 af
Runoff Depth=0.22"
Tc=6.0 min
UI Adjusted CN=54
Summary for Subcatchment S6: NW offsite

Runoff = 0.01 cfs @ 12.04 hrs, Volume= 0.002 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

<table>
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<th>Area (sf)</th>
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<tbody>
<tr>
<td>949</td>
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<td>&gt;75% Grass cover, Good, HSG B</td>
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<tr>
<td>1,979</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
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<tr>
<td>2,051</td>
<td>39</td>
<td>&gt;75% Grass cover, Good, HSG A</td>
</tr>
<tr>
<td>4,979</td>
<td>52</td>
<td>Weighted Average</td>
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<tr>
<td>4,979</td>
<td>100.00%</td>
<td>Pervious Area</td>
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<table>
<thead>
<tr>
<th>Tc</th>
<th>Length</th>
<th>Slope</th>
<th>Velocity</th>
<th>Capacity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>Direct Entry, minimum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
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Subcatchment S6: NW offsite

Hydrograph

Type II 24-hr 2 Yr Rainfall=3.18"
Runoff Area=4,979 sf
Runoff Volume=0.002 af
Runoff Depth=0.17"
Tc=6.0 min
CN=52
Summary for Subcatchment S7: West Offsite

Runoff = 0.01 cfs @ 12.00 hrs, Volume = 0.001 af, Depth = 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

<table>
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<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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<tr>
<td>931</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>931</td>
<td>100.00% Pervious Area</td>
<td></td>
</tr>
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Subcatchment S7: West Offsite

Type II 24-hr 2 Yr Rainfall=3.18"
Runoff Area=931 sf
Runoff Volume=0.001 af
Runoff Depth=0.44"
Tc=6.0 min
CN=61
Summary for Subcatchment S8: Driveway to CB2R

Runoff = 0.11 cfs @ 11.97 hrs, Volume = 0.006 af, Depth = 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 2 Yr Rainfall = 3.18"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1,074</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>1,074</td>
<td>100.00%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

Tc = 6.0 min

Subcatchment S8: Driveway to CB2R

Hydrograph

Type II 24-hr 2 Yr Rainfall = 3.18"
Runoff Area = 1,074 sf
Runoff Volume = 0.006 af
Runoff Depth = 2.95"
Tc = 6.0 min
CN = 98
Summary for Subcatchment S9: Runoff to St

Runoff = 0.15 cfs @ 11.97 hrs, Volume= 0.007 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr  2 Yr Rainfall=3.18"

<table>
<thead>
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<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,381</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>807</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
</tbody>
</table>

| 2,188     | 84  | Weighted Average                |
| 807       | 36.88% Pervious Area            |
| 1,381     | 63.12% Impervious Area          |

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length</th>
<th>Slope</th>
<th>Velocity</th>
<th>Capacity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(min)</td>
<td>(feet)</td>
<td>(ft/ft)</td>
<td>(ft/sec)</td>
<td>(cfs)</td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry, minimum</td>
</tr>
</tbody>
</table>

Subcatchment S9: Runoff to St

Type II 24-hr
2 Yr Rainfall=3.18"
Runoff Area=2,188 sf
Runoff Volume=0.007 af
Runoff Depth=1.67"
Tc=6.0 min
CN=84
Summary for Reach 3R: 8" ADS

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 0.00" for 2 Yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 3.78 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 69.0' Slope= 0.0580 '/'
Inlet Invert= 58.90', Outlet Invert= 54.90'

Reach 3R: 8" ADS

Hydrograph

Inflow Area=0.736 ac
Avg. Flow Depth=0.00'
Max Vel=0.00 fps
8.0"
Round Pipe
n=0.010
L=69.0'
S=0.0580 '/'
Capacity=3.78 cfs
Summary for Reach 6R: 10" ADS(CB2R)

Inflow Area = 1.340 ac, 66.60% Impervious, Inflow Depth = 0.05" for 2 Yr event
Inflow = 0.11 cfs @ 11.97 hrs, Volume= 0.006 af
Outflow = 0.11 cfs @ 11.98 hrs, Volume= 0.006 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 3.53 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.05 fps, Avg. Travel Time= 1.0 min

Peak Storage= 2 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.09', Surface Width= 0.51'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 4.61 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 65.0' Slope= 0.0262 '/'
Inlet Invert= 52.40', Outlet Invert= 50.70'

Reach 6R: 10" ADS(CB2R)

Hydrograph

Inflow Area=1.340 ac
Avg. Flow Depth=0.09'
Max VeI=3.53 fps

10.0"

Round Pipe
n=0.010
L=65.0'
S=0.0262 '/'
Capacity=4.61 cfs
Summary for Reach 7R: Total Offsite

Inflow Area = 1.526 ac, 60.57% Impervious, Inflow Depth = 0.12" for 2 Yr event
Inflow = 0.27 cfs @ 11.98 hrs, Volume= 0.015 af
Outflow = 0.27 cfs @ 11.98 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs

Reach 7R: Total Offsite

Inflow Area=1.526 ac
Summary for Pond P1: N Infilt

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 2.35" for 2 Yr event

Inflow = 2.70 cfs @ 11.97 hrs, Volume= 0.144 af
Outflow = 0.12 cfs @ 12.20 hrs, Volume= 0.144 af, Atten= 96%, Lag= 13.9 min
Discarded = 0.12 cfs @ 12.20 hrs, Volume= 0.144 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 57.88' @ 13.15 hrs  Surf.Area= 5,118 sf  Storage= 3,022 cf
Flood Elev= 60.70'  Surf.Area= 5,118 sf  Storage= 10,497 cf

Plug-Flow detention time = 230.9 min calculated for 0.144 af (100% of inflow)
Center-of-Mass det. time= 230.8 min (1,000.3 - 769.5)

Volume Invert Avail.Storage Storage Description
#1 56.50' 4,182 cf Custom Stage Data (Prismatic) Listed below (Recalc)
#1 56.50' 4,182 cf
#2 57.25' 6,316 cf ISI Rainstore3 8 x 253 Inside #1
#2 57.25' 6,316 cf

10,497 cf Total Available Storage

Elevation Surf.Area Inc.Store Cum.Store
(foot) (sq-ft) (cubic-feet) (cubic-feet)
56.50 2,031 0 0
57.00 3,858 1,472 1,472
57.80 5,118 3,590 5,063
60.25 5,118 12,539 17,602

Device Routing Invert Outlet Devices
#1 Discarded 56.50' 1.020 in/hr Exfiltration over Surface area
#2 Primary 58.90' 8.0" Round Culvert
L= 69.0' CMP, mitered to conform to fill, Ke= 0.700
Inlet / Outlet Invert= 58.90' / 54.90' S= 0.0580 '/' Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.12 cfs @ 12.20 hrs  HW=57.80' (Free Discharge)
↑=1=Exfiltration (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs  HW=56.50' (Free Discharge)
↑=2=Culvert (Controls 0.00 cfs)
Pond P1: N Infilt

Hydrograph

Inflow Area=0.736 ac
Peak Elev=57.88'
Storage=3,022 cf
Summary for Pond P2: W Infilt

Inflow Area = 0.129 ac, 78.63% Impervious, Inflow Depth = 2.15" for 2 Yr event

Inflow = 0.48 cfs @ 11.97 hrs, Volume= 0.023 af
Outflow = 0.02 cfs @ 11.46 hrs, Volume= 0.023 af, Atten= 95%, Lag= 0.0 min
Discarded = 0.02 cfs @ 11.46 hrs, Volume= 0.023 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 56.90' @ 13.11 hrs  Surf.Area= 947 sf  Storage= 471 cf

Plug-Flow detention time= 184.8 min calculated for 0.023 af (100% of inflow)
Center-of-Mass det. time= 184.7 min ( 988.7 - 804.1 )

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Avail.Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>56.00'</td>
<td>619 cf</td>
<td>Custom Stage Data (Prismatic) Listed below (Recalc) 2,841 cf Overall - 1,293 cf Embedded = 1,548 cf x 40.0% Voids</td>
</tr>
<tr>
<td>#2</td>
<td>56.50'</td>
<td>1,142 cf</td>
<td>ISI Rainstore3 6 x 61 Inside #1 Inside= 39.4&quot;W x 23.6&quot;H =&gt; 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4&quot;W x 23.6&quot;H =&gt; 6.46 sf x 3.28'L = 21.2 cf 1,293 cf Overall x 94.0% Voids</td>
</tr>
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</table>

1,761 cf Total Available Storage

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</thead>
<tbody>
<tr>
<td>56.00</td>
<td>947</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>59.00</td>
<td>947</td>
<td>2,841</td>
<td>2,841</td>
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<table>
<thead>
<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Discarded</td>
<td>56.00'</td>
<td>1.020 in/hr Exfiltration over Horizontal area 8.0&quot; Round Culvert L= 25.0’ CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 57.75' / 55.70’ S= 0.0820 '/’ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf</td>
</tr>
<tr>
<td>#2</td>
<td>Primary</td>
<td>57.75'</td>
<td></td>
</tr>
</tbody>
</table>

Discarded OutFlow Max=0.02 cfs @ 11.46 hrs HW=56.03’ (Free Discharge)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.00’ (Free Discharge)
Pond P2: W Infilt

Inflow Area=0.129 ac
Peak Elev=56.90'
Storage=471 cf
Summary for Pond P3: E Infilt

Inflow Area = 0.450 ac, 27.76% Impervious, Inflow Depth = 0.22" for 2 Yr event
Inflow = 0.07 cfs @ 12.02 hrs, Volume= 0.008 af
Outflow = 0.03 cfs @ 12.04 hrs, Volume= 0.008 af, Atten= 62%, Lag= 0.9 min
Discarded = 0.03 cfs @ 12.04 hrs, Volume= 0.008 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 57.05' @ 12.24 hrs   Surf.Area= 1,103 sf   Storage= 20 cf

Plug-Flow detention time= 7.2 min calculated for 0.008 af (100% of inflow)
Center-of-Mass det. time= 7.2 min ( 974.8 - 967.6 )

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Avail. Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>57.00'</td>
<td>382 cf</td>
<td>Custom Stage Data (Prismatic) Listed below (Recalc) 2,482 cf Overall - 1,526 cf Embedded = 956 cf x 40.0% Voids</td>
</tr>
<tr>
<td>#2</td>
<td>57.25'</td>
<td>1,348 cf</td>
<td>ISI Rainstore3 6 x 72 Inside #1 Inside= 39.4&quot;W x 23.6&quot;H =&gt; 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4&quot;W x 23.6&quot;H =&gt; 6.46 sf x 3.28'L = 21.2 cf 1,526 cf Overall x 94.0% Voids</td>
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</table>

1,730 cf Total Available Storage

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</thead>
<tbody>
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<td>57.00</td>
<td>1,103</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>59.25</td>
<td>1,103</td>
<td>2,482</td>
<td>2,482</td>
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</table>

<table>
<thead>
<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Discarded</td>
<td>57.00'</td>
<td>1.020 in/hr Exfiltration over Horizontal area 8.0&quot; Round Culvert L= 88.0’ CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.00’ / 55.50’ S= 0.0284 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf</td>
</tr>
<tr>
<td>#2</td>
<td>Primary</td>
<td>58.00'</td>
<td></td>
</tr>
</tbody>
</table>

Discarded OutFlow Max=0.03 cfs @ 12.04 hrs HW=57.03’ (Free Discharge)
↑↓1=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.00’ (Free Discharge)
↑↓2=Culvert (Controls 0.00 cfs)
Pond P3: E Infilt

Inflow Area=0.450 ac
Peak Elev=57.05'
Storage=20 cf
Type II 24-hr 10 Yr Rainfall=4.90"

Subcatchment S1: Roof
Runoff Area=8,413 sf  100.00% Impervious  Runoff Depth=4.66"  
  Tc=6.0 min  CN=98  Runoff=1.34 cfs  0.075 af

Subcatchment S2: pvmnt & DThru
Runoff Area=15,340 sf  98.40% Impervious  Runoff Depth=4.55"  
  Tc=6.0 min  CN=97  Runoff=2.43 cfs  0.133 af

Subcatchment S3: pvmnt & abutter
Runoff Area=8,325 sf  53.37% Impervious  Runoff Depth=2.04"  
  Tc=6.0 min  CN=71  Runoff=0.70 cfs  0.033 af

Subcatchment S4: West Front
Runoff Area=5,620 sf  78.63% Impervious  Runoff Depth=3.78"  
  Tc=6.0 min  CN=90  Runoff=0.81 cfs  0.041 af

Subcatchment S5: East Front
Runoff Area=19,617 sf  27.76% Impervious  Runoff Depth=0.87"  
  Tc=6.0 min  UI Adjusted CN=54  Runoff=0.62 cfs  0.033 af

Subcatchment S6: NW offsite
Runoff Area=4,979 sf  0.00% Impervious  Runoff Depth=0.76"  
  Tc=6.0 min  CN=52  Runoff=0.13 cfs  0.007 af

Subcatchment S7: West Offsite
Runoff Area=931 sf  0.00% Impervious  Runoff Depth=1.31"  
  Tc=6.0 min  CN=61  Runoff=0.05 cfs  0.002 af

Subcatchment S8: Driveway to CB2R
Runoff Area=1,074 sf  100.00% Impervious  Runoff Depth=4.66"  
  Tc=6.0 min  CN=98  Runoff=0.17 cfs  0.010 af

Subcatchment S9: Runoff to St
Runoff Area=2,188 sf  63.12% Impervious  Runoff Depth=3.18"  
  Tc=6.0 min  CN=84  Runoff=0.28 cfs  0.013 af

Reach 3R: 8" ADS
Avg. Flow Depth=0.00'  Max Vel=0.00 fps  Inflow=0.00 cfs  0.000 af
8.0" Round Pipe  n=0.010  L=69.0'  S=0.0580 '/'  Capacity=3.78 cfs  Outflow=0.00 cfs  0.000 af

Reach 6R: 10" ADS(CB2R)
Avg. Flow Depth=0.11'  Max Vel=4.02 fps  Inflow=0.17 cfs  0.010 af
10.0" Round Pipe  n=0.010  L=65.0'  S=0.0262 '/'  Capacity=4.61 cfs  Outflow=0.17 cfs  0.010 af

Reach 7R: Total Offsite
Inflow=0.62 cfs  0.032 af  
Outflow=0.62 cfs  0.032 af

Pond P1: N Infilt
Peak Elev=58.69'  Storage=5,760 cf  Inflow=4.47 cfs  0.241 af  
Discarded=0.12 cfs  0.197 af  Primary=0.00 cfs  0.000 af  Outflow=0.12 cfs  0.197 af

Pond P2: W Infilt
Peak Elev=57.60'  Storage=954 cf  Inflow=0.81 cfs  0.041 af  
Discarded=0.02 cfs  0.035 af  Primary=0.00 cfs  0.000 af  Outflow=0.02 cfs  0.035 af

Pond P3: E Infilt
Peak Elev=57.86'  Storage=606 cf  Inflow=0.62 cfs  0.033 af  
Discarded=0.03 cfs  0.033 af  Primary=0.00 cfs  0.000 af  Outflow=0.03 cfs  0.033 af

Total Runoff Area = 1.526 ac  Runoff Volume = 0.347 af  Average Runoff Depth = 2.73"
39.43% Pervious = 0.602 ac  60.57% Impervious = 0.924 ac
Summary for Subcatchment S1: Roof

Runoff = 1.34 cfs @ 11.97 hrs, Volume= 0.075 af, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,845</td>
<td>98</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>3,568</td>
<td>98</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>8,413</td>
<td>98</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>8,413</td>
<td>100.00% Impervious Area</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry, Min Tc</td>
</tr>
</tbody>
</table>

Subcatchment S1: Roof

Hydrograph

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=8,413 sf
Runoff Volume=0.075 af
Runoff Depth=4.66"
Tc=6.0 min
CN=98
Summary for Subcatchment S2: pvmnt & DThru

Runoff = 2.43 cfs @ 11.97 hrs, Volume = 0.133 af, Depth = 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15,094</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>246</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>15,340</td>
<td>97</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>246</td>
<td>1.60% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>15,094</td>
<td>98.40% Impervious Area</td>
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</tr>
</tbody>
</table>

Subcatchment S2: pvmnt & DThru

Hydrograph

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=15,340 sf
Runoff Volume=0.133 af
Runoff Depth=4.55"

Tc=6.0 min
CN=97
Summary for Subcatchment S3: pvmnt & abutter

Runoff = 0.70 cfs @ 11.98 hrs, Volume = 0.033 af, Depth = 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>4,443</td>
<td>98</td>
<td>Paved parking, HSG B</td>
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<tr>
<td>360</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>3,522</td>
<td>39</td>
<td>&gt;75% Grass cover, Good, HSG A</td>
</tr>
<tr>
<td>8,325</td>
<td>71</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>3,882</td>
<td>46.63%</td>
<td>Pervious Area</td>
</tr>
<tr>
<td>4,443</td>
<td>53.37%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

Tc | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description |
---|---------------|--------------|-------------------|----------------|-------------|
6.0 | Direct Entry, Min Tc |

Subcatchment S3: pvmnt & abutter

[Graph of Hydrograph]

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=8,325 sf
Runoff Volume=0.033 af
Runoff Depth=2.04"
Tc=6.0 min
CN=71
Summary for Subcatchment S4: West Front

Runoff = 0.81 cfs @ 11.97 hrs, Volume= 0.041 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>4,419</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>1,201</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>5,620</td>
<td>90</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>1,201</td>
<td>21.37%</td>
<td>Pervious Area</td>
</tr>
<tr>
<td>4,419</td>
<td>78.63%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

Tc = 6.0 min

Subcatchment S4: West Front

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=5,620 sf
Runoff Volume=0.041 af
Runoff Depth=3.78"
Tc=6.0 min
CN=90
Summary for Subcatchment S5: East Front

Runoff = 0.62 cfs @ 11.99 hrs, Volume= 0.033 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Adj</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Paved parking, HSG B</td>
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<tr>
<td>739</td>
<td>61</td>
<td></td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>1,431</td>
<td>98</td>
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<td>Unconnected roofs, HSG B</td>
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<tr>
<td>13,432</td>
<td>39</td>
<td></td>
<td>&gt;75% Grass cover, Good, HSG A</td>
</tr>
<tr>
<td>19,617</td>
<td>56</td>
<td>54</td>
<td>Weighted Average, UI Adjusted</td>
</tr>
<tr>
<td>14,171</td>
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<td>72.24% Pervious Area</td>
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<tr>
<td>5,446</td>
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<td></td>
<td>27.76% Impervious Area</td>
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<tr>
<td>1,431</td>
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<td>26.28% Unconnected</td>
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</table>

Tc Length Slope Velocity Capacity Description
---
6.0    

Direct Entry, minimum

Subcatchment S5: East Front

Hydrograph

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=19,617 sf
Runoff Volume=0.033 af
Runoff Depth=0.87"
Tc=6.0 min
UI Adjusted CN=54
Summary for Subcatchment S6: NW offsite

Runoff = 0.13 cfs @ 11.99 hrs, Volume = 0.007 af, Depth = 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
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<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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<tr>
<td>1,979</td>
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<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>2,051</td>
<td>39</td>
<td>&gt;75% Grass cover, Good, HSG A</td>
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<tr>
<td>4,979</td>
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<td>Weighted Average</td>
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<tr>
<td>4,979</td>
<td>100.00%</td>
<td>Pervious Area</td>
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</table>

Tc Length Slope Velocity Capacity Description
(min) (feet) (ft/ft) (ft/sec) (cfs)
6.0

Subcatchment S6: NW offsite

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=4,979 sf
Runoff Volume=0.007 af
Runoff Depth=0.76"
Tc=6.0 min
CN=52
Summary for Subcatchment S7: West Offsite

Runoff = 0.05 cfs @ 11.98 hrs, Volume = 0.002 af, Depth = 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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<tbody>
<tr>
<td>931</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>931</td>
<td>100.00% Pervious Area</td>
<td></td>
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</table>

Tc = 6.0 min

Direct Entry, minimum

Subcatchment S7: West Offsite

Hydrograph

Type II 24-hr
10 Yr Rainfall=4.90"
Runoff Area=931 sf
Runoff Volume=0.002 af
Runoff Depth=1.31"
Tc=6.0 min
CN=61
Summary for Subcatchment S8: Driveway to CB2R

Runoff = 0.17 cfs @ 11.97 hrs, Volume = 0.010 af, Depth = 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 10 Yr Rainfall = 4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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<tbody>
<tr>
<td>1,074</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>1,074</td>
<td>100.00%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

Tc = 6.0 min

Subcatchment S8: Driveway to CB2R

Type II 24-hr 10 Yr Rainfall = 4.90"
Runoff Area = 1,074 sf
Runoff Volume = 0.010 af
Runoff Depth = 4.66"
Tc = 6.0 min
CN = 98
Summary for Subcatchment S9: Runoff to St

Runoff = 0.28 cfs @ 11.97 hrs, Volume= 0.013 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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<tbody>
<tr>
<td>1,381</td>
<td>98</td>
<td>Paved parking, HSG B</td>
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<tr>
<td>807</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>2,188</td>
<td>84</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>807</td>
<td>36.88% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>1,381</td>
<td>63.12% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

Tc = 6.0 min

Subcatchment S9: Runoff to St

Type II 24-hr 10 Yr Rainfall=4.90"
Runoff Area=2,188 sf
Runoff Volume=0.013 af
Runoff Depth=3.18"
Tc=6.0 min
CN=84
Summary for Reach 3R: 8" ADS

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 0.00" for 10 Yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume = 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume = 0.000 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Max. Velocity = 0.00 fps, Min. Travel Time = 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time = 0.0 min

Peak Storage = 0 cf @ 0.00 hrs
Average Depth at Peak Storage = 0.00'
Bank-Full Depth = 0.67' Flow Area = 0.3 sf, Capacity = 3.78 cfs

8.0" Round Pipe
n = 0.010 PVC, smooth interior
Length = 69.0' Slope = 0.0580 '/'
Inlet Invert = 58.90', Outlet Invert = 54.90'

Reach 3R: 8" ADS

Hydrograph

Inflow Area = 0.736 ac
Avg. Flow Depth = 0.00'
Max Vel = 0.00 fps
8.0"
Round Pipe
n = 0.010
L = 69.0'
S = 0.0580 '/'
Capacity = 3.78 cfs
Summary for Reach 6R: 10" ADS(CB2R)

Inflow Area = 1.340 ac, 66.60% Impervious, Inflow Depth = 0.09" for 10 Yr event
Inflow = 0.17 cfs @ 11.97 hrs, Volume= 0.010 af
Outflow = 0.17 cfs @ 11.97 hrs, Volume= 0.010 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 4.02 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 0.9 min

Peak Storage= 3 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.11', Surface Width= 0.56'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 4.61 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 65.0' Slope= 0.0262 '/'
Inlet Invert= 52.40', Outlet Invert= 50.70'

![Hydrograph](image_url)
Summary for Reach 7R: Total Offsite

Inflow Area = 1.526 ac, 60.57% Impervious, Inflow Depth = 0.26" for 10 Yr event
Inflow = 0.62 cfs @ 11.98 hrs, Volume = 0.032 af
Outflow = 0.62 cfs @ 11.98 hrs, Volume = 0.032 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs

Reach 7R: Total Offsite

Inflow Area=1.526 ac
Summary for Pond P1: N Infilt

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 3.93" for 10 Yr event
Inflow = 4.47 cfs @ 11.97 hrs, Volume= 0.241 af
Outflow = 0.12 cfs @ 11.94 hrs, Volume= 0.197 af, Atten= 97%, Lag= 0.0 min
Discarded = 0.12 cfs @ 11.94 hrs, Volume= 0.197 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 58.69' @ 14.20 hrs Surf.Area= 5,118 sf Storage= 5,760 cf
Flood Elev= 60.70' Surf.Area= 5,118 sf Storage= 10,497 cf
Plug-Flow detention time= 381.7 min calculated for 0.197 af (82% of inflow)
Center-of-Mass det. time= 303.3 min (1,065.3 - 762.0)

Volume Invert Avail.Storage Storage Description
--- --- --- --- --- ---
#1  56.50' 4,182 cf Custom Stage Data (Prismatic) Listed below (Recalc)
    17,602 cf Overall - 7,148 cf Embedded = 10,454 cf x 40.0% Voids
#2  57.25' 6,316 cf ISI Rainstore3 8 x 253 Inside #1
    Inside= 39.4"W x 31.5"H => 8.09 sf x 3.28'L = 26.6 cf
    Outside= 39.4"W x 31.5"H => 8.61 sf x 3.28'L = 28.3 cf
    7,148 cf Overall x 94.0% Voids

10,497 cf Total Available Storage

Elevation Surf.Area Inc.Store Cum.Store
--- --- --- --- ---
(foot) (sq-ft) (cubic-feet) (cubic-feet)
56.50 2,031 0 0
57.00 3,858 1,472 1,472
57.80 5,118 3,590 5,063
60.25 5,118 12,539 17,602

Device Routing Invert Outlet Devices
--- --- --- --- ---
#1 Discarded 56.50' 1.020 in/hr Exfiltration over Surface area
#2 Primary 58.90' 8.0" Round Culvert

H= 69.0' CMP, mitered to conform to fill, Ke= 0.700
L= 45.0' PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.12 cfs @ 11.94 hrs HW=57.84' (Free Discharge)
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.50' (Free Discharge)

1=Exfiltration (Exfiltration Controls 0.12 cfs)
2=Culvert (Controls 0.00 cfs)
Pond P1: N Infilt

Inflow Area=0.736 ac
Peak Elev=58.69'
Storage=5,760 cf
Summary for Pond P2: W Infilt

Inflow Area = 0.129 ac, 78.63% Impervious, Inflow Depth = 3.78" for 10 Yr event

Inflow = 0.81 cfs @ 11.97 hrs, Volume= 0.041 af
Outflow = 0.02 cfs @ 10.76 hrs, Volume= 0.035 af, Atten= 97%, Lag= 0.0 min
Discarded = 0.02 cfs @ 10.76 hrs, Volume= 0.035 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 57.60' @ 14.12 hrs  Surf.Area= 947 sf  Storage= 954 cf

Plug-Flow detention time= 374.3 min calculated for 0.035 af (87% of inflow)
Center-of-Mass det. time= 312.9 min ( 1,101.1 - 788.2 )

Volume Invert Avail.Storage Storage Description
--- ------- -------- ---------  ---------------
#1 56.00' 619 cf Custom Stage Data (Prismatic)
Listed below (Recalc)
2,841 cf Overall - 1,293 cf Embedded = 1,548 cf x 40.0% Voids
#2 56.50' 1,142 cf ISI Rainstore3 6 x 61 Inside #1
Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf
Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf
1,293 cf Overall x 94.0% Voids

1,761 cf Total Available Storage

Elevation Surf.Area Inc.Store Cum.Store
--- ---- -------- ------- -------
(feet) (sq-ft) (cubic-feet) (cubic-feet)
56.00 947 0 0
59.00 947 2,841 2,841

Device Routing Invert Outlet Devices
--- ----- ---- ---------------
#1 Discarded 56.00' 1.020 in/hr Exfiltration over Horizontal area
#2 Primary 57.75' 8.0" Round Culvert
L= 25.0' CMP, mitered to conform to fill, Ke= 0.700
Inlet / Outlet Invert= 57.75' / 55.70'  S= 0.0820 '/'  Cc= 0.900
n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.02 cfs @ 10.76 hrs HW=56.03' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.00' (Free Discharge)
2=Culvert ( Controls 0.00 cfs)
Pond P2: W Infilt

Hydrograph

Inflow Area=0.129 ac
Peak Elev=57.60'
Storage=954 cf

<table>
<thead>
<tr>
<th>Time (hours)</th>
<th>Flow (cfs)</th>
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</thead>
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<td>0-1</td>
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<tr>
<td>2-3</td>
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<tr>
<td>4-5</td>
<td>0.02 cfs</td>
</tr>
<tr>
<td>6-28</td>
<td>0.00 cfs</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Time (hours)</th>
<th>Flow (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>0.81 cfs</td>
<td>0.3 cfs</td>
</tr>
<tr>
<td>0.7 cfs</td>
<td>0.4 cfs</td>
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<tr>
<td>0.65 cfs</td>
<td>0.45 cfs</td>
</tr>
<tr>
<td>0.6 cfs</td>
<td>0.5 cfs</td>
</tr>
<tr>
<td>0.55 cfs</td>
<td>0.55 cfs</td>
</tr>
<tr>
<td>0.5 cfs</td>
<td>0.6 cfs</td>
</tr>
<tr>
<td>0.45 cfs</td>
<td>0.65 cfs</td>
</tr>
<tr>
<td>0.4 cfs</td>
<td>0.7 cfs</td>
</tr>
<tr>
<td>0.35 cfs</td>
<td>0.75 cfs</td>
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<td>0.3 cfs</td>
<td>0.8 cfs</td>
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<td>0.25 cfs</td>
<td>0.85 cfs</td>
</tr>
<tr>
<td>0.2 cfs</td>
<td>0.9 cfs</td>
</tr>
<tr>
<td>0.15 cfs</td>
<td>0.9 cfs</td>
</tr>
<tr>
<td>0.1 cfs</td>
<td>0.9 cfs</td>
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<tr>
<td>0.05 cfs</td>
<td>0.9 cfs</td>
</tr>
<tr>
<td>0 cfs</td>
<td>0.9 cfs</td>
</tr>
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Inflow Area=0.129 ac
Peak Elev=57.60'
Storage=954 cf
Summary for Pond P3: E Infilt

Inflow Area = 0.450 ac, 27.76% Impervious, Inflow Depth = 0.87" for 10 Yr event
Inflow = 0.62 cfs @ 11.99 hrs, Volume = 0.033 af
Outflow = 0.03 cfs @ 11.86 hrs, Volume = 0.033 af, Atten = 96%, Lag = 0.0 min
Discarded = 0.03 cfs @ 11.86 hrs, Volume = 0.033 af
Primary = 0.00 cfs @ 0.00 hrs, Volume = 0.000 af

Routing by Stor-Ind method, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Peak Elev = 57.86' @ 15.22 hrs Surf.Area = 1,103 sf Storage = 606 cf

Plug-Flow detention time = 268.7 min calculated for 0.033 af (100% of inflow)
Center-of-Mass det. time = 268.6 min (1,165.0 - 896.4)

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<th>Volume</th>
<th>Invert</th>
<th>Avail.Storage</th>
<th>Storage Description</th>
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<tbody>
<tr>
<td>#1</td>
<td>57.00'</td>
<td>382 cf</td>
<td>Custom Stage Data (Prismatic) Listed below (Recalc) 2,482 cf Overall - 1,526 cf Embedded = 956 cf x 40.0% Voids</td>
</tr>
<tr>
<td>#2</td>
<td>57.25'</td>
<td>1,348 cf</td>
<td>ISI Rainstore3 6 x 72 Inside #1 Inside = 39.4&quot;W x 23.6&quot;H =&gt; 6.07 sf x 3.28'L = 19.9 cf Outside = 39.4&quot;W x 23.6&quot;H =&gt; 6.46 sf x 3.28'L = 21.2 cf 1,526 cf Overall x 94.0% Voids</td>
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</table>

1,730 cf Total Available Storage

<table>
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<tr>
<th>Elevation</th>
<th>Surf.Area</th>
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<th>Cum.Store</th>
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<td>(feet)</td>
<td>(sq-ft)</td>
<td>(cubic-feet)</td>
<td>(cubic-feet)</td>
</tr>
<tr>
<td>57.00</td>
<td>1,103</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>59.25</td>
<td>1,103</td>
<td>2,482</td>
<td>2,482</td>
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</table>

Device Routing Invert Outlet Devices

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<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Discarded</td>
<td>57.00'</td>
<td>1.020 in/hr Exfiltration over Horizontal area 8.0&quot; Round Culvert L = 88.0' CMP, mitered to conform to fill, Ke = 0.700 Inlet / Outlet Invert = 58.00' / 55.50' S = 0.0284 '/' Cc = 0.900 n = 0.010 PVC, smooth interior, Flow Area = 0.35 sf</td>
</tr>
<tr>
<td>#2</td>
<td>Primary</td>
<td>58.00'</td>
<td>1=Exfiltration (Exfiltration Controls 0.03 cfs)</td>
</tr>
</tbody>
</table>

Discarded OutFlow Max = 0.03 cfs @ 11.86 hrs HW = 57.04' (Free Discharge)

Primary OutFlow Max = 0.00 cfs @ 0.00 hrs HW = 57.00' (Free Discharge)
Pond P3: E Infilt

Inflow Area=0.450 ac
Peak Elev=57.86'
Storage=606 cf
Subcatchment S1: Roof
  Runoff Area=8,413 sf  100.00% Impervious  Runoff Depth=8.86''
  Tc=6.0 min  CN=98  Runoff=2.50 cfs  0.143 af

Subcatchment S2: pvmnt & DThru
  Runoff Area=15,340 sf  98.40% Impervious  Runoff Depth=8.74''
  Tc=6.0 min  CN=97  Runoff=4.56 cfs  0.256 af

Subcatchment S3: pvmnt & abutter
  Runoff Area=8,325 sf  53.37% Impervious  Runoff Depth=5.55''
  Tc=6.0 min  CN=71  Runoff=1.86 cfs  0.088 af

Subcatchment S4: West Front
  Runoff Area=5,620 sf  78.63% Impervious  Runoff Depth=7.89''
  Tc=6.0 min  CN=90  Runoff=1.61 cfs  0.085 af

Subcatchment S5: East Front
  Runoff Area=19,617 sf  27.76% Impervious  Runoff Depth=3.44''
  Tc=6.0 min  UI Adjusted CN=54  Runoff=2.76 cfs  0.129 af

Subcatchment S6: NW offsite
  Runoff Area=4,979 sf  0.00% Impervious  Runoff Depth=3.19''
  Tc=6.0 min  CN=52  Runoff=0.65 cfs  0.030 af

Subcatchment S7: West Offsite
  Runoff Area=931 sf  0.00% Impervious  Runoff Depth=4.30''
  Tc=6.0 min  CN=61  Runoff=0.16 cfs  0.008 af

Subcatchment S8: Driveway to CB2R
  Runoff Area=1,074 sf  100.00% Impervious  Runoff Depth=8.86''
  Tc=6.0 min  CN=98  Runoff=0.32 cfs  0.018 af

Subcatchment S9: Runoff to St
  Runoff Area=2,188 sf  63.12% Impervious  Runoff Depth=7.16''
  Tc=6.0 min  CN=84  Runoff=0.59 cfs  0.030 af

Reach 3R: 8" ADS
  Avg. Flow Depth=0.27'  Max Vel=9.90 fps  Inflow=1.34 cfs  0.170 af
  8.0" Round Pipe  n=0.010  L=69.0'  S=0.0580 '/'  Capacity=3.78 cfs  Outflow=1.34 cfs  0.170 af

Reach 6R: 10" ADS(CB2R)
  Avg. Flow Depth=0.53'  Max Vel=9.24 fps  Inflow=3.40 cfs  0.301 af
  10.0" Round Pipe  n=0.010  L=65.0'  S=0.0262 '/'  Capacity=4.61 cfs  Outflow=3.40 cfs  0.301 af

Reach 7R: Total Offsite
  Inflow=4.22 cfs  0.369 af
  Outflow=4.22 cfs  0.369 af

Pond P1: N Infilt
  Peak Elev=60.05'  Storage=10,084 cf  Inflow=8.91 cfs  0.487 af
  Discarded=0.12 cfs  0.221 af  Primary=1.34 cfs  0.170 af  Outflow=1.46 cfs  0.391 af

Pond P2: W Infilt
  Peak Elev=58.35'  Storage=1,480 cf  Inflow=1.61 cfs  0.085 af
  Discarded=0.02 cfs  0.041 af  Primary=0.77 cfs  0.030 af  Outflow=0.80 cfs  0.071 af

Pond P3: E Infilt
  Peak Elev=59.09'  Storage=1,613 cf  Inflow=2.76 cfs  0.129 af
  Discarded=0.03 cfs  0.037 af  Primary=1.29 cfs  0.083 af  Outflow=1.32 cfs  0.120 af

Total Runoff Area = 1.526 ac  Runoff Volume = 0.787 af  Average Runoff Depth = 6.19''
  39.43% Pervious = 0.602 ac  60.57% Impervious = 0.924 ac
Summary for Subcatchment S1: Roof

Runoff = 2.50 cfs @ 11.97 hrs, Volume = 0.143 af, Depth = 8.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 100 Yr Rainfall = 9.10"

<table>
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<th>Description</th>
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<tbody>
<tr>
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<td>Roofs, HSG B</td>
</tr>
<tr>
<td>3,568</td>
<td>98</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>8,413</td>
<td>98</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>8,413</td>
<td>100.00% Impervious Area</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
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<tbody>
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<td>6.0</td>
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<td></td>
<td></td>
<td>Direct Entry, Min Tc</td>
</tr>
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</table>

Subcatchment S1: Roof

Type II 24-hr 100 Yr Rainfall = 9.10"
Runoff Area = 8,413 sf
Runoff Volume = 0.143 af
Runoff Depth = 8.86"
Tc = 6.0 min
CN = 98
Summary for Subcatchment S2: pvmnt & DThru

Runoff = 4.56 cfs @ 11.97 hrs, Volume = 0.256 af, Depth = 8.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

<table>
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<th>CN</th>
<th>Description</th>
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<tbody>
<tr>
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<td>98</td>
<td>Paved parking, HSG B</td>
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<tr>
<td>246</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>15,340</td>
<td>97</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>246</td>
<td>1.60%</td>
<td>Pervious Area</td>
</tr>
<tr>
<td>15,094</td>
<td>98.40%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

Tc Length Slope Velocity Capacity Description
<table>
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<th>(min)</th>
<th>(feet)</th>
<th>(ft/ft)</th>
<th>(ft/sec)</th>
<th>(cfs)</th>
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<tbody>
<tr>
<td>6.0</td>
<td>Direct Entry, Min Tc</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subcatchment S2: pvmnt & DThru

Hydrograph

Type II 24-hr 100 Yr Rainfall=9.10"
Runoff Area = 15,340 sf
Runoff Volume = 0.256 af
Runoff Depth = 8.74"
Tc = 6.0 min
CN = 97
Summary for Subcatchment S3: pvmnt & abutter

Runoff = 1.86 cfs @ 11.97 hrs, Volume= 0.088 af, Depth= 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

<table>
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<th>Area (sf)</th>
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<td>Paved parking, HSG B</td>
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<tr>
<td>360</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>3,522</td>
<td>39</td>
<td>&gt;75% Grass cover, Good, HSG A</td>
</tr>
<tr>
<td>8,325</td>
<td>71</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>3,882</td>
<td>46.63% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>4,443</td>
<td>53.37% Impervious Area</td>
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</tbody>
</table>

Tc = 6.0 min

Direct Entry, Min Tc

Subcatchment S3: pvmnt & abutter

Type II 24-hr 100 Yr Rainfall=9.10"
Runoff Area=8,325 sf
Runoff Volume=0.088 af
Runoff Depth=5.55"
Tc=6.0 min
CN=71
Summary for Subcatchment S4: West Front

Runoff = 1.61 cfs @ 11.97 hrs, Volume = 0.085 af, Depth = 7.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 100 Yr Rainfall = 9.10"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
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<tbody>
<tr>
<td>4,419</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>1,201</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>5,620</td>
<td>90</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>1,201</td>
<td></td>
<td>21.37% Pervious Area</td>
</tr>
<tr>
<td>4,419</td>
<td>78.63% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>282</td>
<td>272</td>
<td>262</td>
<td>252</td>
<td>242</td>
</tr>
</tbody>
</table>

Subcatchment S4: West Front

Hydrograph

Type II 24-hr 100 Yr Rainfall = 9.10"
Runoff Area = 5,620 sf
Runoff Volume = 0.085 af
Runoff Depth = 7.89"
Tc = 6.0 min
CN = 90
Summary for Subcatchment S5: East Front

Runoff = 2.76 cfs @ 11.98 hrs, Volume= 0.129 af, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Adj</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,015</td>
<td>98</td>
<td></td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>739</td>
<td>61</td>
<td></td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>1,431</td>
<td>98</td>
<td></td>
<td>Unconnected roofs, HSG B</td>
</tr>
<tr>
<td>13,432</td>
<td>39</td>
<td></td>
<td>&gt;75% Grass cover, Good, HSG A</td>
</tr>
<tr>
<td>19,617</td>
<td>56</td>
<td>54</td>
<td>Weighted Average, UI Adjusted</td>
</tr>
<tr>
<td>14,171</td>
<td></td>
<td></td>
<td>72.24% Pervious Area</td>
</tr>
<tr>
<td>5,446</td>
<td></td>
<td></td>
<td>27.76% Impervious Area</td>
</tr>
<tr>
<td>1,431</td>
<td></td>
<td></td>
<td>26.28% Unconnected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry, minimum</td>
</tr>
</tbody>
</table>

Subcatchment S5: East Front

Hydrograph

Type II 24-hr
100 Yr Rainfall=9.10"
Runoff Area=19,617 sf
Runoff Volume=0.129 af
Runoff Depth=3.44"
Tc=6.0 min
UI Adjusted CN=54
Summary for Subcatchment S6: NW offsite

Runoff = 0.65 cfs @ 11.98 hrs, Volume= 0.030 af, Depth= 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>949</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>1,979</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>2,051</td>
<td>39</td>
<td>&gt;75% Grass cover, Good, HSG A</td>
</tr>
<tr>
<td>4,979</td>
<td>52</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>4,979</td>
<td>100.00% Pervious Area</td>
<td></td>
</tr>
</tbody>
</table>

Subcatchment S6: NW offsite

Type II 24-hr
100 Yr Rainfall=9.10"
Runoff Area=4,979 sf
Runoff Volume=0.030 af
Runoff Depth=3.19"
Tc=6.0 min
CN=52
Summary for Subcatchment S7: West Offsite

Runoff = 0.16 cfs @ 11.97 hrs, Volume = 0.008 af, Depth = 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs
Type II 24-hr 100 Yr Rainfall = 9.10"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>931</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>931</td>
<td>100.00% Pervious Area</td>
<td></td>
</tr>
</tbody>
</table>

Tc = 6.0 min

Subcatchment S7: West Offsite

Hydrograph

Type II 24-hr
100 Yr Rainfall = 9.10"
Runoff Area = 931 sf
Runoff Volume = 0.008 af
Runoff Depth = 4.30"
Tc = 6.0 min
CN = 61
Summary for Subcatchment S8: Driveway to CB2R

Runoff = 0.32 cfs @ 11.97 hrs, Volume= 0.018 af, Depth= 8.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,074</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>1,074</td>
<td>100.00%</td>
<td>Impervious Area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry, minimum</td>
</tr>
</tbody>
</table>

Subcatchment S8: Driveway to CB2R

Hydrograph

Type II 24-hr
100 Yr Rainfall=9.10"
Runoff Area=1,074 sf
Runoff Volume=0.018 af
Runoff Depth=8.86"
Tc=6.0 min
CN=98
Summary for Subcatchment S9: Runoff to St

Runoff = 0.59 cfs @ 11.97 hrs, Volume= 0.030 af, Depth= 7.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,381</td>
<td>98</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>807</td>
<td>61</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>2,188</td>
<td>84</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>807</td>
<td></td>
<td>36.88% Pervious Area</td>
</tr>
<tr>
<td>1,381</td>
<td>63</td>
<td>63.12% Impervious Area</td>
</tr>
</tbody>
</table>

Tc = 6.0 min
Length = Direct Entry, minimum
Slope = (ft/ft)
Velocity = (ft/sec)
Capacity = (cfs)
Description = Weighted Average

Subcatchment S9: Runoff to St

Type II 24-hr
100 Yr Rainfall=9.10"
Runoff Area=2,188 sf
Runoff Volume=0.030 af
Runoff Depth=7.16"
Tc=6.0 min
CN=84
Summary for Reach 3R: 8" ADS

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 2.76" for 100 Yr event
Inflow = 1.34 cfs @ 12.16 hrs, Volume= 0.170 af
Outflow = 1.34 cfs @ 12.17 hrs, Volume= 0.170 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 9.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 4.70 fps, Avg. Travel Time= 0.2 min

Peak Storage= 9 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.27’, Surface Width= 0.66’
Bank-Full Depth= 0.67’ Flow Area= 0.3 sf, Capacity= 3.78 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 69.0’ Slope= 0.0580 ‘/
Inlet Invert= 58.90’, Outlet Invert= 54.90’

Reach 3R: 8" ADS

Hydrograph

Inflow Area=0.736 ac
Avg. Flow Depth=0.27’
Max Vel=9.90 fps
8.0"
Round Pipe
n=0.010
L=69.0’
S=0.0580 ‘/
Capacity=3.78 cfs
Summary for Reach 6R: 10" ADS(CB2R)

Inflow Area = 1.340 ac, 66.60% Impervious, Inflow Depth = 2.70" for 100 Yr event
Inflow = 3.40 cfs @ 12.07 hrs, Volume= 0.301 af
Outflow = 3.40 cfs @ 12.08 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 9.24 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 2.47 fps, Avg. Travel Time= 0.4 min

Peak Storage= 24 cf @ 12.08 hrs
Average Depth at Peak Storage= 0.53', Surface Width= 0.80'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 4.61 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 65.0' Slope= 0.0262 '/'
Inlet Invert= 52.40', Outlet Invert= 50.70'

Reach 6R: 10" ADS(CB2R)
Summary for Reach 7R: Total Offsite

Inflow Area = 1.526 ac, 60.57% Impervious, Inflow Depth = 2.90" for 100 Yr event
Inflow = 4.22 cfs @ 12.03 hrs, Volume = 0.369 af
Outflow = 4.22 cfs @ 12.03 hrs, Volume = 0.369 af, Atten = 0%, Lag = 0.0 min

Routing by Stor-Ind+Trans method, Time Span = 0.00-28.00 hrs, dt = 0.02 hrs

Reach 7R: Total Offsite

Hydrograph

Inflow Area = 1.526 ac
**Summary for Pond P1: N Infilt**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflow Area</td>
<td>0.736 ac, 87.13% Impervious</td>
</tr>
<tr>
<td>Inflow</td>
<td>8.91 cfs @ 11.97 hrs, Volume= 0.487 af</td>
</tr>
<tr>
<td>Outflow</td>
<td>1.46 cfs @ 12.16 hrs, Volume= 0.391 af, Atten= 84%, Lag= 11.7 min</td>
</tr>
<tr>
<td>Discarded</td>
<td>0.12 cfs @ 11.68 hrs, Volume= 0.221 af</td>
</tr>
<tr>
<td>Primary</td>
<td>1.34 cfs @ 12.16 hrs, Volume= 0.170 af</td>
</tr>
</tbody>
</table>

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs  
Peak Elev= 60.05' @ 12.16 hrs  
Flood Elev= 60.70'  
Surf.Area= 5,118 sf  
Storage= 10,084 cf

Plug-Flow detention time= 239.8 min calculated for 0.391 af (80% of inflow)  
Center-of-Mass det. time= 158.2 min (910.8 - 752.6)

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Avail.Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>56.50'</td>
<td>4,182 cf</td>
<td>Custom Stage Data (Prismatic) Listed below (Recalc) 17,602 cf Overall - 7,148 cf Embedded = 10,454 cf x 40.0% Voids</td>
</tr>
<tr>
<td>#2</td>
<td>57.25'</td>
<td>6,316 cf</td>
<td>ISI Rainstore3 8 x 253 Inside #1 Inside= 39.4&quot;W x 31.5&quot;H =&gt; 8.09 sf x 3.28'L = 26.6 cf Outside= 39.4&quot;W x 31.5&quot;H =&gt; 8.61 sf x 3.28'L = 28.3 cf 7,148 cf Overall x 94.0% Voids</td>
</tr>
</tbody>
</table>

10,497 cf Total Available Storage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>56.50</td>
<td>2,031</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>57.00</td>
<td>3,858</td>
<td>1,472</td>
<td>1,472</td>
</tr>
<tr>
<td>57.80</td>
<td>5,118</td>
<td>3,590</td>
<td>5,063</td>
</tr>
<tr>
<td>60.25</td>
<td>5,118</td>
<td>12,539</td>
<td>17,602</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Discarded</td>
<td>56.50'</td>
<td><strong>1.020 in/hr Exfiltration over Surface area 8.0&quot; Round Culvert</strong> L= 69.0’ CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.90’ / 54.90’ S= 0.0580 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf</td>
</tr>
<tr>
<td>#2</td>
<td>Primary</td>
<td>58.90'</td>
<td><strong>2=Culvert</strong> (Inlet Controls 1.34 cfs @ 3.83 fps)</td>
</tr>
</tbody>
</table>

Discarded OutFlow Max=0.12 cfs @ 11.68 hrs HW=57.81’ (Free Discharge)  
Primary OutFlow Max=1.34 cfs @ 12.16 hrs HW=60.05’ (Free Discharge)
Pond P1: N Infilt

Inflow Area = 0.736 ac
Peak Elev = 60.05'
Storage = 10,084 cf

Hydrograph

Flow (cfs)

Time (hours)

Inflow Area = 0.736 ac
Peak Elev = 60.05'
Storage = 10,084 cf
Summary for Pond P2: W Inflt

Inflow Area = 0.129 ac, 78.63% Impervious, Inflow Depth = 7.89" for 100 Yr event
Inflow = 1.61 cfs @ 11.97 hrs, Volume= 0.085 af
Outflow = 0.80 cfs @ 12.06 hrs, Volume= 0.071 af, Atten= 51%, Lag= 5.6 min
Discarded = 0.02 cfs @ 8.68 hrs, Volume= 0.041 af
Primary = 0.77 cfs @ 12.06 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 58.35' @ 12.06 hrs  Surf.Area= 947 sf  Storage= 1,480 cf

Plug-Flow detention time= 213.1 min calculated for 0.071 af (84% of inflow)
Center-of-Mass det. time= 141.6 min ( 910.3 - 768.7 )

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Avail.Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>56.00'</td>
<td>619 cf</td>
<td>Custom Stage Data (Prismatic) Listed below (Recalc) 2,841 cf Overall - 1,293 cf Embedded = 1,548 cf x 40.0% Voids</td>
</tr>
<tr>
<td>#2</td>
<td>56.50'</td>
<td>1,142 cf</td>
<td>ISI Rainstore3 6 x 61 Inside #1 Inside= 39.4&quot;W x 23.6&quot;H =&gt; 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4&quot;W x 23.6&quot;H =&gt; 6.46 sf x 3.28'L = 21.2 cf 1,293 cf Overall x 94.0% Voids</td>
</tr>
</tbody>
</table>

1,761 cf Total Available Storage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>56.00</td>
<td>947</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>59.00</td>
<td>947</td>
<td>2,841</td>
<td>2,841</td>
</tr>
</tbody>
</table>

Device Routing Invert Outlet Devices

<table>
<thead>
<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Discarded</td>
<td>56.00'</td>
<td>1.020 in/hr Exfiltration over Horizontal area 8.0&quot; Round Culvert</td>
</tr>
<tr>
<td>#2</td>
<td>Primary</td>
<td>57.75'</td>
<td></td>
</tr>
</tbody>
</table>

Discarded OutFlow Max=0.02 cfs @ 8.68 hrs HW=56.03’ (Free Discharge) Exfiltration Controls 0.02 cfs

Primary OutFlow Max=0.78 cfs @ 12.06 hrs HW=58.35’ (Free Discharge) (Inlet Controls 0.78 cfs @ 2.33 fps)
Pond P2: W Infilt

Inflow Area=0.129 ac
Peak Elev=58.35'
Storage=1,480 cf
Summary for Pond P3: E Infilt

Inflow Area = 0.450 ac, 27.76% Impervious, Inflow Depth = 3.44" for 100 Yr event
Inflow = 2.76 cfs @ 11.98 hrs, Volume= 0.129 af
Outflow = 1.32 cfs @ 12.07 hrs, Volume= 0.120 af, Atten= 52%, Lag= 5.5 min
Discarded = 0.03 cfs @ 11.16 hrs, Volume= 0.037 af
Primary = 1.29 cfs @ 12.07 hrs, Volume= 0.083 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Peak Elev= 59.09' @ 12.07 hrs  Surf.Area= 1,103 sf  Storage= 1,613 cf

Plug-Flow detention time= 118.6 min calculated for 0.120 af (93% of inflow)
Center-of-Mass det. time= 81.3 min ( 930.4 - 849.2 )

Volume Invert Avail.Storage Storage Description
#1 57.00' 382 cf Custom Stage Data (Prismatic)Listed below (Recalc) 2,482 cf Overall - 1,526 cf Embedded = 956 cf x 40.0% Voids
#2 57.25' 1,348 cf ISI Rainstore3 6 x 72 Inside #1
Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf
Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf
1,526 cf Overall  x 94.0% Voids
1,730 cf Total Available Storage

Elevation Surf.Area Inc.Store Cum.Store
(feet) (sq-ft) (cubic-feet) (cubic-feet)
57.00 1,103 0 0
59.25 1,103 2,482 2,482

Device Routing Invert Outlet Devices
#1 Discarded 57.00' 1.020 in/hr Exfiltration over Horizontal area
#2 Primary 58.00' 8.0" Round Culvert
L= 88.0' CMP, mitered to conform to fill, Ke= 0.700
Inlet / Outlet Invert= 58.00' / 55.50'  S= 0.0284 '/'  Cc= 0.900
n= 0.010  PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.03 cfs @ 11.16 hrs  HW=57.02'  (Free Discharge)
↑ 1=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=1.29 cfs @ 12.07 hrs  HW=59.09'  (Free Discharge)
↑ 2=Culvert (Inlet Controls 1.29 cfs @ 3.69 fps)
Pond P3: E Infilt

Hydrograph

Inflow Area=0.450 ac
Peak Elev=59.09'
Storage=1,613 cf
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