

Hollydale Development



Plymouth, Minnesota

STORMWATER MANAGEMENT PLAN

July 2021
June 2021
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AE2S Project #: P12623-2019-042

Hollydale Development

STORMWATER MANAGEMENT PLAN

July 2021

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



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1.0 INTRODUCTION AND BACKGROUND

1.1 Project Background

The Hollydale Golf Course is an approximately 158.1± acre parcel to be developed within the city limits of Plymouth, Minnesota. It is located southwest of the intersection of Schmidt Lake Road and Vicksburg Lane North (see *Figure 1* for site location map).

This plan, prepared by Advanced Engineering and Environmental Services, Inc. (AE2S) is to document the basis of the storm water management design for the development to meet the storm water management requirements.

1.2 Data Used

The following data were used in this analysis:

- NRCS Soil Survey
- Aerial Imagery (MnGeo WMS Service, 2018 7-county)
- Existing Topography (MnDNR, MnTOPO, 2013)
- Hollydale Development Plans (Sathre-Bergquist, June 2020)
- NOAA Atlas-14 Precipitation Data

2.0 STORMWATER MANAGEMENT REQUIREMENTS

2.1 City of Plymouth

The City of Plymouth developed an updated surface water management plan in 2018 that was designed to conform to the goals of the water management organizations that have jurisdiction within the City. This development falls within the jurisdiction of the Bassett Creek Watershed Management Commission (BCWMO). Hydrologically, a small portion of the development along the north end drains to Elm Creek Watershed, but Elm Creek Watershed Management Commission (ECWMO) deferred to BCWMO's rules and overall permitting responsibility based on initial discussions with District staff, therefore the project has been designed to meet BCWMO standards. These rules used to design this stormwater management plan are described in the following section.

2.2 Bassett Creek Watershed Management Commission

As previously described, the site is within the Bassett Creek WMC watershed management area. The following list summarizes the relevant stormwater management Rules and Standards.

- The proposed activity / development shall not exceed peak runoff rates for the 2-, 10-, and 100-year critical storm events. These storm events shall follow the NOAA Atlas 14 precipitation intensities and distributions.
- The 100-year pond high water level (HWL) shall be at least 2-ft below the lowest structure floor elevation and a minimum 1.5-ft above the emergency overflow (EOF) elevation of nearby waterbodies and stormwater ponds.
- An overflow spillway must be sized to convey a 100-year event.
- Low structure floor elevation shall be at least 2-ft above the 100-year HWL of the floodplain that the site discharges into. This elevation shall be determined by the most recent FIRM within the site region.
- Pond outlet structures must provide skimming to prevent release of floatables and oils for at least the 2-year storm event.
- Stormwater runoff volume must be infiltrated or abstracted onsite in the amount equal to 1.1 inches of runoff generated from new impervious surface within 48 hours.
 - If the 1.1 inches performance goal is not met, a 0.55 inch performance and a 75% annual total phosphorus removal goal is set instead.
 - Where infiltration is not advisable or infeasible due to site conditions, biofiltration must be provided for that part of the abstraction volume that is not abstracted by other BMPs. Where biofiltration is infeasible, at a minimum filtration through a medium that incorporates organic material, iron fillings, or other material to reduce soluble phosphorus must be provided.
 - The bottom of the filtration media must be at least 3 feet above the groundwater elevation.

- There shall be no net increase in total phosphorus (TP) or total suspended solids (TSS) from the pre-development land cover to the post-development land cover.

2.3 Minnesota Pollution Control Agency

The Minnesota Pollution Control Agency (MPCA) regulates stormwater runoff by administering the National Pollution Discharge Elimination System (NPDES) Permit. The NPDES Permit is required for any projects that disturb more than one (1.0) acre of area. The permanent stormwater management requirements of the Permit are triggered if the project proposes to increase the impervious surface area by more than one acre.

The overall project disturbance is over one acre; therefore, a Stormwater Pollution Prevention Plan (SWPPP) will need to be prepared and a NPDES Permit obtained through the MPCA. The proposed BMP(s) must be capable of retaining on site one (1) inch of runoff from the new impervious surfaces created by the project. If onsite retention is not possible based on contaminated soils, proximity to groundwater, bedrock depth or impermeable soils, the water quality volume shall be treated using other best management practices outlined in the Permit.

3.0 METHODOLOGY

3.1 Hydrology

The site was analyzed using HydroCAD for pre- and post-development conditions. Runoff generation was estimated using TR-20 methodology.

The NOAA Atlas 14 rainfall depths and nested distributions were used for the analysis. Runoff from pervious and impervious areas was calculated separately. *Table 3.1* summarizes the rainfall depths that were used in the peak discharge analysis.

Table 3.1 Summary of NOAA Atlas 14 Rainfall Depths (inches)

Rainfall Duration	2-Year	10-Year	100-Year
24-Hours	2.87	4.27	7.32

Time of concentration (Tc) for existing conditions was calculated using the TR-55 methodology. For developed subwatersheds, Tc was set to 12 minutes. For subwatersheds containing areas unaltered by development, Tc was calculated using TR-55 methodology. A minimum Tc of 12.0 is based on ~30 feet of sheet flow for the yards as well as in accordance with the City’s Engineering Guidelines noting a minimum Tc of 10-20 minutes for lateral pipes which serve developed residential areas.

Curve numbers were selected for each subwatershed based on the land use, soil conditions and impervious surface area. These parameters were used to select the appropriate CN using TR-55 methodology.

3.2 Hydraulics

Hydraulic routing within HydroCAD was computed using the dynamic-storage-indication methodology. Stormwater ponds were modeled with multi-stage outlets.

The stormwater basins were sized to have at least 2.0 feet of freeboard from the lowest structure opening for the 100-year rainfall event. In addition, the emergency overflow invert elevation was set to provide at least 1.5 feet of freeboard above the lowest structure opening from any area where surface water is impounded during a flood event.

3.3 Water Quality

Water quality analysis was conducted using Ramsey Washington Metro Watershed District (RWMWD) Stormwater Reuse Spreadsheet designed for determining water quality credit for stormwater reuse.

4.0 ANALYSIS AND RESULTS

4.1 Existing Conditions

4.1.1 Site Topography

Currently the majority of the site is managed grass and open space, with sloping topography with elevations between 1020± feet and 966± feet. A large wetland is located at the southeast section of the site and extends further south. This wetland (wetland 6) was taken to be the hydraulic boundary for the project as any water that flows to this wetland is effectively running offsite. Neighboring residential homes from all sides drain into the site. These offsite areas were included in the existing conditions analysis.

The majority of the site drains directly to the large southeast wetland which is connected to storm sewer running east within Bassett Creek Watershed. The northeast corner of the site drains north within Elm Creek Watershed. **Figure 2** shows the existing conditions including delineated wetland areas, subcatchment areas, existing topography, and aerial imagery.

4.1.2 Soils

The NRCS soils database classifies the on-site soils as Minnetonka silty clay loam, Lester loam, Angus loam, and Shorewood silty clay loam soils. See **Appendix B** for the Web Soil Survey. Soils are predominantly Hydrologic Soil Group (HSG) Type C and C/D.

4.1.3 Land Use

Existing subcatchments were delineated based on existing topography (MnTOPO). Weighted curve numbers were computed based on land use and NRCS hydrologic soil groups and are summarized in **Table 4.1**. Soils with C/D HSG were modeled as Type C. Note that the total area does not reflect the parcel area due to the exclusion of the large wetland to the south.

Table 4.1 Summary of Existing CN Values

CN Description	Assumptions	CN	Total Area (ac)	% of Total
Grass	>75% Cover, Good, A soils	39	5.7	4.2%
Grass	>75% Cover, Good, B soils	61	9.9	7.2%
Grass	>75% Cover, Good, C soils	74	105.4	77.1%
Impervious	Impervious	98	5.2	3.8%
Woods	Fair, B soils	60	0.5	0.4%
Woods	Fair, C soils	73	8.8	6.4%
Wetlands	Nearly saturated	98	1.1	0.8%
Dirt	Dirt roads, C soils	87	0.1	0.1%
		Total	136.7	100%

Existing subcatchments were delineated based on existing contours. **Table 4.2** summarizes existing subcatchment runoff parameters. See **Figure 2** for delineated wetland areas, subcatchment areas, existing topography, and aerial imagery.

Table 4.2 Existing Subcatchment Parameters

Subcatchment	Composite CN	Total Area (ac)	Tc (min)
EX 1	72	118.6	33.3
EX 2	75	7.7	24.5
EX 3	81	5.6	42.7
EX 4	80	3.6	18.1
EX 5	74	0.4	15.5
EX 6	77	0.2	10.3
EX 7	89	0.7	16.4
	Total	136.7	-

4.2 Proposed Conditions

4.2.1 Site Topography

The proposed lots will be graded to drain as much impervious surface as possible to a large stormwater pond (Pond 5S) where the water will be reused for irrigation. Remaining pervious and impervious area will be routed to five other stormwater ponds, which route to one another before ultimately discharging to the large wetland to the south (except for one of the ponds, which drains northwest to another existing wetland). Offsite contributing areas around the site flow to multiple destinations: proposed ponds, the large south wetland, and the other wetland on the northeast corner of the site. See **Figure 3** for details.

4.2.2 Soils & Land Use

The proposed soil types are the same as the existing which were described in section **4.1.2 Soils**. The site will be developed as residential lots, with new impervious areas including roads, sidewalks, and buildings. Weighted CN values for each subwatershed were derived based on the following CN values provided in **Table 4.3**. Proposed impervious area was delineated based on the proposed layout plan. The parcel being developed is approximately 158.1 acres (without offsite areas included), of which 31.9 acres (20%) is new impervious. Again, note that the total area does not reflect the parcel area due to the exclusion of the large wetland to the south.

Table 4.3 Summary of Proposed CN Values

CN Description	Assumptions	CN	Total Area (ac)	% of Total
Grass	>75% Cover, Good, A soils	39	2.7	2.0%
Grass	>75% Cover, Good, B soils	61	6.2	4.5%
Grass	>75% Cover, Good, C soils	79	80.8	59.3%
Impervious	Impervious (Proposed & Reconstructed)	98	31.9	23.3%
Impervious	Existing Impervious (undisturbed, off-site)	98	2.8	2.1
Woods	Fair, HSG C Soils	73	3.3	2.4%
Pond	Existing Wetland/Pond	98	9.0	6.6%
		Total	136.7	100%

Proposed subcatchments were delineated based on proposed grading and storm sewer routing. **Table 4.4** summarizes proposed subcatchment runoff parameters. **Figure 3** shows the proposed site grading, storm sewer and subcatchments.

Table 4.4 Proposed Subcatchment Parameters

Subcatchment	Composite CN	Impervious Area (ac) ⁽¹⁾	Total Area (ac)	Tc (min) ⁽²⁾
1000	83	0.01	0	12.3
1N	81	1.47	4.8	12
1N 100	79	0.13	0.5	14.8
1S	84	6.67	13.5	12
2S	86	2.07	4.1	12
3S	85	4.27	9.6	12
3S 100	91	0.35	0.5	12
4S	79	3.35	9.4	12
5S	82	13.65	29	12
5S 100	85	0.13	0.3	12
A8	82	0.28	0.8	12
A8 100	98	0.02	0	12
A7	80	0.16	0.7	12
A7 100	98	0.03	0	12
A20	77	0.01	0.1	12
A21	79	0.15	0.7	12
A10	75	0.06	0.5	12
A11	76	0.18	1.5	12
A12	76	0.13	0.8	12
A12 100	81	0.06	0.2	12
A9	76	0.09	1.1	12
A9 100	95	0.03	0	12
C10	76	0.16	1.5	12

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Subcatchment	Composite CN	Impervious Area (ac)⁽¹⁾	Total Area (ac)	Tc (min)⁽²⁾
C10_100	88	0.33	0.5	12
C7	76	0.2	1.4	12
C7_100	89	0.17	0.3	13.8
C8	76	0.19	1.5	12
C8_100	89	0.3	0.5	13.8
C9	76	0.19	1.8	12
C9_100	90	0.2	0.3	12
E21	75	0.01	0.4	12
E22	77	0.06	0.5	12
E22_100	87	0.04	0.1	12
E23	76	0.1	1.2	12
E29	78	0.2	1.3	12
E13	81	0.17	0.6	12
E15	80	0.52	1.9	12
E16	80	0.36	1.4	12
E17	79	0.2	1	12
E18	76	0.17	1.7	12
F5	79	0.26	1.2	12
F6	79	0.19	0.9	12
F7	77	0.08	0.7	12
F8	78	0.31	1.9	12
H5	77	0.59	2.2	12
H6	70	0.2	1	12
H7	72	0.23	1.2	12
I14	81	0.08	0.3	12
I14_100	76	0.03	0.4	12
I7	70	0.14	0.6	12
I7_100	76	0.01	0.2	12
I8	80	0.25	1	12
I8_100	80	0.04	0.2	12
I9	81	0.07	0.3	12
J3	79	0.3	1.5	12
J4	74	0	0.3	12
J5	78	0.12	0.7	12
L10	78	0.2	1.1	12
L4	79	0.03	0.2	12
L5	79	0.17	0.8	12
L6	79	0.22	1.1	12
L7	79	0.16	0.8	12
L8	77	0.31	1.4	12
L9	79	0.21	1	12

Subcatchment	Composite CN	Impervious Area (ac) ⁽¹⁾	Total Area (ac)	Tc (min) ⁽²⁾
O10	78	0.09	0.6	12
O8	77	0.06	0.5	12
O9	79	0.23	1.1	12
W6	76	0.98	10	27
W6 100	73	0	0.2	42.4
W6 101	77	0.28	2.2	19.1
W6 102	74	0	0.3	15.5
W9	77	0.22	1.8	12
W9 100	79	0.55	2.5	34
W9 101	86	0.27	0.5	16.4
Total		43.7	136.7	-

(1) Includes all new and existing impervious areas, as well as pond surface area

(2) Where Tc = 12 min, average value based on urban drainage; ~30 feet of sheet flow, gutter flow and pipe flow

4.3 Basin Summary and Routing

There are six onsite stormwater ponds to provide treatment for runoff from the site. **Table 4.5** summarizes the performance of the stormwater ponds and backyard catch basins including 100-year HWL's and freeboard from the lowest nearby structure. The ponds were designed to provide at least 2.0 feet of freeboard from the lowest structure opening during the 100-year event. Additionally, the pond's EOF's were designed to provide at least 1.5 feet of freeboard from the lowest structure opening during the 100-year event. The EOF summary is provided in **Table 4.6**.

Table 4.5 Stormwater Basin and Backyard Catch Basin Performance

Location	NWL/Top of Casting	100-Year HWL	Lowest Nearby Structure Elev.	Freeboard (ft)
Pond 1N	1009.5	1010.8	1015.1	4.3
Pond 1S	967.0	971.2	973.6	2.4
Pond 2S	969.0	971.3	978.3	7.0
Pond 3S	973.0	976.1	979.8	3.7
Pond 4S	967.5	971.5	973.6	2.1
Pond 5S	978.0	981.3	984.6	3.3
Wetland 9	1009.0	1010.5	1013.7	3.2
CB_E18	1008.0	1008.6	1010.6	2.0
CB_E17	1002.0	1002.4	1007.8	5.4
CB_E16	995.0	998.1	1001.1	3.0
CB_E15	992.0	993.8	996.6	2.8
CB_E13	1009.5	1009.8	1013.7	3.9
CB_D9 CB_E29	995.0	996.7	1001.0	4.3
CB_D8	1002.0	1002.5	1005.6	3.1

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CB_E23				
CB_D7 CB_E22	1002.0	1002.3	1005.6	3.3
CB_D6 CB_E21	1000.0	1000.2	1004.6	4.4
CB_F8	989.0	989.7	993.1	3.4
CB_F7	983.0	985.8	993.1	7.3
CB_F6	985.0	985.4	991.6	5.8
CB_F5	983.0	983.5	988.6	5.1
CB_H7	974.0	974.4	977.6	3.2
CB_H6	973.0	973.4	976.6	3.0
CB_H5	972.0	972.7	977.6	4.9
CB_I9	978.0	978.2	980.6	2.4
CB_I8	987.0	987.5	990.1	2.6
CB_I7	986.0	986.4	990.0	3.6
CB_I14	985.0	986.1	989.0	2.9
CB_J5	997.0	997.3	100.4	3.1
CB_J4	994.0	995.4	999.1	3.7
CB_J3	991.0	991.6	993.6	2.0
CB_A9	998.0	998.5	N/A	--
CB_A8 CB_A20	1000.0	1001.2	1007.0	5.8
CB_A15 CB_A7	998.0	998.4	1001.6	3.2
CB_A10 CB_A8	996.0	996.4	1000.8	4.4
CB_B8 CB_A9	998.0	998.3	1001.1	2.8
CB_B5 CB_A10	998.0	998.3	1001.6	3.3
CB_C6	993.0	993.4	997.5	4.1
CB_B6 CB_A11	996.0	996.6	1001.6	5.0
CB_B7 CB_A12	998.0	998.3	1004.0 ⁽¹⁾	5.7
CB_C10	994.0	994.7	998.1	3.4
CB_C7	992.5	993.1	997.0	3.9
CB_C8	991.0	991.7	997.5	5.8
CB_C9	992.0	992.7	997.5	4.8
CB_L10	988.0	988.5	992.1	3.6
CB_L9	982.0	984.1	986.1	2.0
CB_L8	980.0	980.6	983.6	3.0
CB_L7	979.0	979.4	982.6	3.2

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CB_L6	978.0	978.3	982.6	4.3
CB_L5	977.5	978.0	983.5	5.5
CB_L4	978.0	978.1	983.5	5.4
CB_O10	978.0	978.3	983.4	5.1
CB_O9	978.0	978.5	988.6	10.1
CB_O8	975.5	975.8	977.8	2.0

(1) No building within the development is nearby. The elevation is the contour below the existing home to the northwest

Table 4.6 Stormwater Basin EOF Summary

Location	EOF Elevation	Lowest Nearby Structure Elev.	Freeboard (ft)
Pond 1N	1012.0	1015.6	3.6
Pond 1S	971.0	973.6	2.6
Pond 2S	972.0	978.3	6.3
Pond 3S	978.0	979.8	1.8
Pond 4S	971.5	973.6	2.1
Pond 5S	981.5	984.6	3.1

A HWL analysis was completed for each home adjacent to a Bassett Creek floodplain. Wetland 9, Wetland 6, and Ponds 1S and 4S were determined to be within these floodplains. **Table 4.7** details the HWL of the above waterbodies and the freeboard of all surrounding homes.

Table 4.7 Floodplain HWL Analysis

Lot	Lowest Structure Elev.	Waterbody	100-Year HWL	Freeboard (ft)
Lot 38	981.1	Wetland 6	968.4	12.7
Lot 37	980.1	Wetland 6	968.4	11.7
Lot 36	980.1	Wetland 6	968.4	11.7
Lot 35	984.1	Wetland 6	968.4	15.7
Lot 34	989.6	Wetland 6	968.4	21.2
Lot 33	989.6	Wetland 6	968.4	21.2
Lot 32	987.4	Wetland 6	968.4	19.0
Lot 31	984.8	Wetland 6	968.4	16.4
Lot 30	981.3	Wetland 6	968.4	12.9
Lot 29	977.8	Wetland 6	968.4	9.4
Lot 28	974.6	Wetland 6	968.4	6.2
Lot 27	974.3	Wetland 6	968.4	5.9
Lot 26	974.6	Wetland 6	968.4	6.2
Lot 25	976.1	Wetland 6	968.4	7.7
Lot 24	976.6	Wetland 6	968.4	8.2
Lot 23	976.6	Wetland 6	968.4	8.2

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Lot 22	975.1	Wetland 6	968.4	6.7
Lot 21	973.6	Wetland 6	968.4	5.2
Lot 20	972.9	Wetland 6	968.4	4.5
Lot 19	972.9	Wetland 6	968.4	4.5
Lot 18	975.6	Wetland 6	968.4	7.2
Lot 17	978.3	Wetland 6	968.4	9.9
Lot 16	981.1	Wetland 6	968.4	12.7
Lot 15	982.2	Wetland 6	968.4	13.8
Lot 14	982.2	Wetland 6	968.4	13.8
Lot 13	983.3	Wetland 6	968.4	14.9
Lot 12	980.6	Wetland 6	968.4	12.2
Lot 11	980.6	Wetland 6	968.4	12.2
Lot 10	980.6	Wetland 6	968.4	12.2
Lot 9	981.6	Wetland 6	968.4	13.2
Lot 38	981.1	Pond 1S	971.2	9.9
Lot 37	980.1	Pond 1S	971.2	8.9
Lot 36	980.1	Pond 1S	971.2	8.9
Lot 35	984.1	Pond 1S	971.2	12.9
Lot 34	989.6	Pond 1S	971.2	18.4
Lot 33	989.6	Pond 1S	971.2	18.4
Lot 32	987.4	Pond 1S	971.2	16.2
Lot 31	984.8	Pond 1S	971.2	13.6
Lot 30	981.3	Pond 1S	971.2	10.1
Lot 29	977.8	Pond 1S	971.2	6.6
Lot 28	974.6	Pond 1S	971.2	3.4
Lot 27	974.3	Pond 1S	971.2	3.1
Lot 26	974.6	Pond 1S	971.2	3.4
Lot 25	976.1	Pond 1S	971.2	4.9
Lot 24	976.6	Pond 1S	971.2	5.4
Lot 23	976.6	Pond 1S	971.2	5.4
Lot 22	975.1	Pond 1S	971.2	3.9
Lot 21	973.6	Pond 1S	971.2	2.4
Lot 129	975.1	Pond 4S	971.5	3.6
Lot 130	973.6	Pond 4S	971.5	2.1
Lot 131	973.6	Pond 4S	971.5	2.1
Lot 132	973.6	Pond 4S	971.5	2.1
Lot 133	974.1	Pond 4S	971.5	2.6
Lot 134	975.1	Pond 4S	971.5	3.6
Lot 135	977.8	Pond 4S	971.5	6.3
Lot 175	990.1	Pond 4S	971.5	18.6
Lot 176	988.6	Pond 4S	971.5	17.1
Lot 177	989.9	Pond 4S	971.5	18.4

Lot 178	994.1	Pond 4S	971.5	22.6
Lot 179	994.1	Pond 4S	971.5	22.6
Lot 180	988.1	Pond 4S	971.5	16.6
Lot 181	982.6	Pond 4S	971.5	11.1
Lot 182	978.6	Pond 4S	971.5	7.1
Lot 183	976.1	Pond 4S	971.5	4.6
Lot 184	974.6	Pond 4S	971.5	3.1
Lot 185	974.6	Pond 4S	971.5	3.1
Lot 186	974.6	Pond 4S	971.5	3.1
Lot 187	976.1	Pond 4S	971.5	4.6

4.4 Rate Control

The development site was analyzed to determine the pre- and post-development runoff rates to each watershed (Bassett Creek and Elm Creek). **Table 4.8** below summarizes the pre- and post-development discharge rates. See **Appendix C** for the pre- and post-development HydroCAD summaries.

Table 4.8 Summary of Site Discharge Rates (cfs)

Condition	2-Year			10-Year			100-Year		
	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total
Existing	77.0	5.4	82.4	174.5	19.6	194.1	427.7	49.7	477.4
Proposed	17.7	0.9	18.6	40.6	5.7	46.3	100.4	19.0	119.4
Δ Q	-59.3	-4.5	-63.8	-133.9	-13.9	-147.8	-327.3	-30.7	-358.0

Overall the project is significantly reducing discharge rates to the downstream receiving waters. **Table 4.9** below details the reduction in downstream discharge rates for each location as well as for the project overall.

Table 4.9 Summary of Site Discharge Rate Reduction (%)

Condition	2-Year			10-Year			100-Year		
	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total
Existing	77.0	5.4	82.4	174.5	19.6	194.1	427.7	49.7	477.4
Proposed	17.7	0.9	18.6	40.6	5.7	46.3	100.4	19.0	119.4
% Reduction	77%	83%	77%	77%	71%	76%	77%	62%	75%

4.5 Water Quality Calculations

The BCWMO requires abstraction or infiltration 1.1 inches from the new impervious surface area. Reductions for Total Phosphorus (TP) and Total Suspended Solids (TSS) do not have to be calculated as long as this 1.1 inch requirement is met. If the requirement is not met, the new abstraction volume shall be 0.55 inches from new impervious surface, with a 75% annual TP removal also required.

Abstraction volume requirements are summarized in **Table 4.10**.

Table 4.10 Abstraction Volume Requirement Summary (New/Reconstructed Imp. Area)

New Impervious Area		Required Abstraction Volume BCWMO	
(ac)	(sf)	(ac-ft)	(cf)
31.9	1,390,000	2.93	127,500

To meet the water quality requirements, stormwater reuse was incorporated into the design. The reason stormwater reuse was chosen is due to the poor soil conditions present throughout the site. With HSG Type C soils, infiltration practices are not the best option. Stormwater reuse is one of the BMPs approved by the BCWMC and was chosen for the design. Water will be taken from Pond 5S and distributed over multipled areas throughout the site, see **Figure 4** for irrigation areas. **Table 4.11** summarizes the stormwater reuse design, with the spreadsheet calculations (Ramsey-Washington Metro Watershed District Reuse Calculator) found in **Appendix D**.

Table 4.11 Stormwater Reuse Design

Pond	Drainage Area (ac)	% Impervious	HSG (dominant)	Reuse Storage Volume (ac-ft)	Irrigation Application Area (ac)	Abstraction Volume Earned (cf)
Pond 5S	53.6	34.5	C	8.0	18.3	222,899

Another way to look at the abstraction volume is by looking at the RWMWD Credit Factor for Stormwater Reuse. Based on the spreadsheet in Appendix D, the credit factor is 0.64.

$$\text{Stormwater Reuse Volume Required} = \frac{\text{Volume Reduction Goal}}{\text{Credit Factor}}$$

$$\text{Stormwater Reuse Volume Required} = \frac{2.93 \text{ ac} - \text{ft}}{0.64} = 4.6 \text{ ac} - \text{ft}$$

As seen in **Table 4.10** and **Table 4.11**, the abstraction volume requirements are met with stormwater reuse, thus no other BMPs were implemented into the design. A P8 analysis was conducted, with results shown in **Table 4.12**, (see **Appendix G**).

Table 4.12 P8 Results Summary

Variable	Proposed Loading (lbs/yr)	Total Removed (lbs/yr)	Proposed Discharge (lbs/yr)	Load Reduction (%)
TSS	22,321	21,066	1,251	94.4%
TP	71.96	54.7	17.18	76.0%

4.6 Floodplain Analysis

4.6.1 Volume Analysis

The City of Plymouth has conducted a regional hydraulic analysis to define administrative floodplains the City for the 100-year event based on Atlas 14 in addition to the FEMA floodplains. The site contains four (4) wetland areas (smaller adjacent wetlands have been lumped together) identified by the City as part of the analysis. The project area is located at the headwaters of a tributary to Plymouth Creek. Of the four wetland areas, three of them are isolated wetlands located within the existing golf course with limited discharge downstream under existing conditions. The fourth area is the largest of them all and it is the large wetland complex located along the south side of the project site. These inundation areas for the 100-year event can be found in the City’s Atlas 14 100-year Inundation Map, included in **Appendix F**.

The project is proposing to fill portions of these inundation areas as well as mitigate for the fill by the construction of regional stormwater basins to provide adequate compensatory storage. Under existing conditions, the floodplain storage volume on site, based on the inundation map is 81,466 acre-feet. The project is proposing to provide 107,120 acre-feet of floodplain storage throughout the project site. The proposed floodplain storage includes the live storage being provided by the stormwater ponds throughout the development. The project is also significantly reducing discharge rates from the site as a result of the amount of storage being provided in the ponding systems. **Table 4.13** is included below detailing the overall reduction of the discharge rates to the south and into the wetland complex from existing conditions. Overall, the additional storage being created on site coupled with the reduced discharge offsite through the use of on site ponding and smaller trunk storm sewer sizes will reduce downstream HWLs. This is able to be accomplished because the project site is located at the upper end of the watershed. Reducing discharge rates reduces the peak rate for downstream receiving waters and reduces the potential for flooding by holding water back within the development until the downstream areas are able to adequately drain.

Table 4.13 Floodplain Rate Reduction

Discharge to Bassett Creek Watershed [via Plymouth Creek]	2-Yr	10-Yr	100-Yr
Existing	77.0	174.5	427.7
Proposed	17.7	40.6	100.4
Δ Q	-59.3	-133.9	-327.3
% Reduction	77	77	77

4.6.2 Hydraulic Analysis

The BCWMC requires that any development must not generate a rise in Plymouth Creek greater than 0.01 feet. The regulatory XP-SWMM model for Plymouth Creek was given by BCWMC. This model was updated to incorporate the Hollydale development and re-run for HWL analysis. **Table 4.14** summarizes the pre- and post-Hollydale development HWLs of Plymouth Creek from its headwater west of Garland Ln N to its crossing with Rockford Rd.

Table 4.14 Plymouth Creek Pre- and Post-Development HWL Analysis

XP Node Name	Location	Existing 100-Year HWL	Proposed 100-Year HWL	Difference (ft)
PCW-021	Plymouth Creek Headwater	983.985	983.984	0.00
N-PCW-063		983.15	983.149	0.00
N-PCW-204		983.109	983.108	0.00
N-PCW-203		983.109	983.108	0.00
N-PCW-058		983.109	983.108	0.00
N-PCW-057		983.108	983.107	0.00
N-PCW-056		983.107	983.106	0.00
N-PCW-055		983.107	983.106	0.00
N-PCW-054		983.106	983.105	0.00
N-PCW-202		983.106	983.105	0.00
N-PCW-048		983.104	983.103	0.00
N-PCW-047		983.103	983.102	0.00
N-PCW-046		983.102	983.101	0.00
PCW-017		983.091	983.09	0.00
N-PCW-044		983.079	983.078	0.00
N-PCW-198		983.069	983.068	0.00
N-PCW-006		983.065	983.064	0.00
N-PCW-199		983.061	983.06	0.00
PCW-001		983.043	983.042	0.00
N-PCC-134		983.004	983.003	0.00
N-PCC-133		982.984	982.983	0.00
PCC-037	Immediately upstream of Dunkirk Ln	982.969	982.968	0.00
N-PCC-131	Immediately downstream of Dunkirk Ln	982.046	982.044	0.00
N-PCC-154		978.087	978.085	0.00
N-PCC-129		977.796	977.794	0.00
N-PCC-128		973.633	973.631	0.00
N-PCC-127		972.363	972.359	0.00
N-PCC-126		972.136	972.132	0.00

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XP Node Name	Location	Existing 100-Year HWL	Proposed 100-Year HWL	Difference (ft)
PCC-036		971.957	971.953	0.00
N-PCC-152		970.773	970.77	0.00
N-PCC-101		968.65	968.6	-0.05
PCC-018	Wetland adjacent to Hollydale development	968.524	968.427	-0.10
N-PCC-150	Confluence with Hollydale development	967.958	967.908	-0.05
N-PCC-071		967.639	967.577	-0.06
PCC-017		967.574	967.511	-0.06
N-PCC-149		966.747	966.718	-0.03
N-PCC-067		966.501	966.471	-0.03
N-PCC-148		964.128	964.126	0.00
N-PCC-155		963.915	963.912	0.00
PCC-010	Immediately upstream of Vicksburg Ln	963.753	963.75	0.00
N-PCC-147	immediately downstream of Vicksburg Ln	963.062	963.06	0.00
N-PCC-034		963.016	963.014	0.00
N-PCC-032		962.885	962.883	0.00
N-PCC-031		962.328	962.326	0.00
N-PCC-146		961.597	961.596	0.00
N-PCC-025		960.547	960.546	0.00
N-PCC-024		959.71	959.709	0.00
N-PCC-145		958.916	958.915	0.00
N-PCC-144		957.955	957.954	0.00
N-PCC-018		955.73	955.714	-0.02
PCC-001A	Immediately upstream of Rockford Rd	955.326	955.283	-0.04
PCC-001B	Immediately downstream of Rockford Rd	955.084	955.047	-0.04

APPENDICES

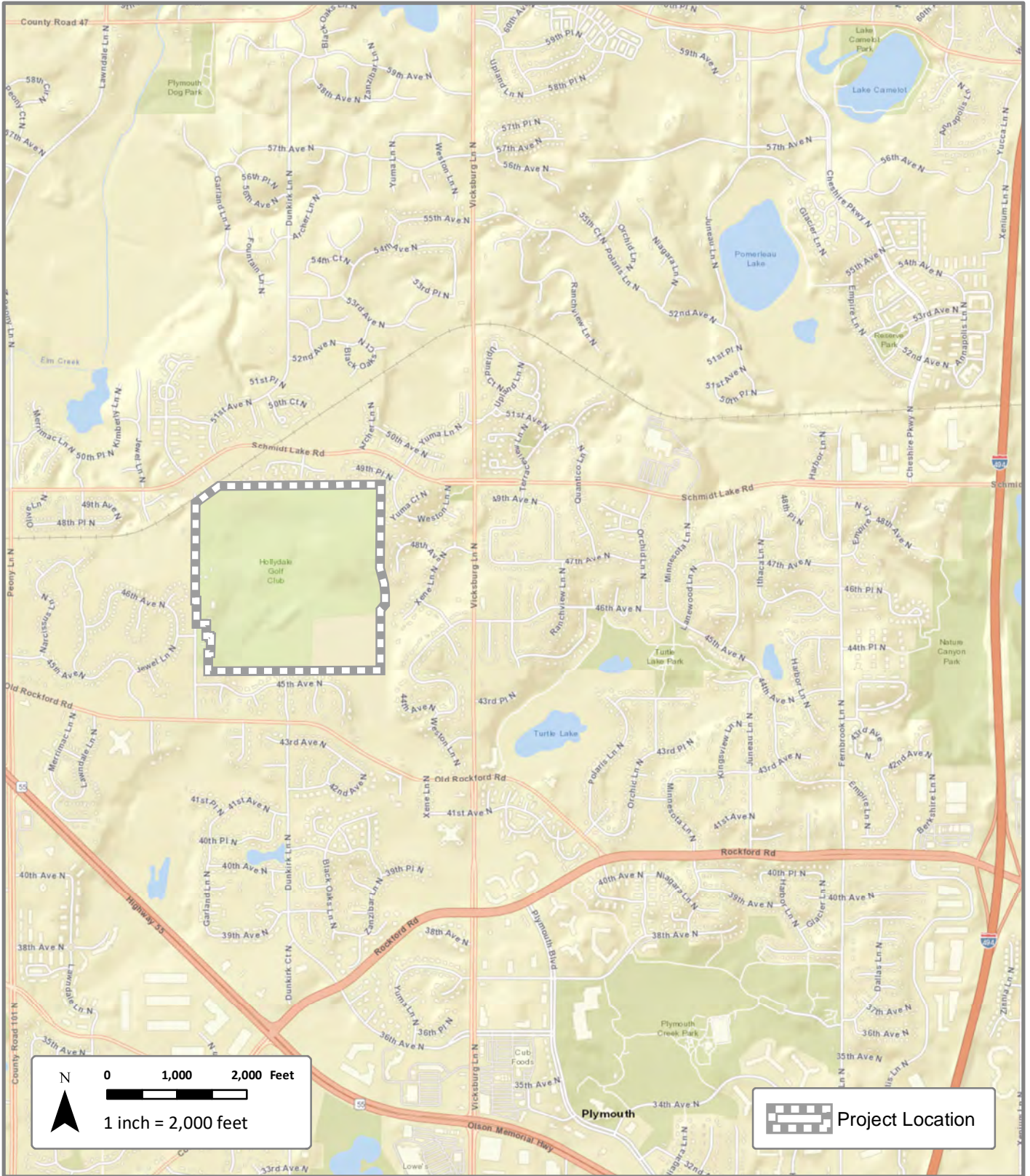
APPENDIX A – FIGURES

FIGURE 1 – SITE LOCATION MAP

FIGURE 2 – EXISTING CONDITIONS MAP

FIGURE 3 – PROPOSED CONDITIONS MAP

FIGURE 4 – STORMWATER REUSE MAP



Information depicted may include data unverified by AE2S. Any reliance upon such data is at the user's own risk. AE2S does not warrant this map or its features are either spatially or temporally accurate. Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet | Edited by: llamoore | C:\Users\Llamoore\AE2S\Sathre - Hollydale Golf Course\GIS\Fig1_Site Map.mxd

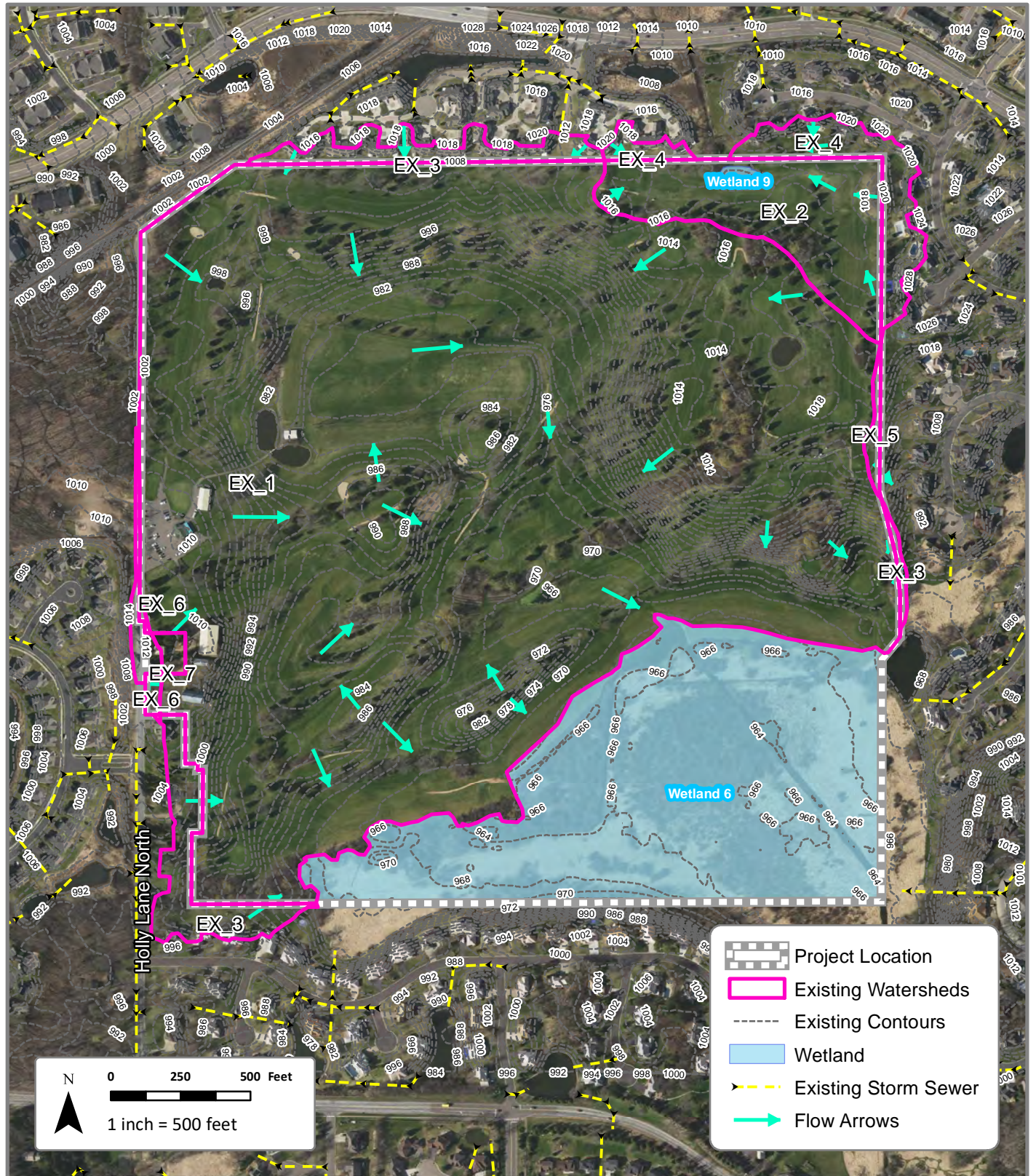


Locator Map Not to Scale

Figure 1
SITE LOCATION MAP
HOLLYDALE DEVELOPMENT
SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 6/17/2020



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Locator Map Not to Scale

Figure 2
EXISTING CONDITIONS
HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 6/25/2020



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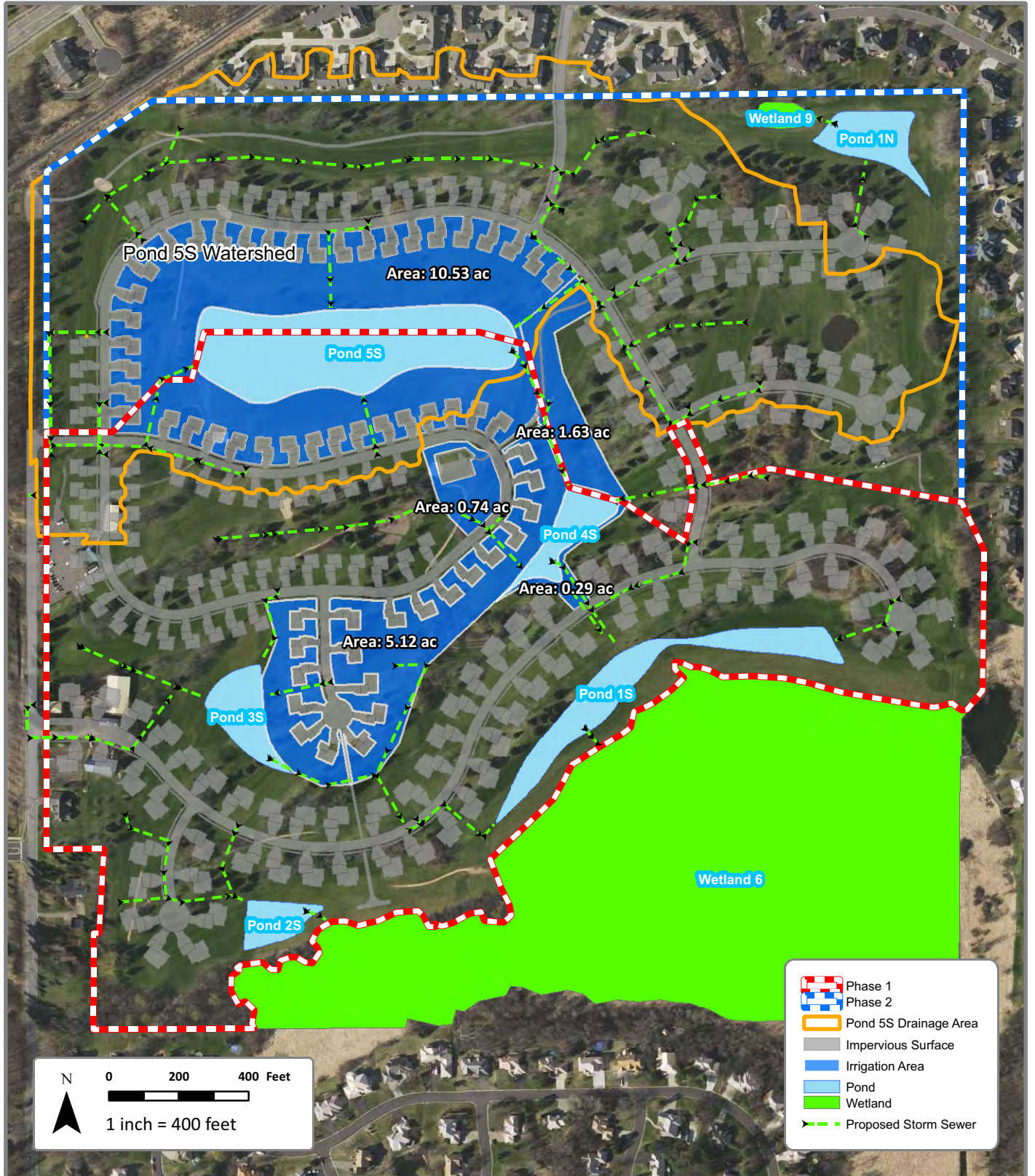


Locator Map Not to Scale

Figure 3
PROPOSED CONDITIONS
HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 6/24/2021



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Locator Map Not to Scale

Figure 4
STORMWATER REUSE MAP
 HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



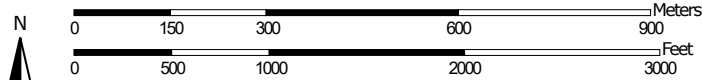
Date: 7/7/2021

APPENDIX B – WEB SOIL SURVEY REPORT

Hydrologic Soil Group—Hennepin County, Minnesota
(Hollydale Golf Course)



Map Scale: 1:11,800 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points



 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hennepin County, Minnesota
 Survey Area Data: Version 15, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2019—Aug 29, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
L9A	Minnetonka silty clay loam, 0 to 2 percent slopes	C/D	55.1	9.3%
L14A	Houghton muck, 0 to 1 percent slopes	A/D	5.9	1.0%
L18A	Shields silty clay loam, 0 to 3 percent slopes	C/D	10.6	1.8%
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	C	78.0	13.2%
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	C	19.0	3.2%
L22E	Lester loam, 10 to 22 percent slopes	C	12.2	2.1%
L22F	Lester loam, morainic, 25 to 35 percent slopes	B	11.0	1.9%
L23A	Cordova loam, 0 to 2 percent slopes	C/D	26.5	4.5%
L24A	Glencoe clay loam, 0 to 1 percent slopes	C/D	13.2	2.2%
L25A	Le Sueur loam, 1 to 3 percent slopes	C/D	0.5	0.1%
L26A	Shorewood silty clay loam, 1 to 3 percent slopes	C/D	2.4	0.4%
L26B	Shorewood silty clay loam, 3 to 6 percent slopes	C/D	57.6	9.7%
L26C2	Shorewood silty clay loam, 6 to 12 percent slopes, eroded	C/D	0.0	0.0%
L28A	Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded	A/D	0.5	0.1%
L35A	Lerdal loam, 1 to 3 percent slopes	C/D	1.0	0.2%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	C/D	38.0	6.4%
L37B	Angus loam, 2 to 6 percent slopes	C	79.7	13.5%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes	C/D	3.8	0.6%
L44A	Nessel loam, 1 to 3 percent slopes	C	68.1	11.5%
L45A	Dundas-Cordova complex, 0 to 3 percent slopes	C/D	22.2	3.7%
L49A	Klossner soils, depressional, 0 to 1 percent slopes	B/D	19.6	3.3%
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	C/D	59.1	10.0%
L61C2	Lester-Metea complex, 6 to 12 percent slopes, eroded	B	0.8	0.1%
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes	B/D	0.2	0.0%
L132A	Hamel-Glencoe complex, 0 to 2 percent slopes	C/D	6.4	1.1%
Totals for Area of Interest			591.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

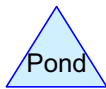
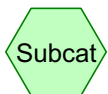
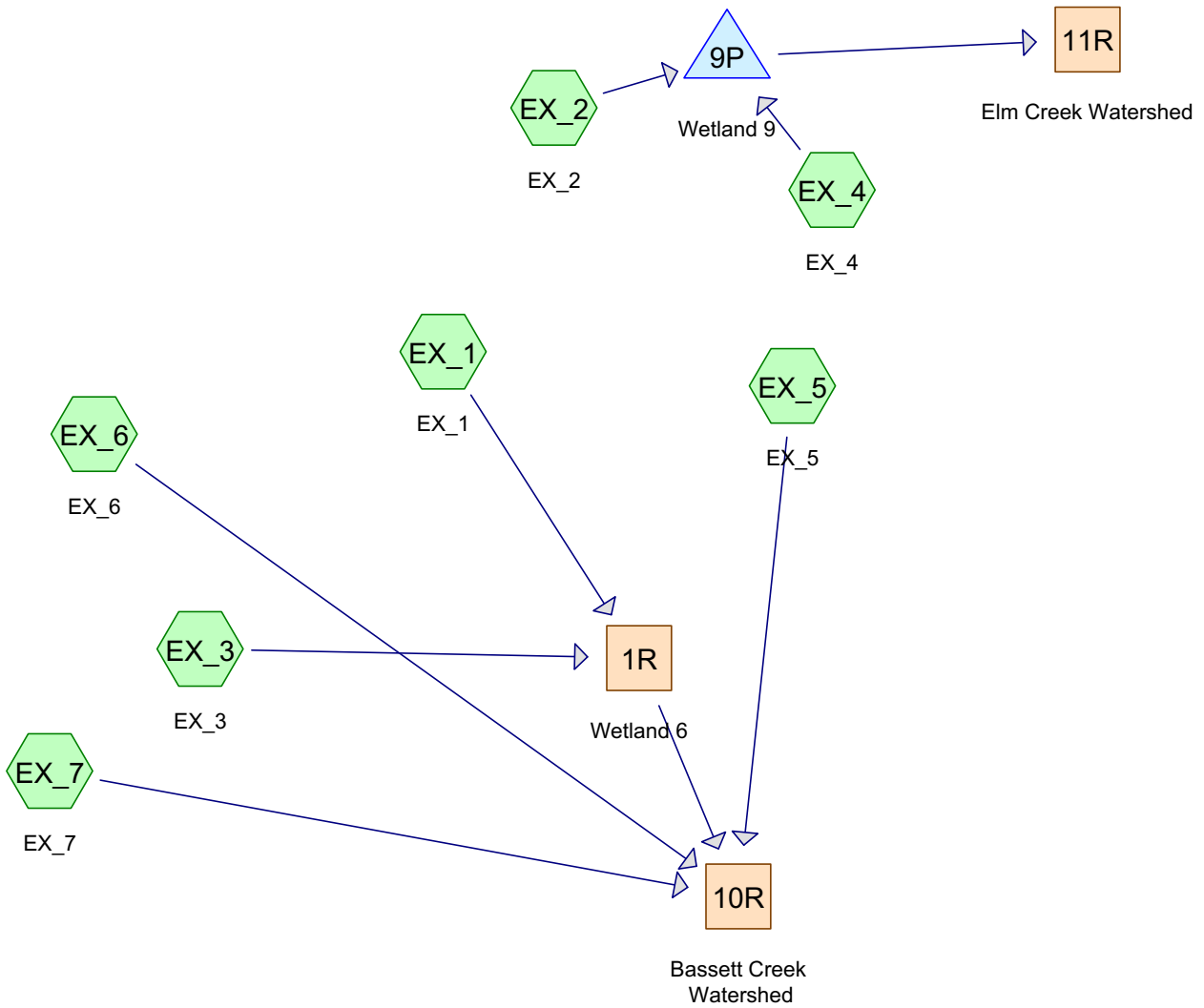
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

**APPENDIX C – HYDROCAD SUMMARIES (PRE- AND POST-
DEVELOPMENT)**



Routing Diagram for Hollydale - Existing Conditions - 06.25.2020

Prepared by AE2S, Printed 6/25/2020

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Hollydale - Existing Conditions - 06.25.2020

Prepared by AE2S

Printed 6/25/2020

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.656	39	>75% Grass cover, Good, HSG A (EX_1)
9.869	61	>75% Grass cover, Good, HSG B (EX_1)
105.486	74	>75% Grass cover, Good, HSG C (EX_1, EX_2, EX_3, EX_4, EX_5, EX_6, EX_7)
0.061	87	Dirt roads, HSG C (EX_1)
5.244	98	Impervious (EX_1, EX_3, EX_4, EX_6, EX_7)
1.114	98	Wetland (EX_1, EX_2)
0.482	60	Woods, Fair, HSG B (EX_1)
8.829	73	Woods, Fair, HSG C (EX_1, EX_2, EX_3, EX_4, EX_5)
136.741	73	TOTAL AREA

Hollydale - Existing Conditions - 06.25.2020

Prepared by AE2S

Printed 6/25/2020

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
5.656	HSG A	EX_1
10.351	HSG B	EX_1
114.376	HSG C	EX_1, EX_2, EX_3, EX_4, EX_5, EX_6, EX_7
0.000	HSG D	
6.358	Other	EX_1, EX_2, EX_3, EX_4, EX_6, EX_7
136.741		TOTAL AREA

Hollydale - Existing Conditions - 06.25.2020

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
5.656	9.869	105.486	0.000	0.000	121.011	>75% Grass cover, Good	EX_1, EX_2, EX_3, EX_4, EX_5, EX_6, EX_7
0.000	0.000	0.061	0.000	0.000	0.061	Dirt roads	EX_1
0.000	0.000	0.000	0.000	5.244	5.244	Impervious	EX_1, EX_3, EX_4, EX_6, EX_7
0.000	0.000	0.000	0.000	1.114	1.114	Wetland	EX_1, EX_2
0.000	0.482	8.829	0.000	0.000	9.311	Woods, Fair	EX_1, EX_2, EX_3, EX_4, EX_5
5.656	10.351	114.376	0.000	6.358	136.741	TOTAL AREA	

Hollydale - Existing Conditions - 06.25.2020

Prepared by AE2S

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Printed 6/25/2020

Page 5

Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentEX_1: EX_1 Runoff Area=118.553 ac 2.64% Impervious Runoff Depth=0.79"
Flow Length=2,703' Tc=33.3 min CN=WQ Runoff=71.35 cfs 7.786 af

SubcatchmentEX_2: EX_2 Runoff Area=7.736 ac 2.87% Impervious Runoff Depth=0.87"
Flow Length=850' Tc=24.5 min CN=WQ Runoff=6.25 cfs 0.563 af

SubcatchmentEX_3: EX_3 Runoff Area=5.602 ac 28.65% Impervious Runoff Depth=1.34"
Flow Length=2,787' Tc=42.7 min CN=WQ Runoff=4.94 cfs 0.626 af

SubcatchmentEX_4: EX_4 Runoff Area=3.592 ac 26.45% Impervious Runoff Depth=1.30"
Flow Length=830' Tc=18.1 min CN=WQ Runoff=5.03 cfs 0.390 af

SubcatchmentEX_5: EX_5 Runoff Area=0.360 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=250' Tc=15.5 min CN=WQ Runoff=0.35 cfs 0.025 af

SubcatchmentEX_6: EX_6 Runoff Area=0.232 ac 12.93% Impervious Runoff Depth=1.06"
Flow Length=100' Slope=0.0200 '/' Tc=10.3 min CN=WQ Runoff=0.35 cfs 0.021 af

SubcatchmentEX_7: EX_7 Runoff Area=0.666 ac 63.66% Impervious Runoff Depth=1.98"
Flow Length=650' Tc=16.4 min CN=WQ Runoff=1.48 cfs 0.110 af

Reach 1R: Wetland 6 Inflow=76.08 cfs 8.412 af
Outflow=76.08 cfs 8.412 af

Reach 10R: Bassett Creek Watershed Inflow=76.95 cfs 8.567 af
Outflow=76.95 cfs 8.567 af

Reach 11R: Elm Creek Watershed Inflow=5.44 cfs 0.652 af
Outflow=5.44 cfs 0.652 af

Pond 9P: Wetland 9 Peak Elev=1,010.23' Storage=23,542 cf Inflow=10.76 cfs 0.953 af
Outflow=5.44 cfs 0.652 af

Total Runoff Area = 136.741 ac Runoff Volume = 9.520 af Average Runoff Depth = 0.84"
95.35% Pervious = 130.383 ac 4.65% Impervious = 6.358 ac

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_1: EX_1

Runoff = 71.35 cfs @ 12.51 hrs, Volume= 7.786 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.061	87	Dirt roads, HSG C
* 2.235	98	Impervious
5.656	39	>75% Grass cover, Good, HSG A
9.869	61	>75% Grass cover, Good, HSG B
92.243	74	>75% Grass cover, Good, HSG C
0.482	60	Woods, Fair, HSG B
7.115	73	Woods, Fair, HSG C
* 0.892	98	Wetland
118.553		Weighted Average
115.426		97.36% Pervious Area
3.127		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.0400	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030 Stream, clean & straight
33.3	2,703	Total			

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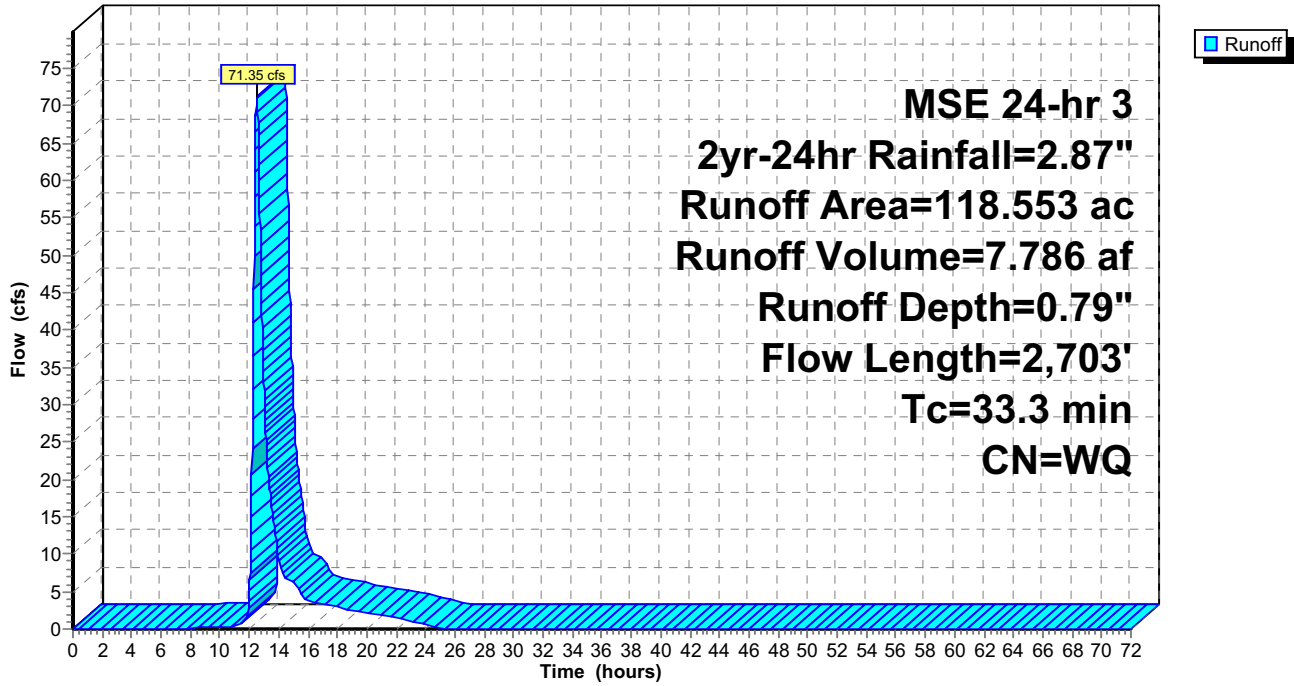
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Subcatchment EX_1: EX_1

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_2: EX_2

Runoff = 6.25 cfs @ 12.38 hrs, Volume= 0.563 af, Depth= 0.87"

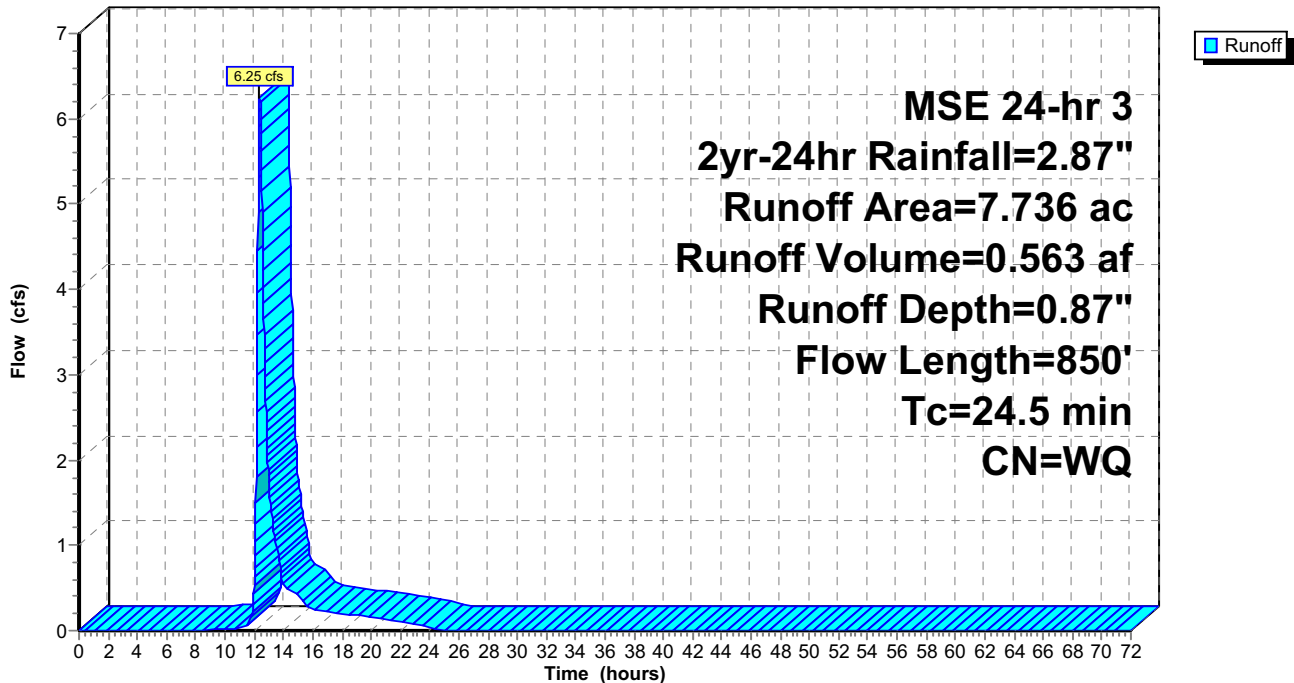
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
6.544	74	>75% Grass cover, Good, HSG C
0.970	73	Woods, Fair, HSG C
* 0.222	98	Wetland
<hr/>		
7.736		Weighted Average
7.514		97.13% Pervious Area
0.222		2.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.1	500	0.0140	0.83		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.7	250	0.0160	2.49	2.49	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
<hr/>					
24.5	850	Total			

Subcatchment EX_2: EX_2

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_3: EX_3

Runoff = 4.94 cfs @ 12.59 hrs, Volume= 0.626 af, Depth= 1.34"

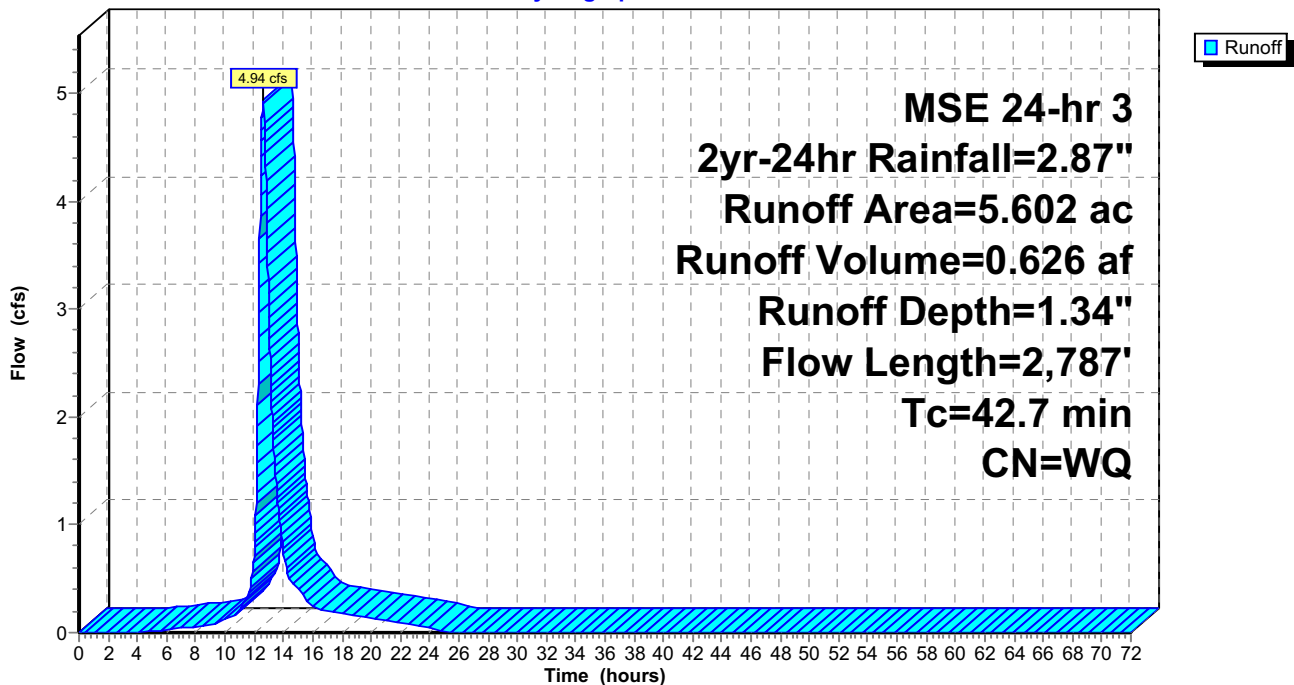
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 1.605	98	Impervious
3.413	74	>75% Grass cover, Good, HSG C
0.584	73	Woods, Fair, HSG C
5.602		Weighted Average
3.997		71.35% Pervious Area
1.605		28.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	184	0.0190	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
42.7	2,787	Total			

Subcatchment EX_3: EX_3

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_4: EX_4

Runoff = 5.03 cfs @ 12.28 hrs, Volume= 0.390 af, Depth= 1.30"

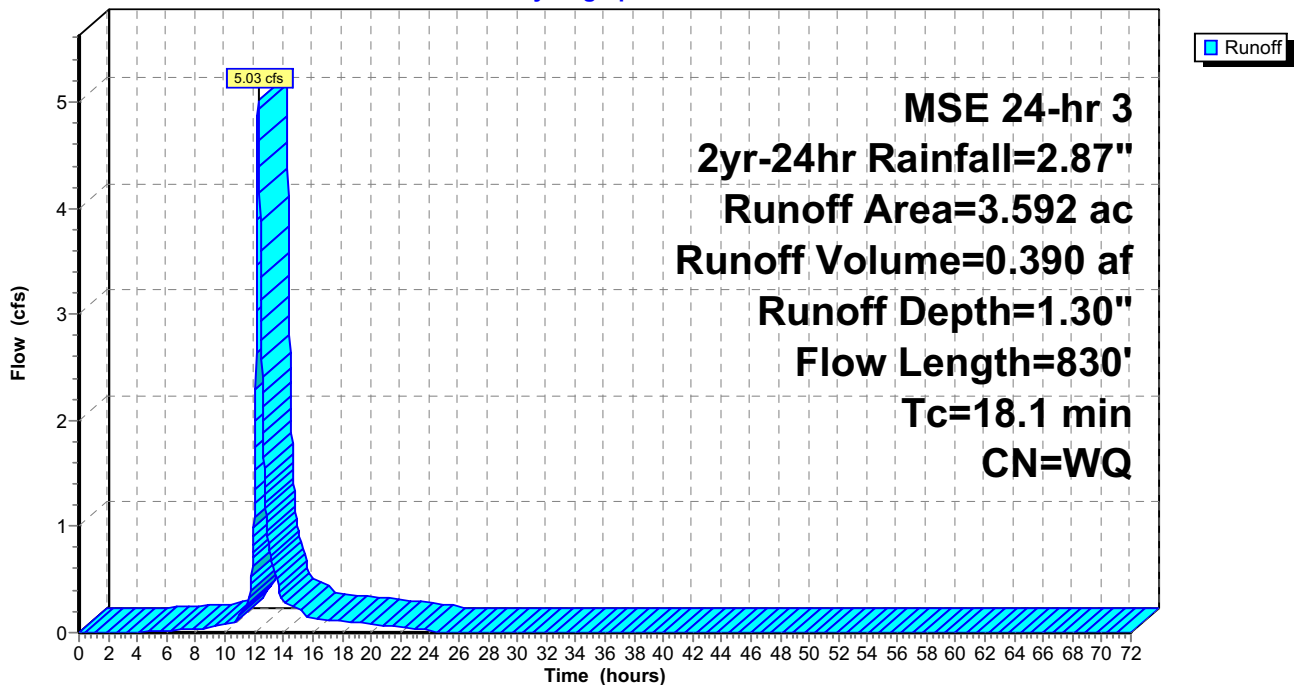
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.950	98	Impervious
2.483	74	>75% Grass cover, Good, HSG C
0.159	73	Woods, Fair, HSG C
3.592		Weighted Average
2.642		73.55% Pervious Area
0.950		26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0900	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.9	500	0.0120	0.77		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.5	230	0.0174	2.59	2.59	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
18.1	830	Total			

Subcatchment EX_4: EX_4

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_5: EX_5

Runoff = 0.35 cfs @ 12.26 hrs, Volume= 0.025 af, Depth= 0.83"

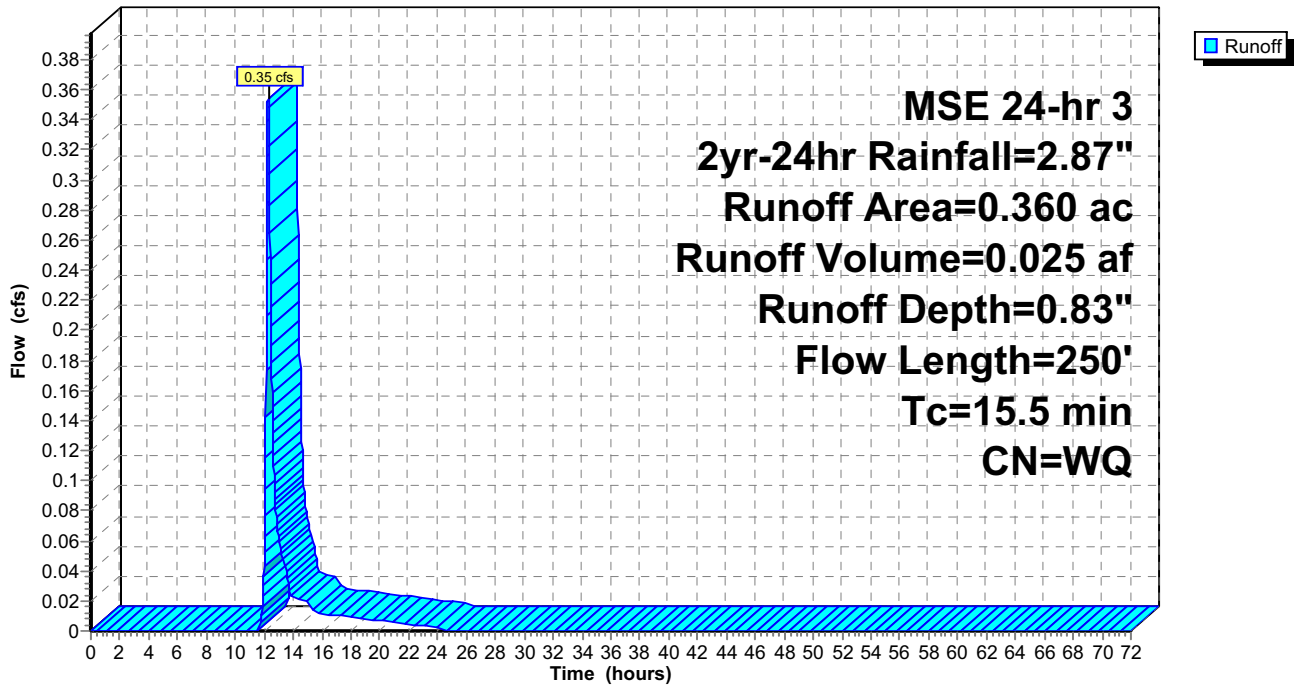
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.359	74	>75% Grass cover, Good, HSG C
0.001	73	Woods, Fair, HSG C
0.360		Weighted Average
0.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
1.8	150	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	250	Total			

Subcatchment EX_5: EX_5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_6: EX_6

Runoff = 0.35 cfs @ 12.19 hrs, Volume= 0.021 af, Depth= 1.06"

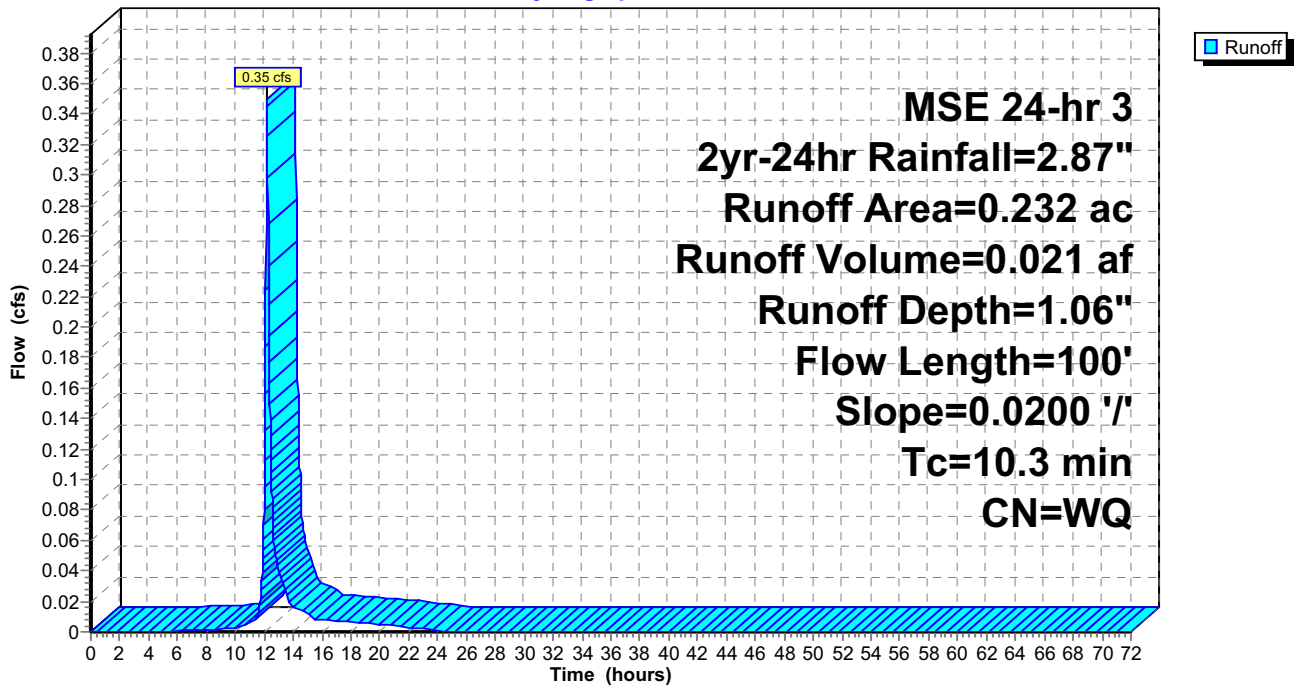
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.202	74	>75% Grass cover, Good, HSG C
* 0.030	98	Impervious
0.232		Weighted Average
0.202		87.07% Pervious Area
0.030		12.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment EX_6: EX_6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_7: EX_7

Runoff = 1.48 cfs @ 12.24 hrs, Volume= 0.110 af, Depth= 1.98"

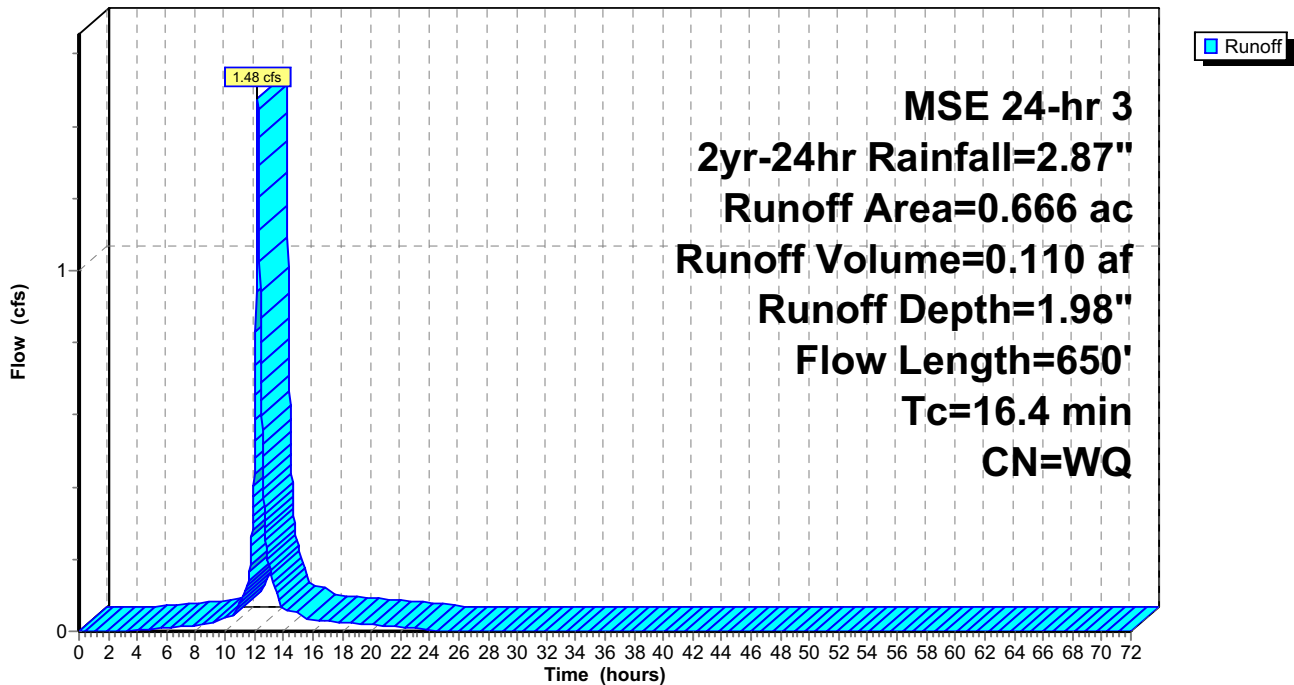
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.242	74	>75% Grass cover, Good, HSG C
* 0.424	98	Impervious
0.666		Weighted Average
0.242		36.34% Pervious Area
0.424		63.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	120	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
3.6	530	0.0150	2.49		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.4	650	Total			

Subcatchment EX_7: EX_7

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MSE 24-hr 3 Yr-24hr Rainfall=2.87"

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Summary for Reach 1R: Wetland 6

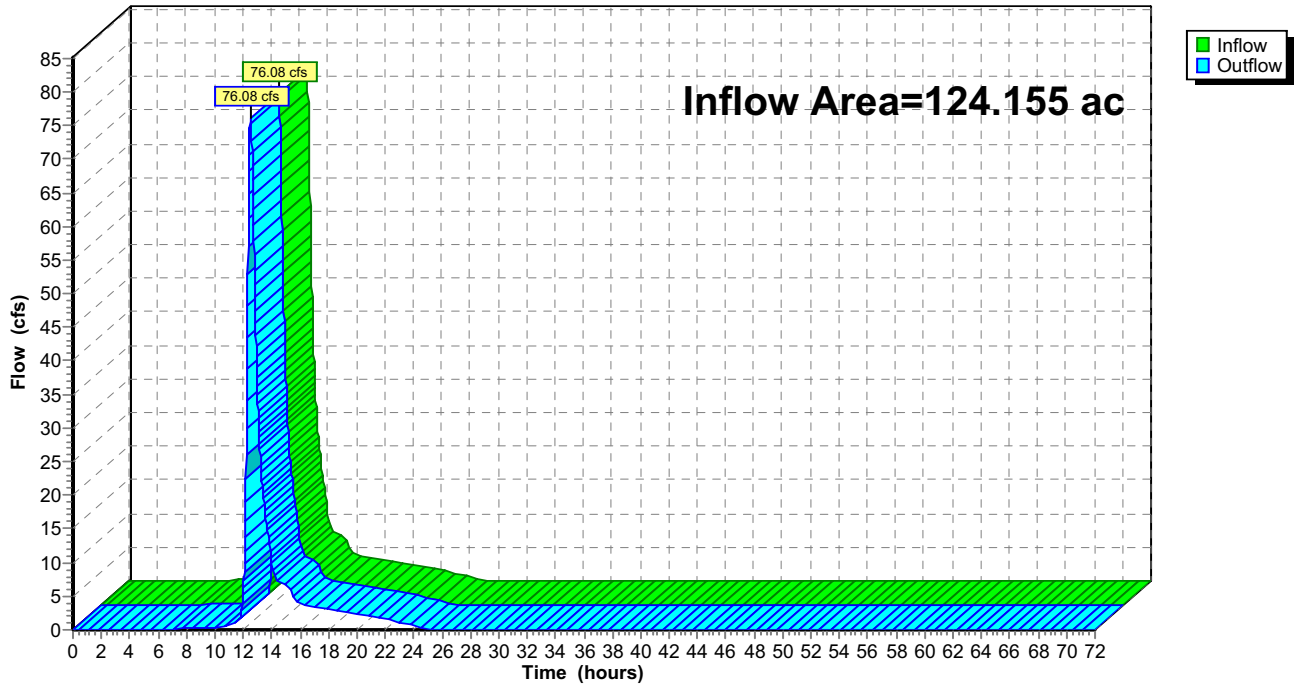
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 124.155 ac, 3.81% Impervious, Inflow Depth = 0.81" for 2yr-24hr event
Inflow = 76.08 cfs @ 12.52 hrs, Volume= 8.412 af
Outflow = 76.08 cfs @ 12.52 hrs, Volume= 8.412 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Wetland 6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 10R: Bassett Creek Watershed

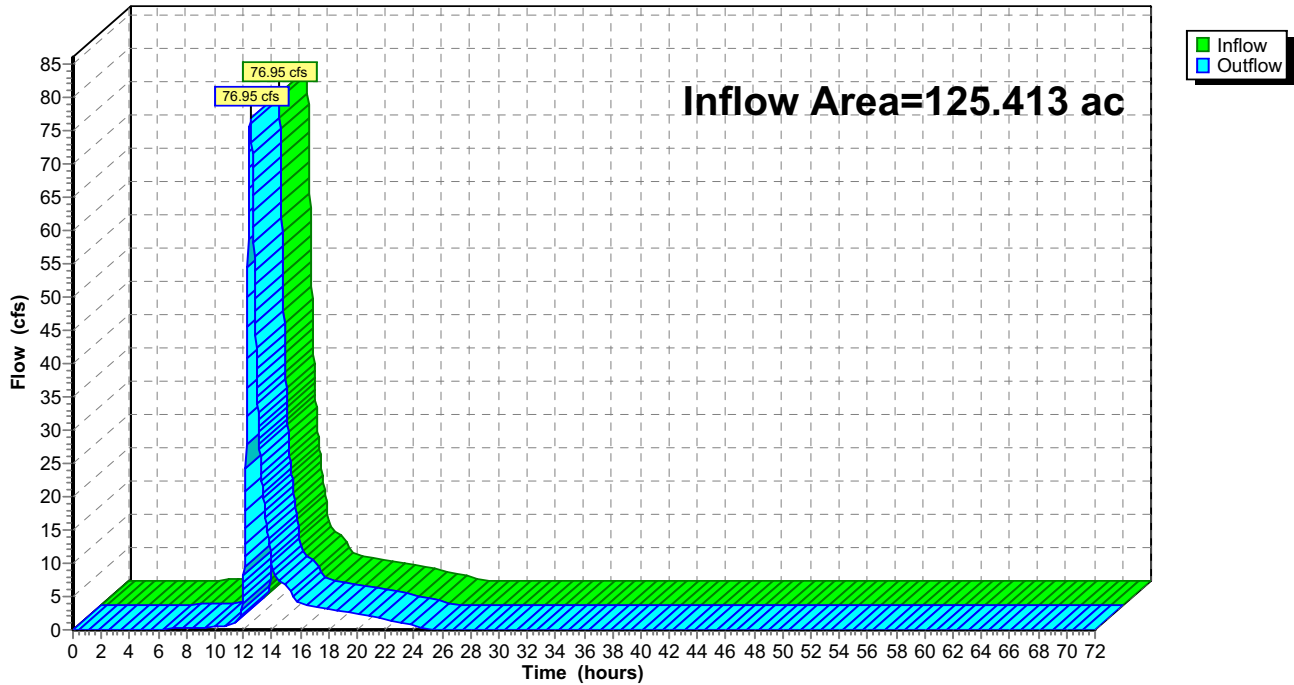
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 125.413 ac, 4.14% Impervious, Inflow Depth = 0.82" for 2yr-24hr event
Inflow = 76.95 cfs @ 12.51 hrs, Volume= 8.567 af
Outflow = 76.95 cfs @ 12.51 hrs, Volume= 8.567 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 10R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 11R: Elm Creek Watershed

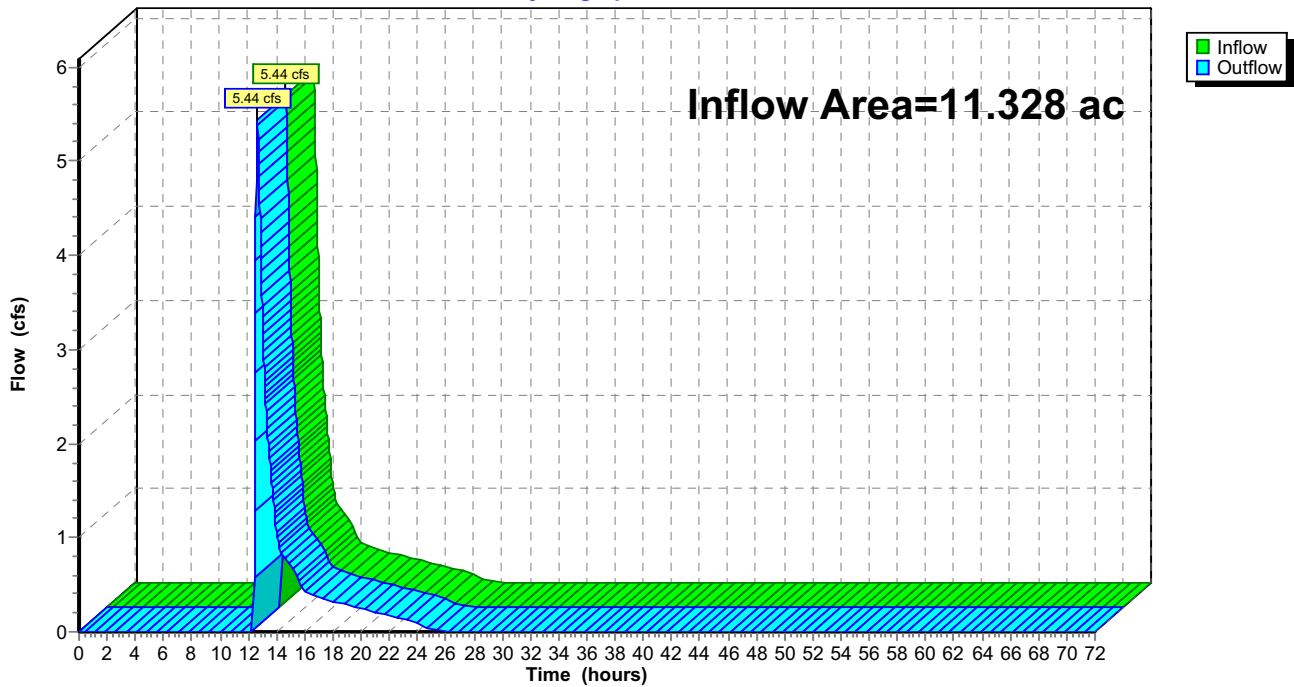
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 0.69" for 2yr-24hr event
Inflow = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af
Outflow = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 11R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond 9P: Wetland 9

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 1.01" for 2yr-24hr event
 Inflow = 10.76 cfs @ 12.33 hrs, Volume= 0.953 af
 Outflow = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af, Atten= 49%, Lag= 19.4 min
 Primary = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.23' @ 12.65 hrs Surf.Area= 16,723 sf Storage= 23,542 cf (17,016 cf above start)

Plug-Flow detention time= 218.6 min calculated for 0.503 af (53% of inflow)
 Center-of-Mass det. time= 75.7 min (902.7 - 827.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	36,345 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,011.00	16,723	16,723	36,345

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.43 cfs @ 12.65 hrs HW=1,010.23' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 5.43 cfs @ 1.16 fps)

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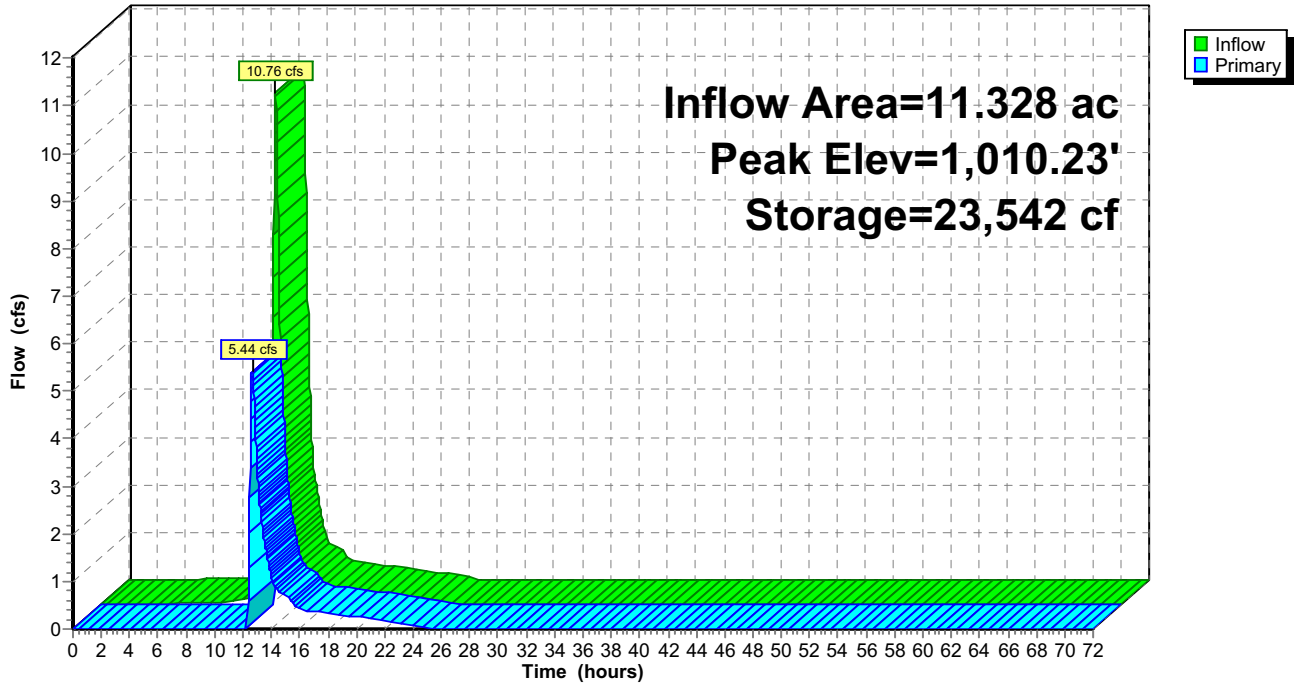
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond 9P: Wetland 9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentEX_1: EX_1 Runoff Area=118.553 ac 2.64% Impervious Runoff Depth=1.70"
Flow Length=2,703' Tc=33.3 min CN=WQ Runoff=164.16 cfs 16.760 af

SubcatchmentEX_2: EX_2 Runoff Area=7.736 ac 2.87% Impervious Runoff Depth=1.85"
Flow Length=850' Tc=24.5 min CN=WQ Runoff=14.06 cfs 1.194 af

SubcatchmentEX_3: EX_3 Runoff Area=5.602 ac 28.65% Impervious Runoff Depth=2.43"
Flow Length=2,787' Tc=42.7 min CN=WQ Runoff=9.27 cfs 1.135 af

SubcatchmentEX_4: EX_4 Runoff Area=3.592 ac 26.45% Impervious Runoff Depth=2.39"
Flow Length=830' Tc=18.1 min CN=WQ Runoff=9.50 cfs 0.714 af

SubcatchmentEX_5: EX_5 Runoff Area=0.360 ac 0.00% Impervious Runoff Depth=1.80"
Flow Length=250' Tc=15.5 min CN=WQ Runoff=0.82 cfs 0.054 af

SubcatchmentEX_6: EX_6 Runoff Area=0.232 ac 12.93% Impervious Runoff Depth=2.09"
Flow Length=100' Slope=0.0200 '/' Tc=10.3 min CN=WQ Runoff=0.71 cfs 0.040 af

SubcatchmentEX_7: EX_7 Runoff Area=0.666 ac 63.66% Impervious Runoff Depth=3.22"
Flow Length=650' Tc=16.4 min CN=WQ Runoff=2.41 cfs 0.179 af

Reach 1R: Wetland 6 Inflow=172.87 cfs 17.895 af
Outflow=172.87 cfs 17.895 af

Reach 10R: Bassett Creek Watershed Inflow=174.54 cfs 18.168 af
Outflow=174.54 cfs 18.168 af

Reach 11R: Elm Creek Watershed Inflow=19.57 cfs 1.608 af
Outflow=19.57 cfs 1.608 af

Pond 9P: Wetland 9 Peak Elev=1,010.52' Storage=28,289 cf Inflow=22.72 cfs 1.908 af
Outflow=19.57 cfs 1.608 af

Total Runoff Area = 136.741 ac Runoff Volume = 20.076 af Average Runoff Depth = 1.76"
95.35% Pervious = 130.383 ac 4.65% Impervious = 6.358 ac

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_1: EX_1

Runoff = 164.16 cfs @ 12.48 hrs, Volume= 16.760 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.061	87	Dirt roads, HSG C
* 2.235	98	Impervious
5.656	39	>75% Grass cover, Good, HSG A
9.869	61	>75% Grass cover, Good, HSG B
92.243	74	>75% Grass cover, Good, HSG C
0.482	60	Woods, Fair, HSG B
7.115	73	Woods, Fair, HSG C
* 0.892	98	Wetland
118.553		Weighted Average
115.426		97.36% Pervious Area
3.127		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.0400	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030 Stream, clean & straight
33.3	2,703	Total			

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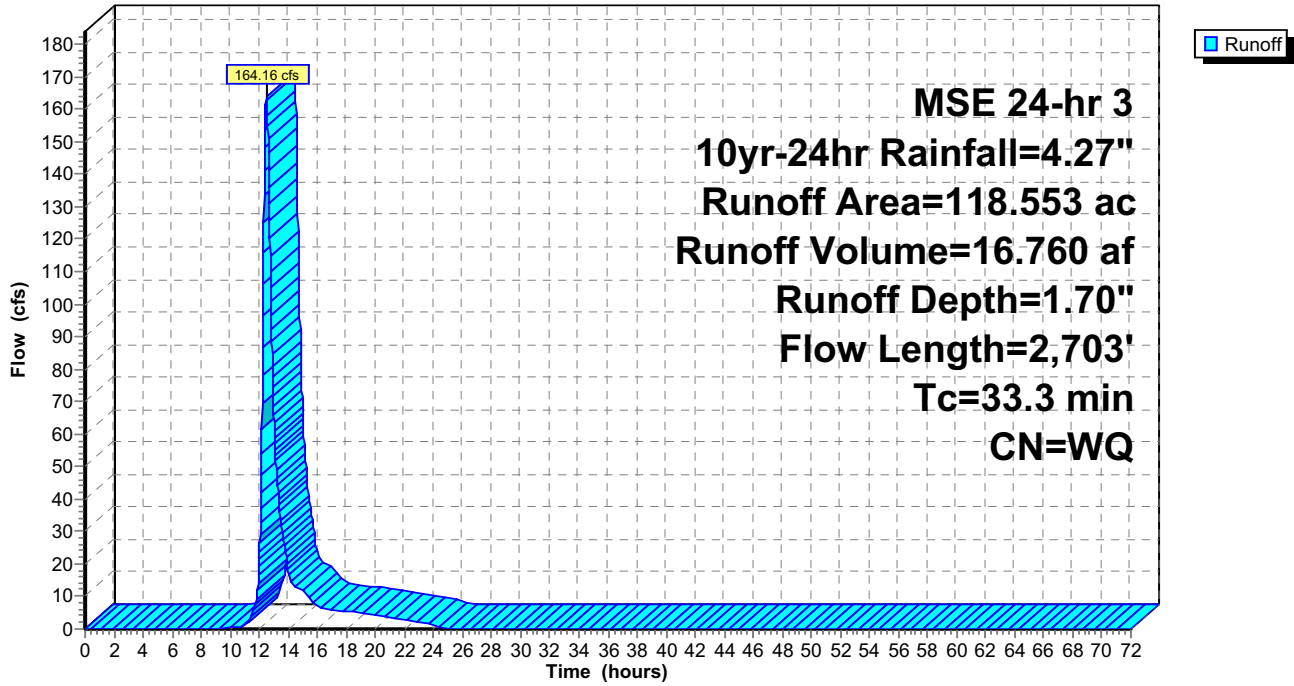
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Subcatchment EX_1: EX_1

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_2: EX_2

Runoff = 14.06 cfs @ 12.37 hrs, Volume= 1.194 af, Depth= 1.85"

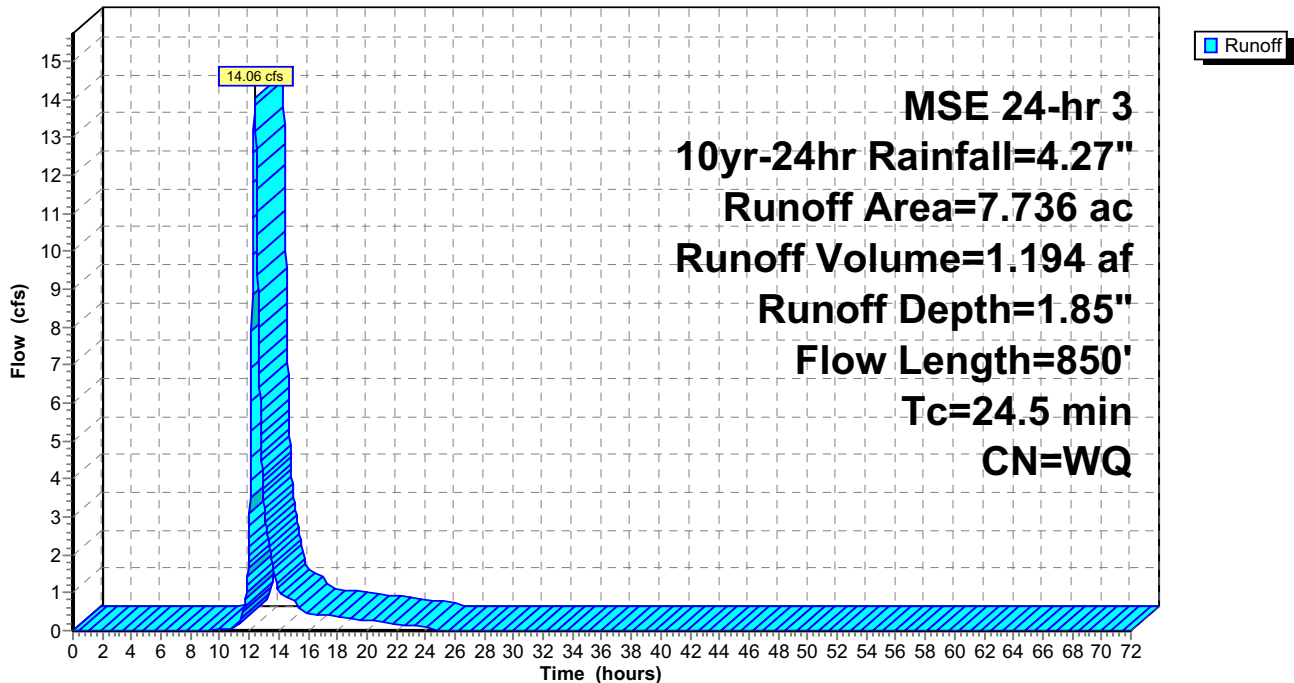
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
6.544	74	>75% Grass cover, Good, HSG C
0.970	73	Woods, Fair, HSG C
* 0.222	98	Wetland
7.736		Weighted Average
7.514		97.13% Pervious Area
0.222		2.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.1	500	0.0140	0.83		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.7	250	0.0160	2.49	2.49	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
24.5	850	Total			

Subcatchment EX_2: EX_2

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_3: EX_3

Runoff = 9.27 cfs @ 12.58 hrs, Volume= 1.135 af, Depth= 2.43"

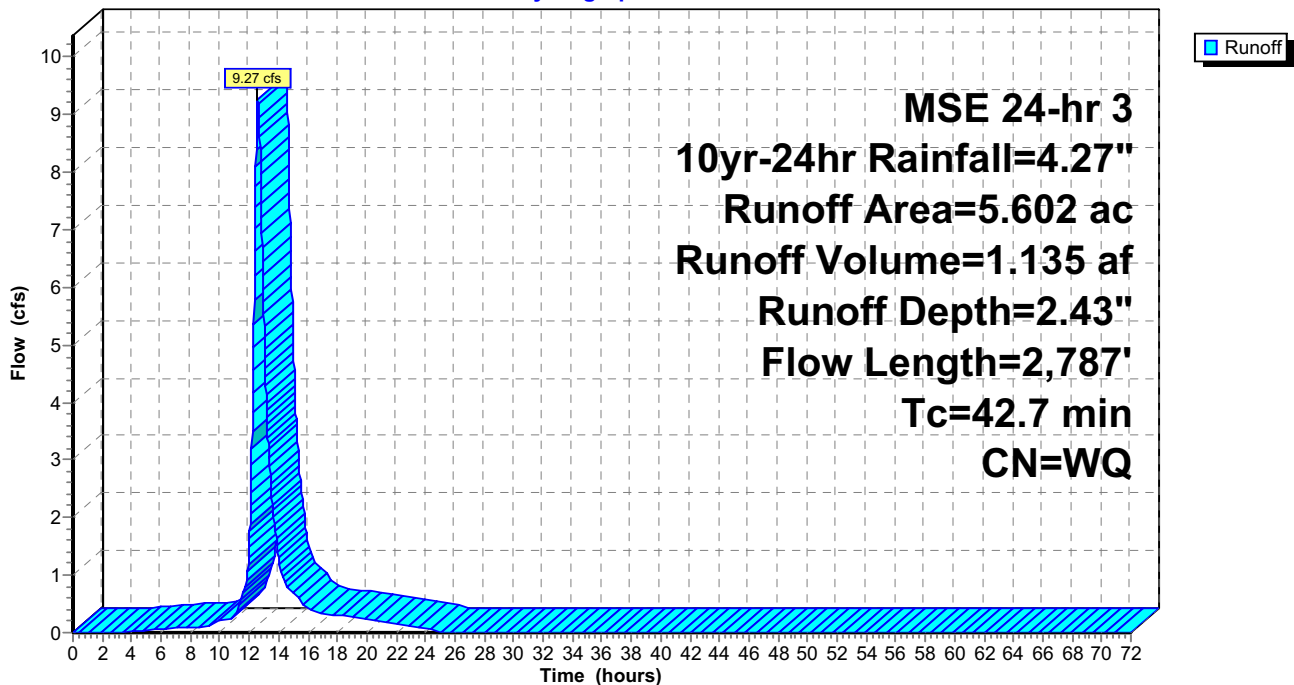
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 1.605	98	Impervious
3.413	74	>75% Grass cover, Good, HSG C
0.584	73	Woods, Fair, HSG C
5.602		Weighted Average
3.997		71.35% Pervious Area
1.605		28.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	184	0.0190	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
42.7	2,787	Total			

Subcatchment EX_3: EX_3

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_4: EX_4

Runoff = 9.50 cfs @ 12.27 hrs, Volume= 0.714 af, Depth= 2.39"

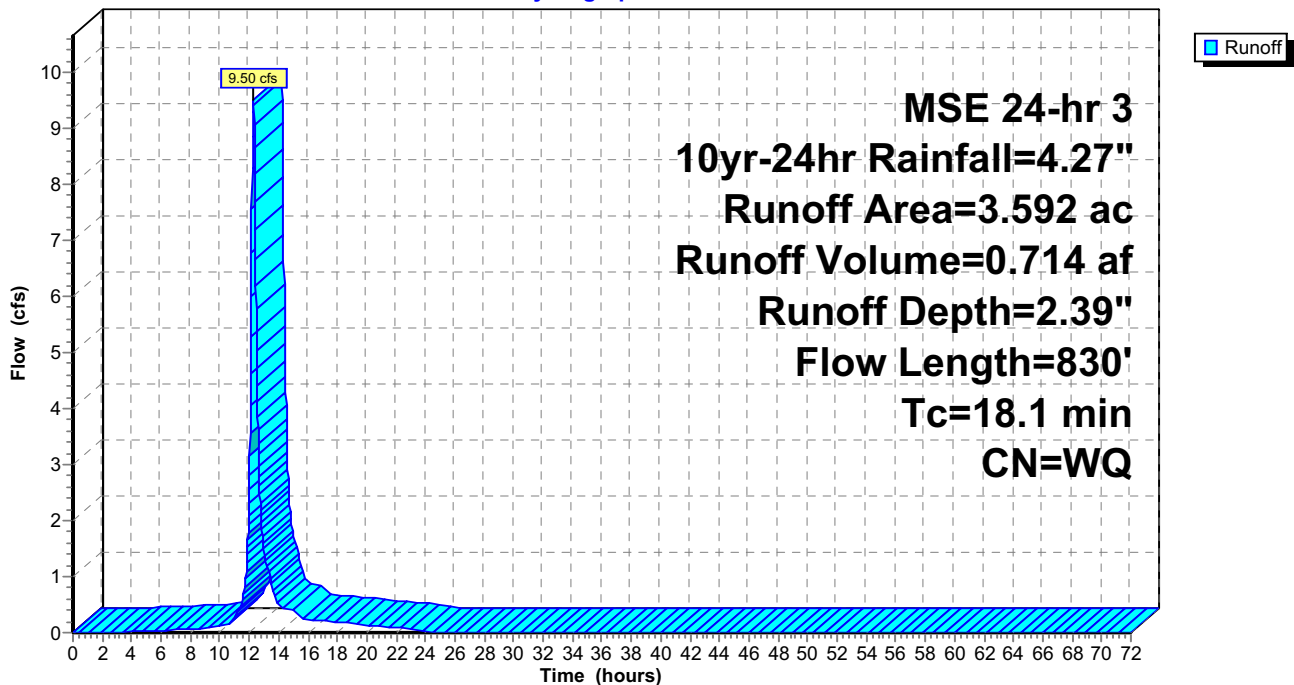
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.950	98	Impervious
2.483	74	>75% Grass cover, Good, HSG C
0.159	73	Woods, Fair, HSG C
<hr/>		
3.592		Weighted Average
2.642		73.55% Pervious Area
0.950		26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0900	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.9	500	0.0120	0.77		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.5	230	0.0174	2.59	2.59	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
<hr/>					
18.1	830	Total			

Subcatchment EX_4: EX_4

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_5: EX_5

Runoff = 0.82 cfs @ 12.25 hrs, Volume= 0.054 af, Depth= 1.80"

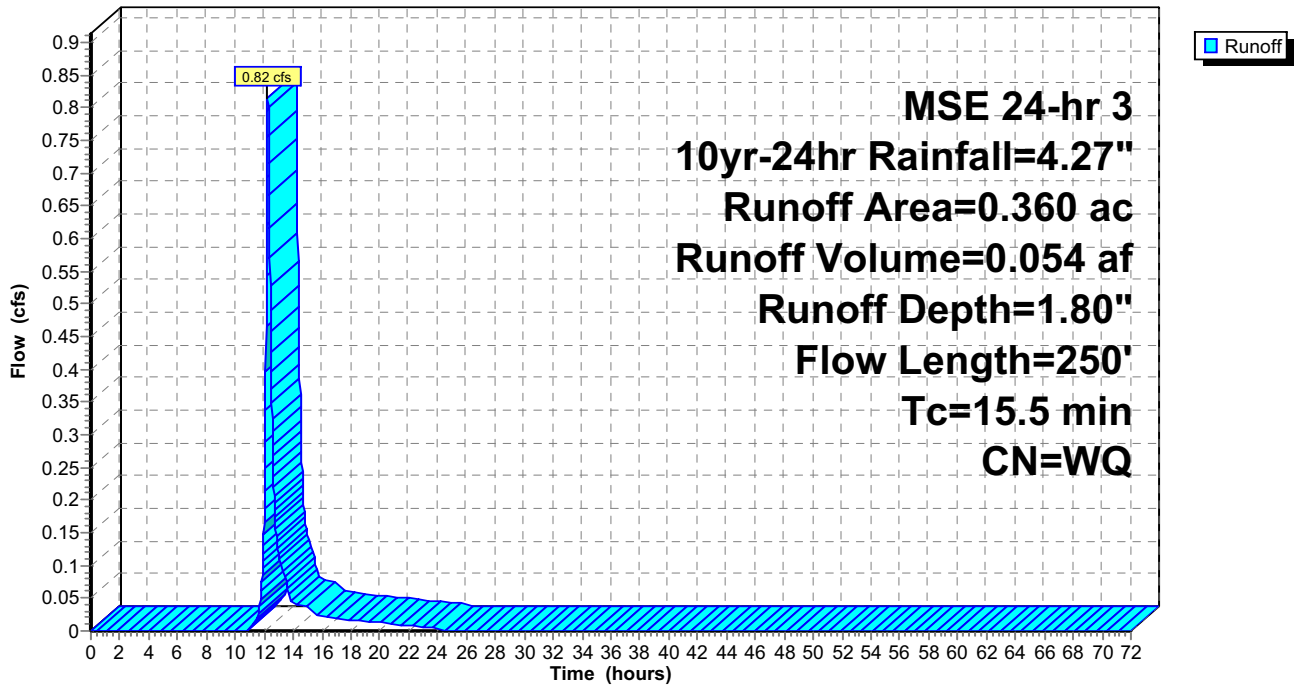
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.359	74	>75% Grass cover, Good, HSG C
0.001	73	Woods, Fair, HSG C
0.360		Weighted Average
0.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
1.8	150	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	250	Total			

Subcatchment EX_5: EX_5

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_6: EX_6

Runoff = 0.71 cfs @ 12.18 hrs, Volume= 0.040 af, Depth= 2.09"

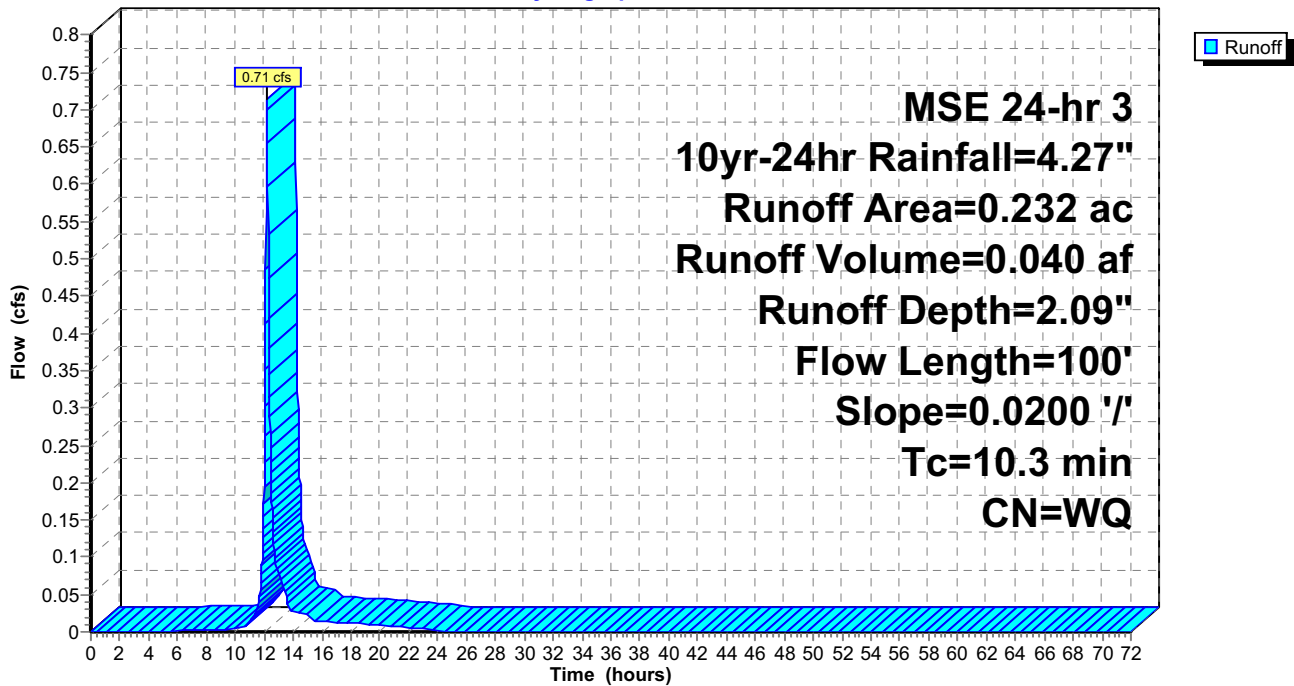
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.202	74	>75% Grass cover, Good, HSG C
* 0.030	98	Impervious
0.232		Weighted Average
0.202		87.07% Pervious Area
0.030		12.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment EX_6: EX_6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_7: EX_7

Runoff = 2.41 cfs @ 12.24 hrs, Volume= 0.179 af, Depth= 3.22"

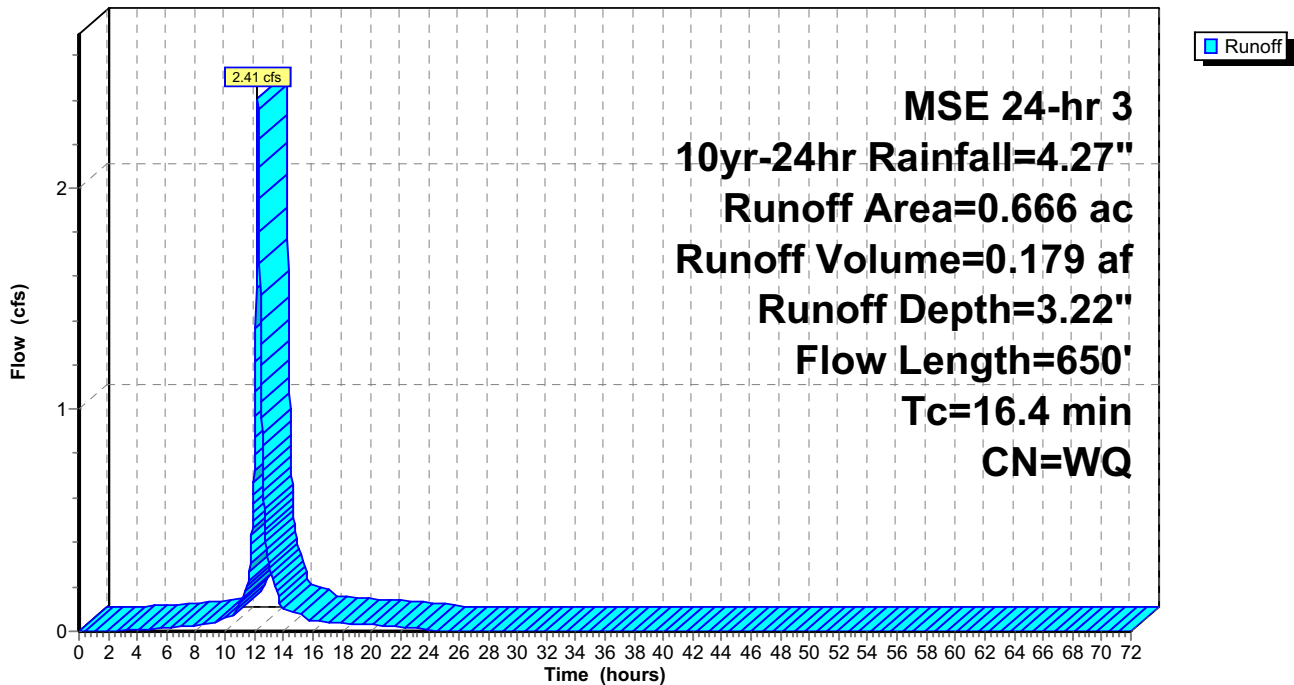
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.242	74	>75% Grass cover, Good, HSG C
* 0.424	98	Impervious
0.666		Weighted Average
0.242		36.34% Pervious Area
0.424		63.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	120	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
3.6	530	0.0150	2.49		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.4	650	Total			

Subcatchment EX_7: EX_7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 1R: Wetland 6

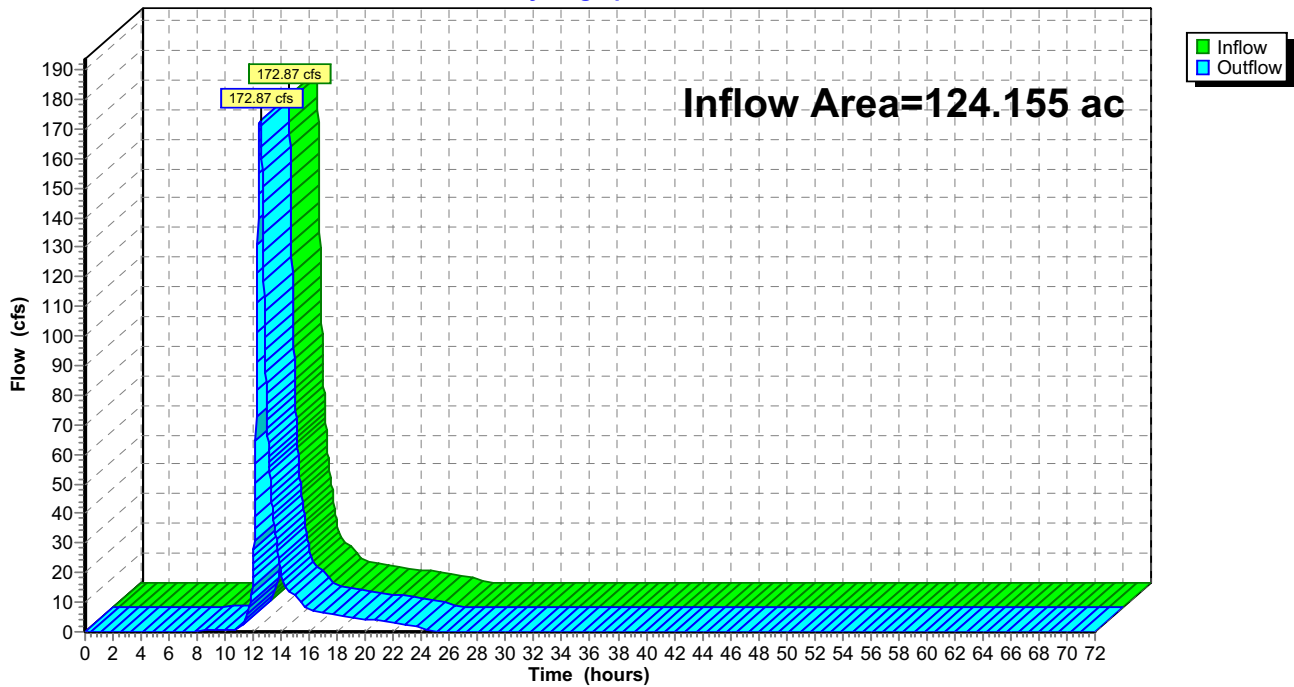
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 124.155 ac, 3.81% Impervious, Inflow Depth = 1.73" for 10yr-24hr event
Inflow = 172.87 cfs @ 12.49 hrs, Volume= 17.895 af
Outflow = 172.87 cfs @ 12.49 hrs, Volume= 17.895 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Wetland 6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 10R: Bassett Creek Watershed

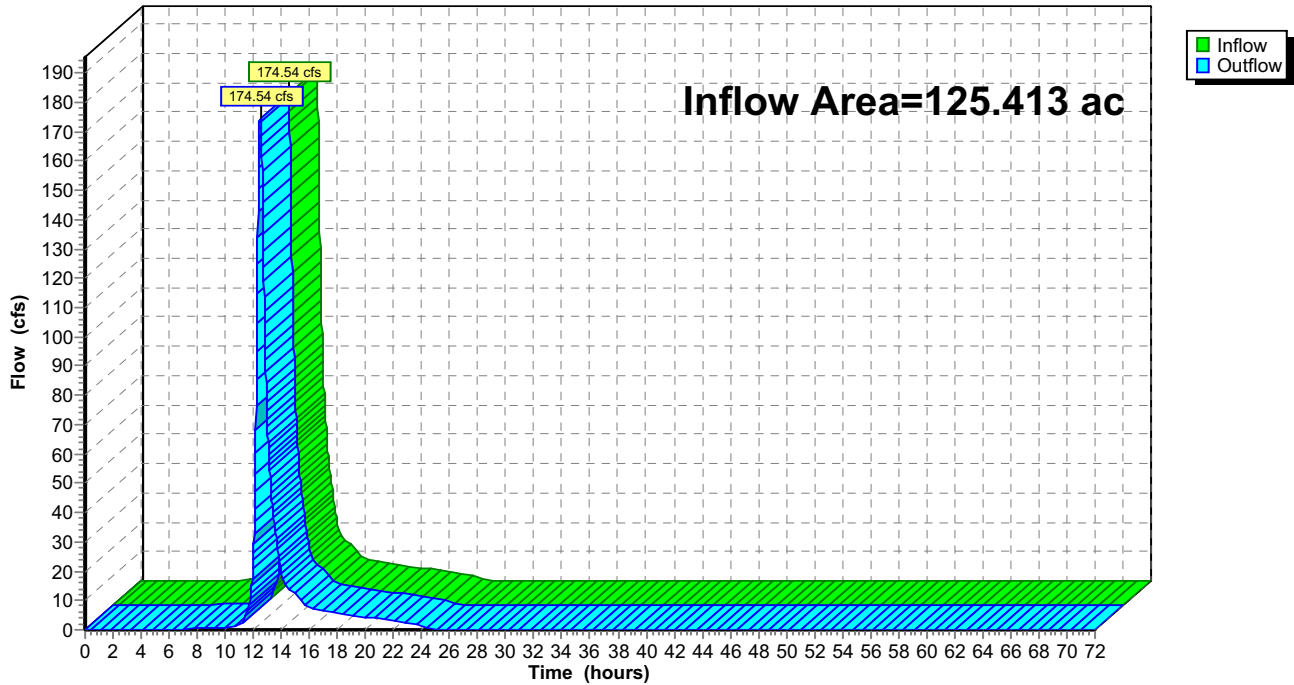
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 125.413 ac, 4.14% Impervious, Inflow Depth = 1.74" for 10yr-24hr event
Inflow = 174.54 cfs @ 12.49 hrs, Volume= 18.168 af
Outflow = 174.54 cfs @ 12.49 hrs, Volume= 18.168 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 10R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 11R: Elm Creek Watershed

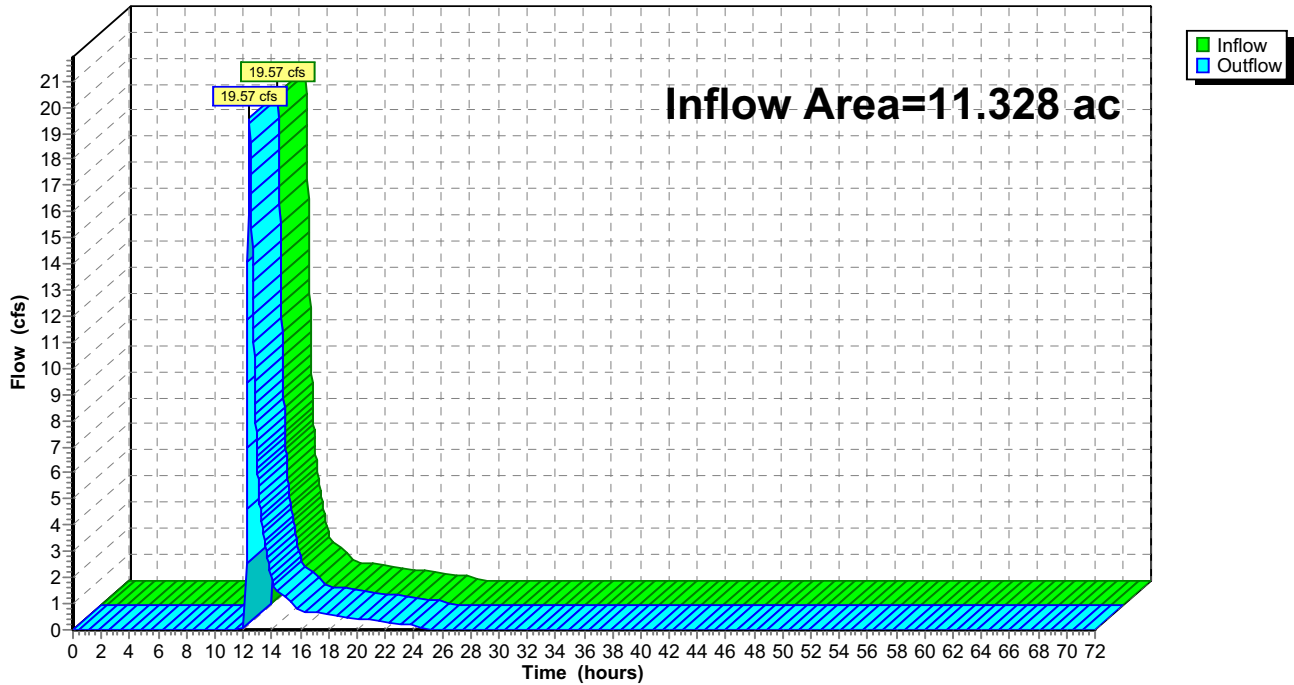
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 1.70" for 10yr-24hr event
Inflow = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af
Outflow = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 11R: Elm Creek Watershed

Hydrograph



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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond 9P: Wetland 9

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 2.02" for 10yr-24hr event
 Inflow = 22.72 cfs @ 12.32 hrs, Volume= 1.908 af
 Outflow = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af, Atten= 14%, Lag= 6.8 min
 Primary = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.52' @ 12.44 hrs Surf.Area= 16,723 sf Storage= 28,289 cf (21,764 cf above start)

Plug-Flow detention time= 124.5 min calculated for 1.457 af (76% of inflow)
 Center-of-Mass det. time= 40.2 min (857.3 - 817.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	36,345 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,011.00	16,723	16,723	36,345

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=19.55 cfs @ 12.44 hrs HW=1,010.52' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 19.55 cfs @ 1.89 fps)

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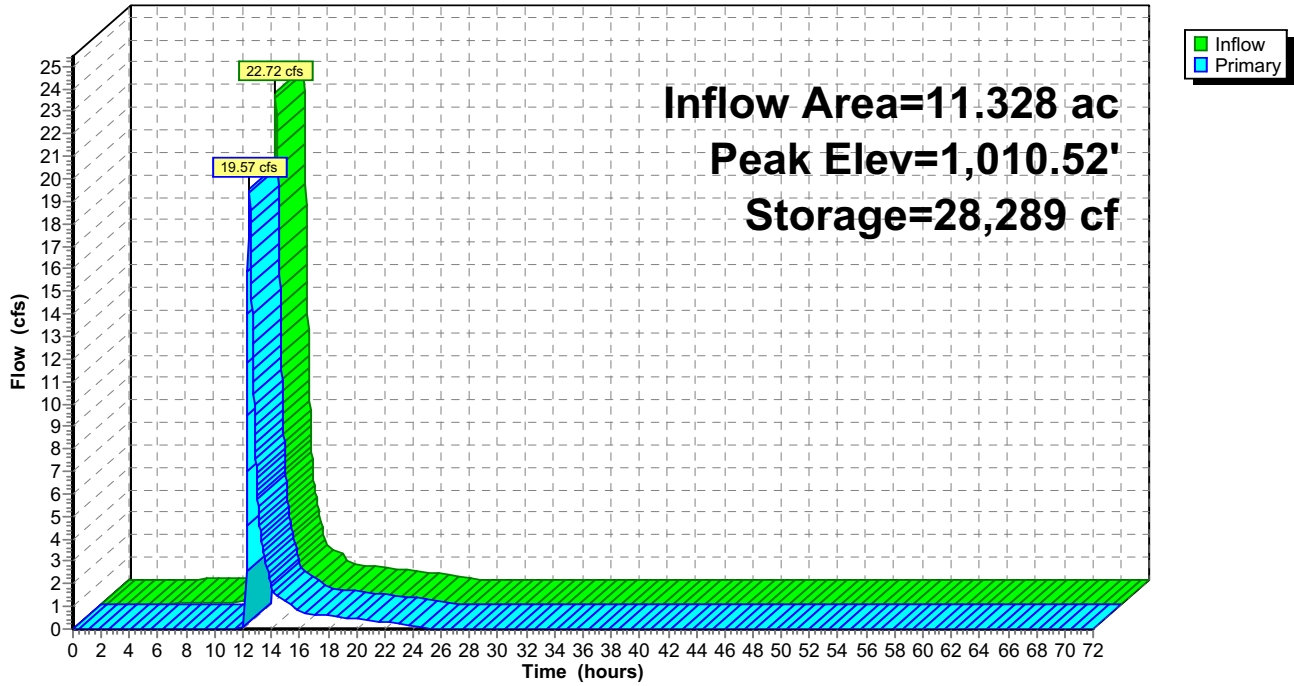
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond 9P: Wetland 9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentEX_1: EX_1 Runoff Area=118.553 ac 2.64% Impervious Runoff Depth=4.10"
Flow Length=2,703' Tc=33.3 min CN=WQ Runoff=405.81 cfs 40.543 af

SubcatchmentEX_2: EX_2 Runoff Area=7.736 ac 2.87% Impervious Runoff Depth=4.39"
Flow Length=850' Tc=24.5 min CN=WQ Runoff=33.83 cfs 2.829 af

SubcatchmentEX_3: EX_3 Runoff Area=5.602 ac 28.65% Impervious Runoff Depth=5.10"
Flow Length=2,787' Tc=42.7 min CN=WQ Runoff=19.76 cfs 2.381 af

SubcatchmentEX_4: EX_4 Runoff Area=3.592 ac 26.45% Impervious Runoff Depth=5.05"
Flow Length=830' Tc=18.1 min CN=WQ Runoff=20.33 cfs 1.511 af

SubcatchmentEX_5: EX_5 Runoff Area=0.360 ac 0.00% Impervious Runoff Depth=4.32"
Flow Length=250' Tc=15.5 min CN=WQ Runoff=1.98 cfs 0.130 af

SubcatchmentEX_6: EX_6 Runoff Area=0.232 ac 12.93% Impervious Runoff Depth=4.68"
Flow Length=100' Slope=0.0200 '/' Tc=10.3 min CN=WQ Runoff=1.61 cfs 0.090 af

SubcatchmentEX_7: EX_7 Runoff Area=0.666 ac 63.66% Impervious Runoff Depth=6.08"
Flow Length=650' Tc=16.4 min CN=WQ Runoff=4.53 cfs 0.337 af

Reach 1R: Wetland 6 Inflow=424.22 cfs 42.924 af
Outflow=424.22 cfs 42.924 af

Reach 10R: Bassett Creek Watershed Inflow=427.70 cfs 43.482 af
Outflow=427.70 cfs 43.482 af

Reach 11R: Elm Creek Watershed Inflow=49.74 cfs 4.039 af
Outflow=49.74 cfs 4.039 af

Pond 9P: Wetland 9 Peak Elev=1,010.95' Storage=35,531 cf Inflow=52.52 cfs 4.339 af
Outflow=49.74 cfs 4.039 af

Total Runoff Area = 136.741 ac Runoff Volume = 47.821 af Average Runoff Depth = 4.20"
95.35% Pervious = 130.383 ac 4.65% Impervious = 6.358 ac

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_1: EX_1

Runoff = 405.81 cfs @ 12.47 hrs, Volume= 40.543 af, Depth= 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.061	87	Dirt roads, HSG C
* 2.235	98	Impervious
5.656	39	>75% Grass cover, Good, HSG A
9.869	61	>75% Grass cover, Good, HSG B
92.243	74	>75% Grass cover, Good, HSG C
0.482	60	Woods, Fair, HSG B
7.115	73	Woods, Fair, HSG C
* 0.892	98	Wetland
118.553		Weighted Average
115.426		97.36% Pervious Area
3.127		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.0400	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030 Stream, clean & straight
33.3	2,703	Total			

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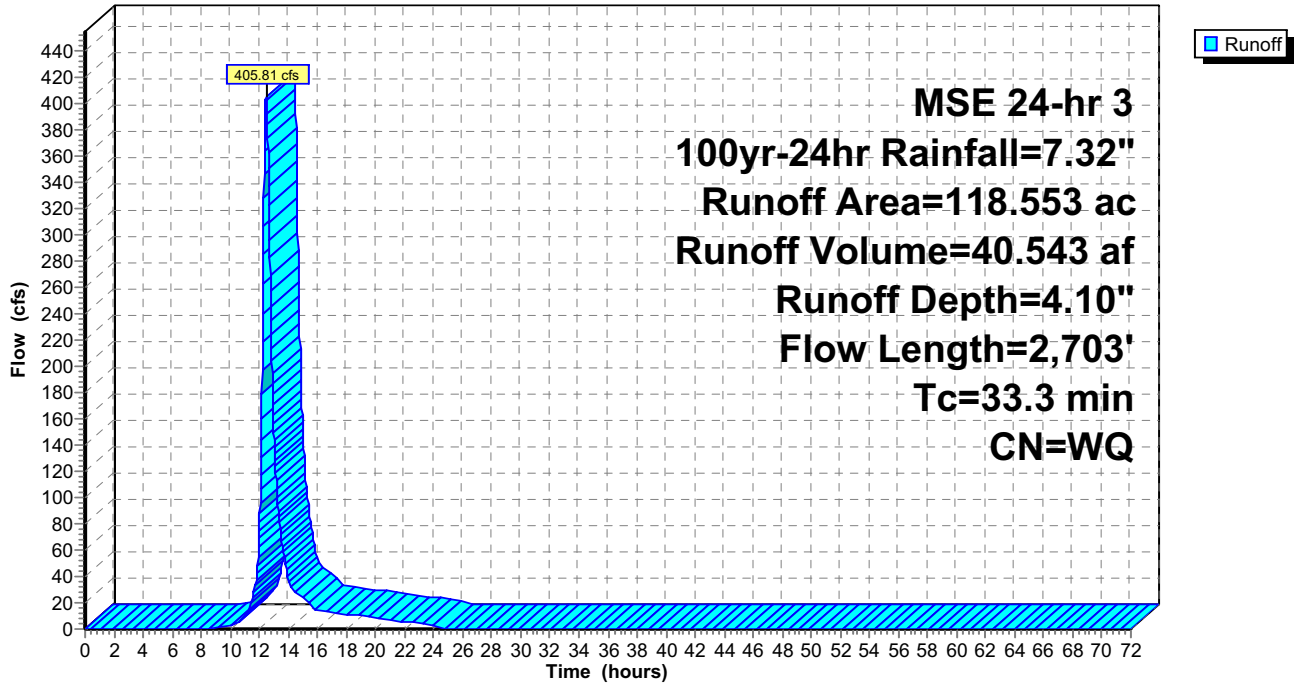
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Subcatchment EX_1: EX_1

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_2: EX_2

Runoff = 33.83 cfs @ 12.35 hrs, Volume= 2.829 af, Depth= 4.39"

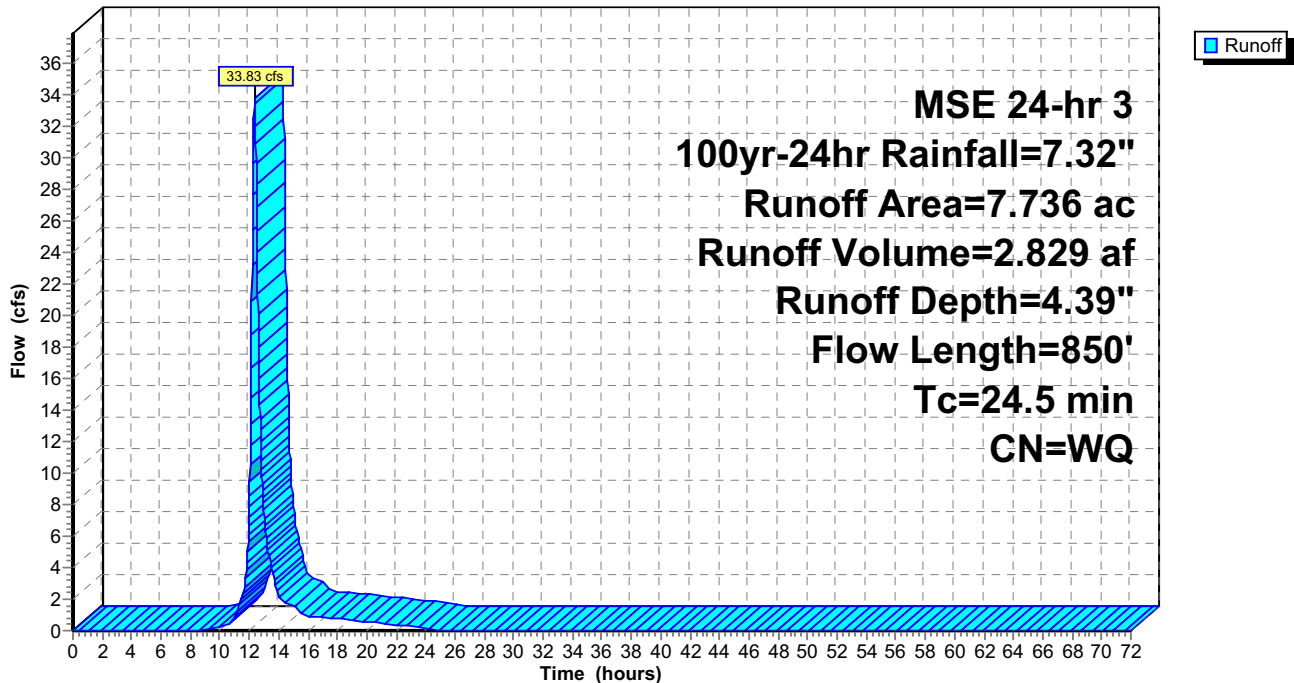
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
6.544	74	>75% Grass cover, Good, HSG C
0.970	73	Woods, Fair, HSG C
* 0.222	98	Wetland
<hr/>		
7.736		Weighted Average
7.514		97.13% Pervious Area
0.222		2.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.1	500	0.0140	0.83		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.7	250	0.0160	2.49	2.49	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
<hr/>					
24.5	850	Total			

Subcatchment EX_2: EX_2

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_3: EX_3

Runoff = 19.76 cfs @ 12.58 hrs, Volume= 2.381 af, Depth= 5.10"

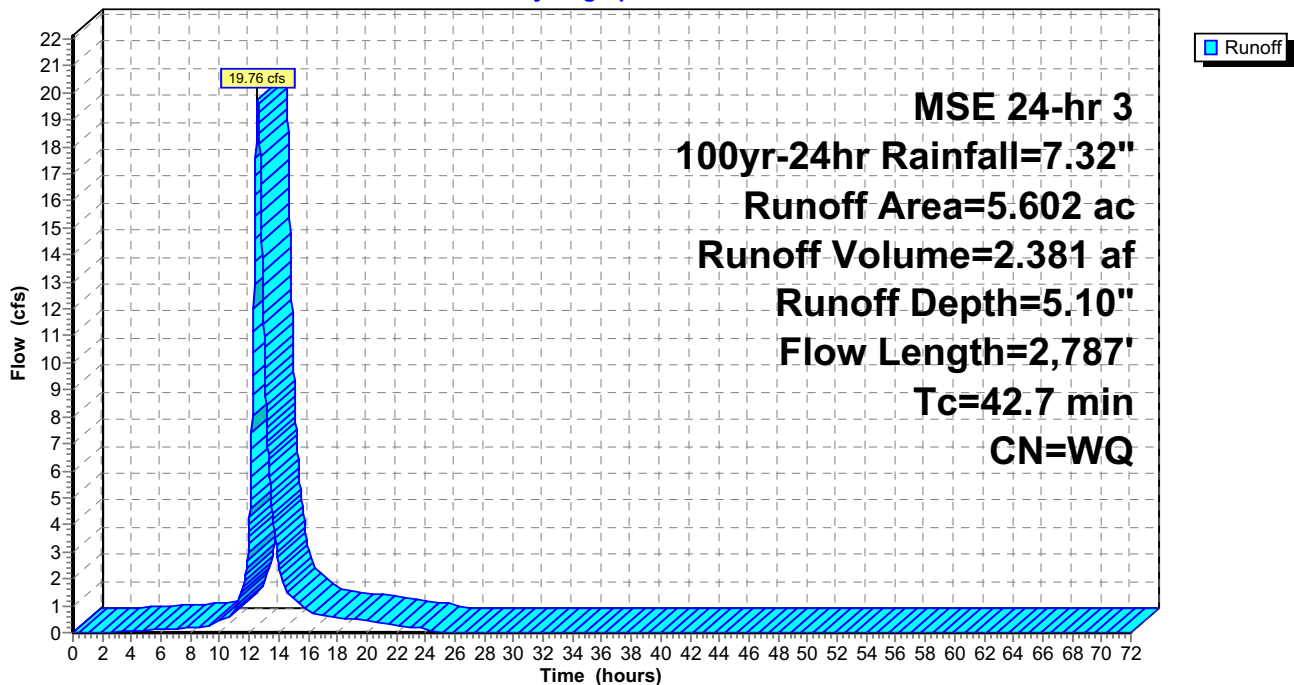
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 1.605	98	Impervious
3.413	74	>75% Grass cover, Good, HSG C
0.584	73	Woods, Fair, HSG C
5.602		Weighted Average
3.997		71.35% Pervious Area
1.605		28.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	184	0.0190	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
42.7	2,787	Total			

Subcatchment EX_3: EX_3

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_4: EX_4

Runoff = 20.33 cfs @ 12.27 hrs, Volume= 1.511 af, Depth= 5.05"

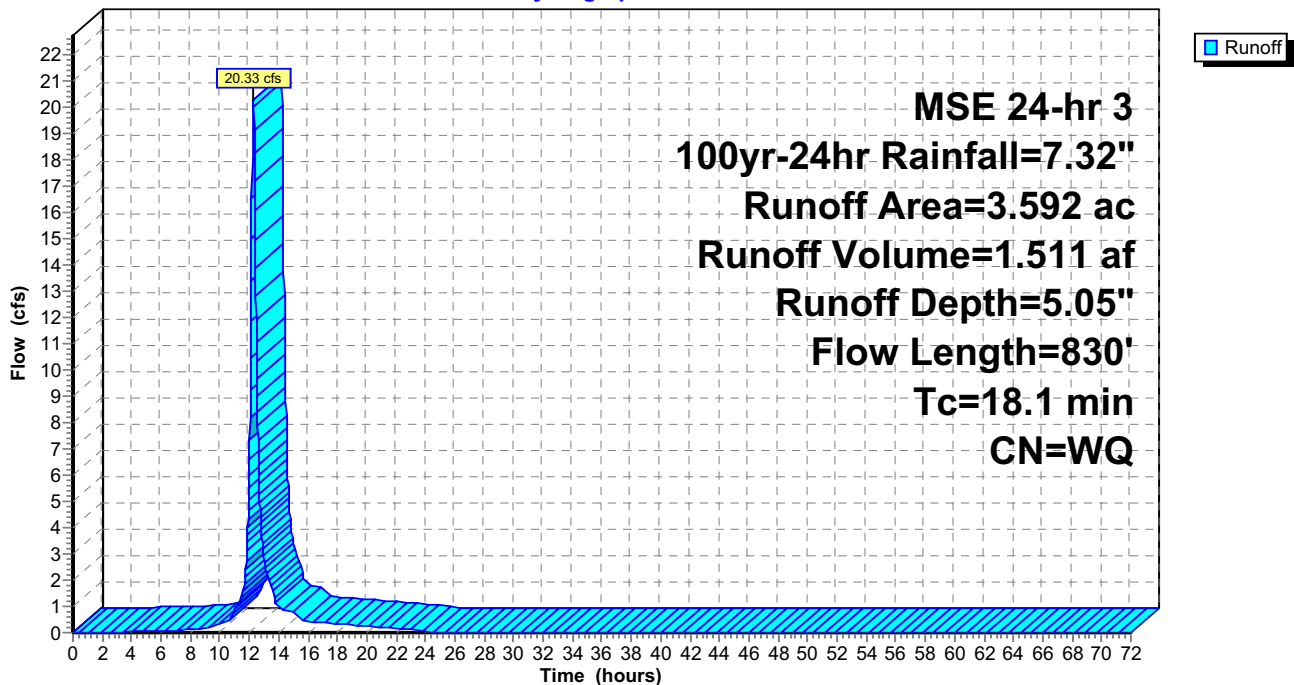
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.950	98	Impervious
2.483	74	>75% Grass cover, Good, HSG C
0.159	73	Woods, Fair, HSG C
<hr/>		
3.592		Weighted Average
2.642		73.55% Pervious Area
0.950		26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0900	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.9	500	0.0120	0.77		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.5	230	0.0174	2.59	2.59	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
<hr/>					
18.1	830	Total			

Subcatchment EX_4: EX_4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_5: EX_5

Runoff = 1.98 cfs @ 12.24 hrs, Volume= 0.130 af, Depth= 4.32"

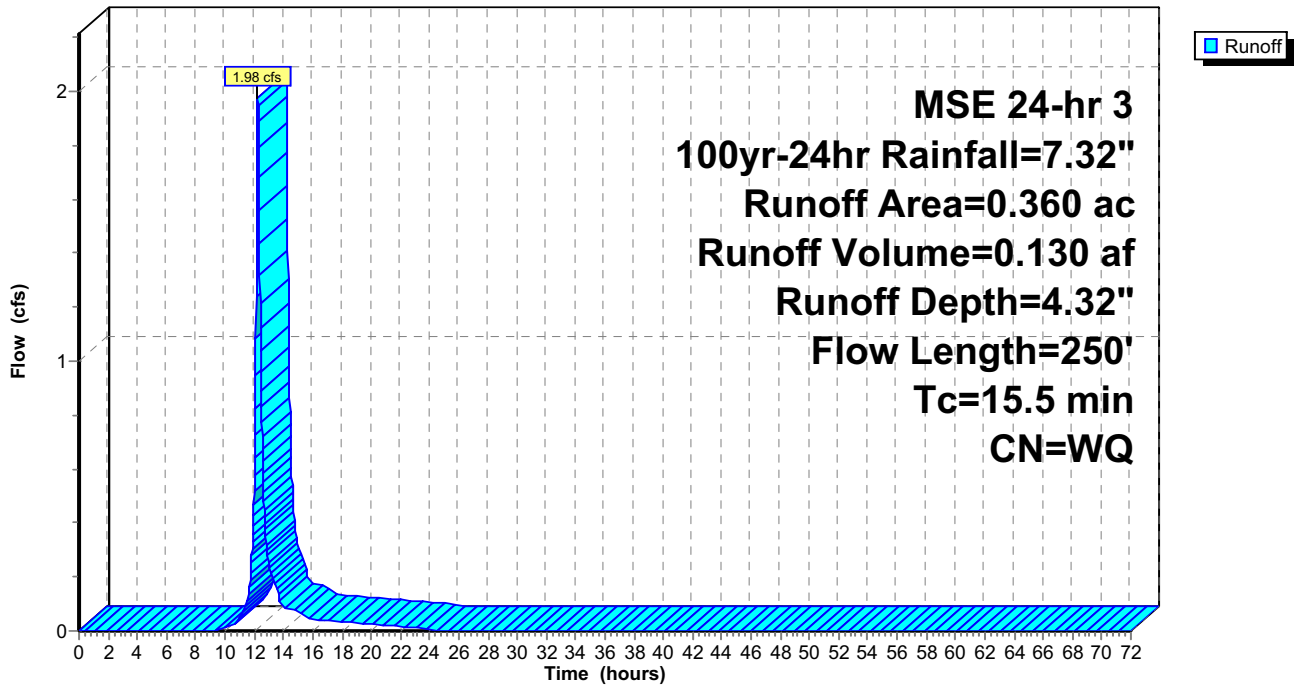
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.359	74	>75% Grass cover, Good, HSG C
0.001	73	Woods, Fair, HSG C
0.360		Weighted Average
0.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
1.8	150	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	250	Total			

Subcatchment EX_5: EX_5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_6: EX_6

Runoff = 1.61 cfs @ 12.18 hrs, Volume= 0.090 af, Depth= 4.68"

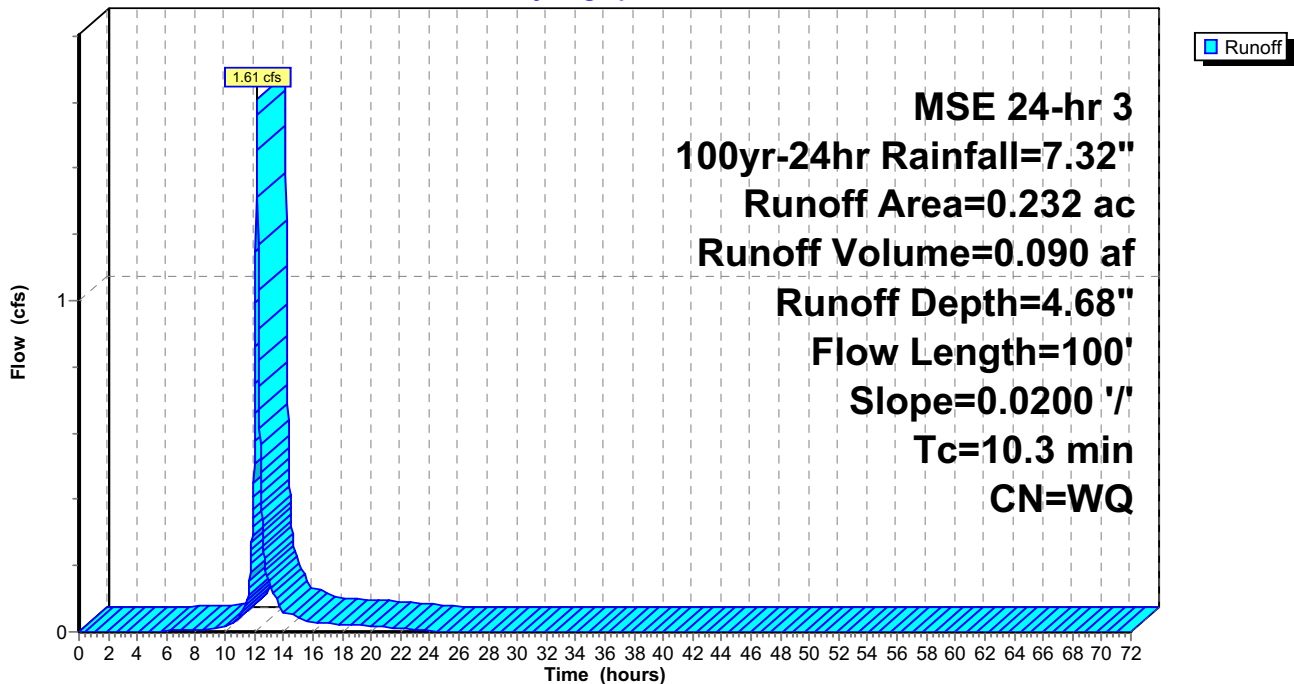
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.202	74	>75% Grass cover, Good, HSG C
* 0.030	98	Impervious
0.232		Weighted Average
0.202		87.07% Pervious Area
0.030		12.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment EX_6: EX_6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_7: EX_7

Runoff = 4.53 cfs @ 12.24 hrs, Volume= 0.337 af, Depth= 6.08"

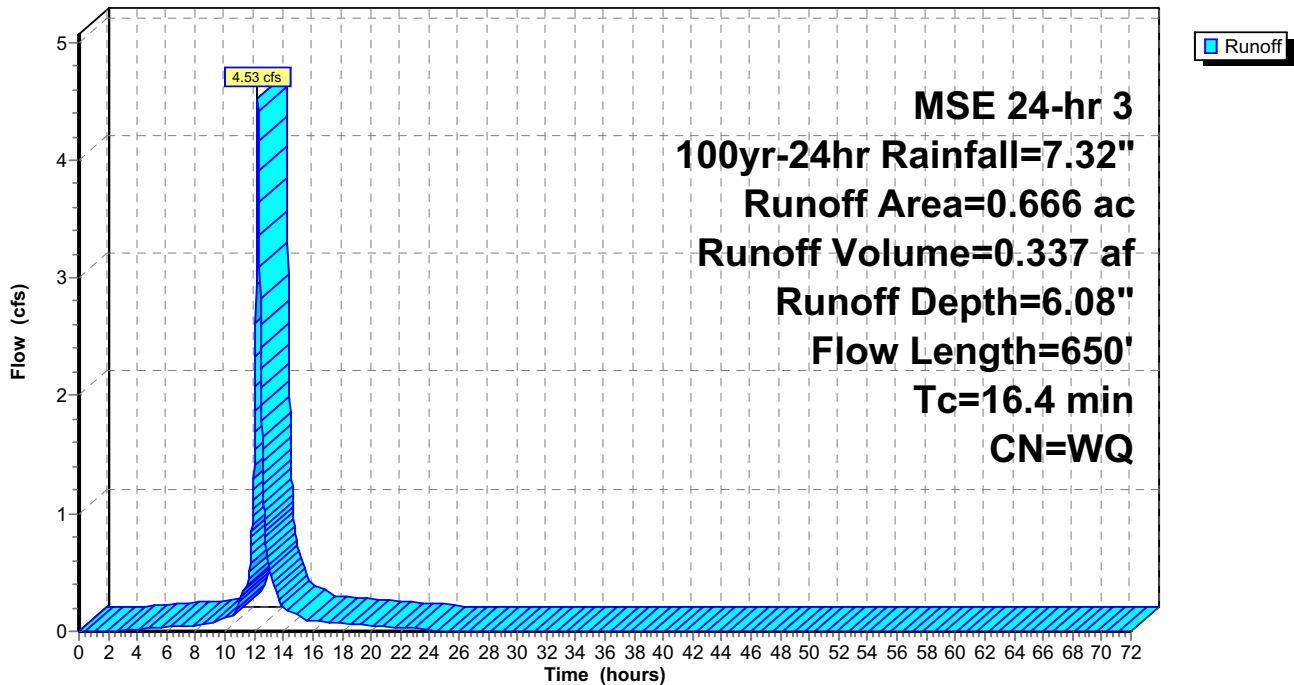
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.242	74	>75% Grass cover, Good, HSG C
* 0.424	98	Impervious
0.666		Weighted Average
0.242		36.34% Pervious Area
0.424		63.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	120	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
3.6	530	0.0150	2.49		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.4	650	Total			

Subcatchment EX_7: EX_7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 1R: Wetland 6

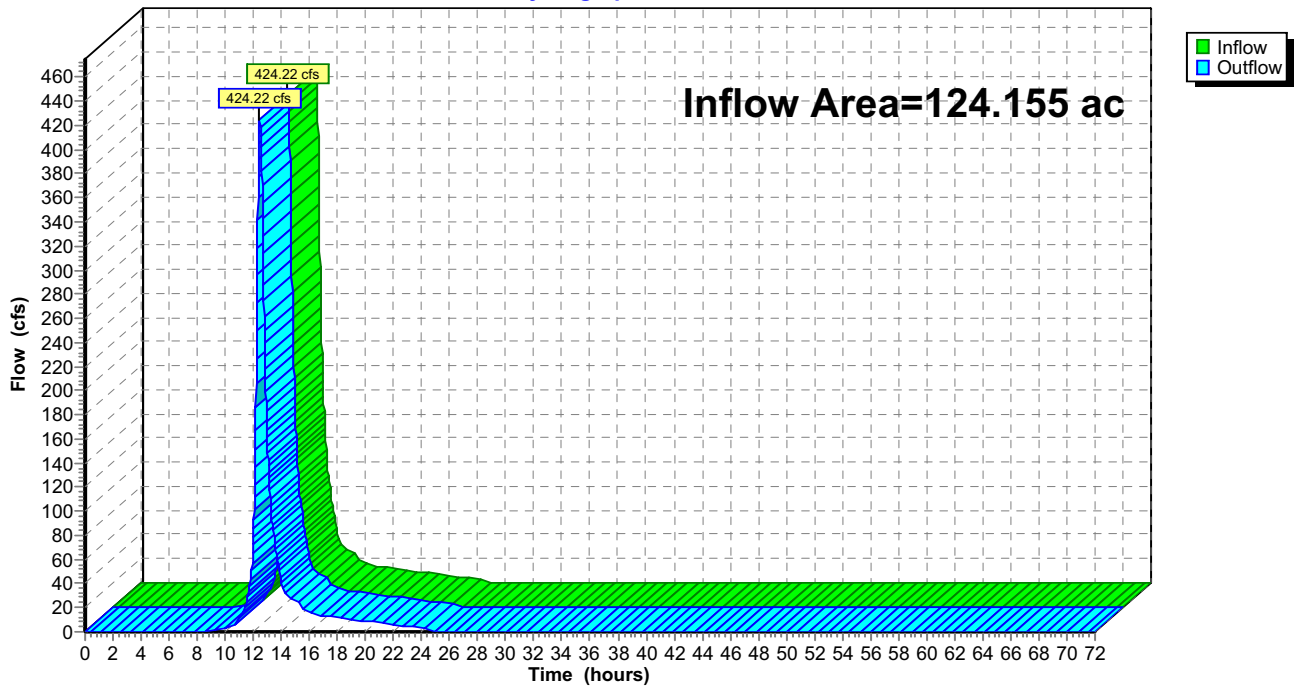
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 124.155 ac, 3.81% Impervious, Inflow Depth = 4.15" for 100yr-24hr event
Inflow = 424.22 cfs @ 12.47 hrs, Volume= 42.924 af
Outflow = 424.22 cfs @ 12.47 hrs, Volume= 42.924 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Wetland 6

Hydrograph



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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 10R: Bassett Creek Watershed

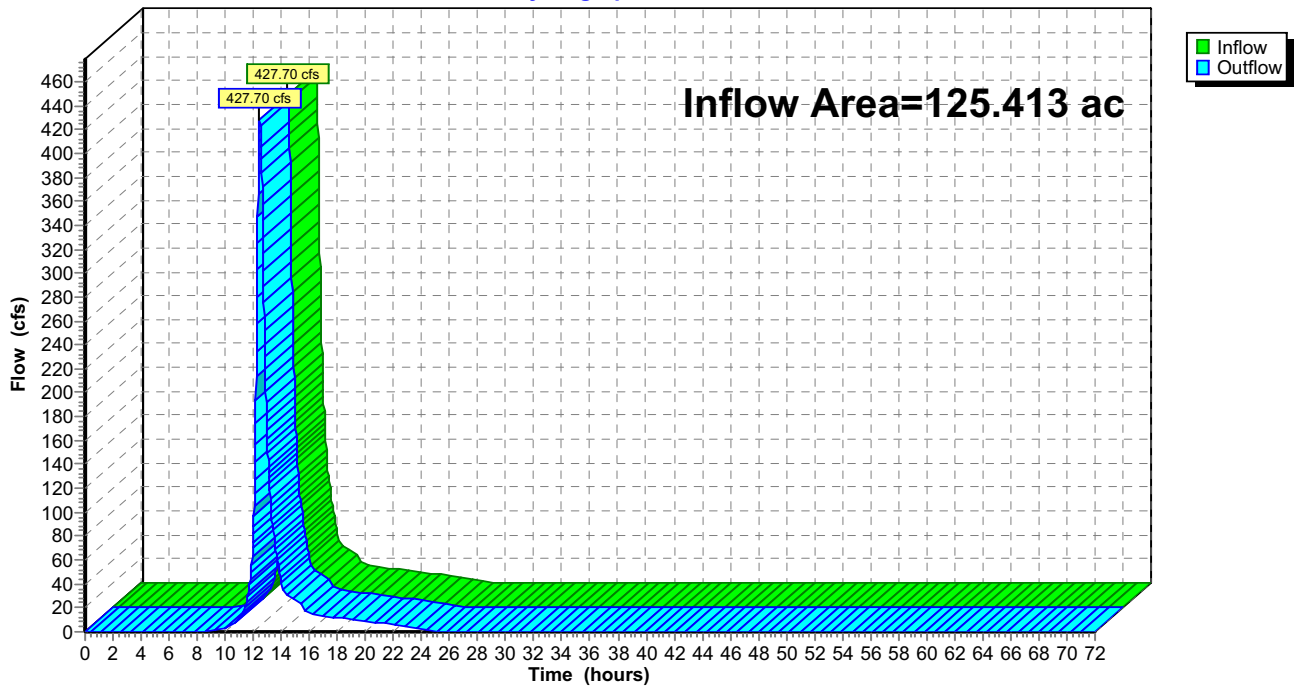
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 125.413 ac, 4.14% Impervious, Inflow Depth = 4.16" for 100yr-24hr event
Inflow = 427.70 cfs @ 12.47 hrs, Volume= 43.482 af
Outflow = 427.70 cfs @ 12.47 hrs, Volume= 43.482 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 10R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 11R: Elm Creek Watershed

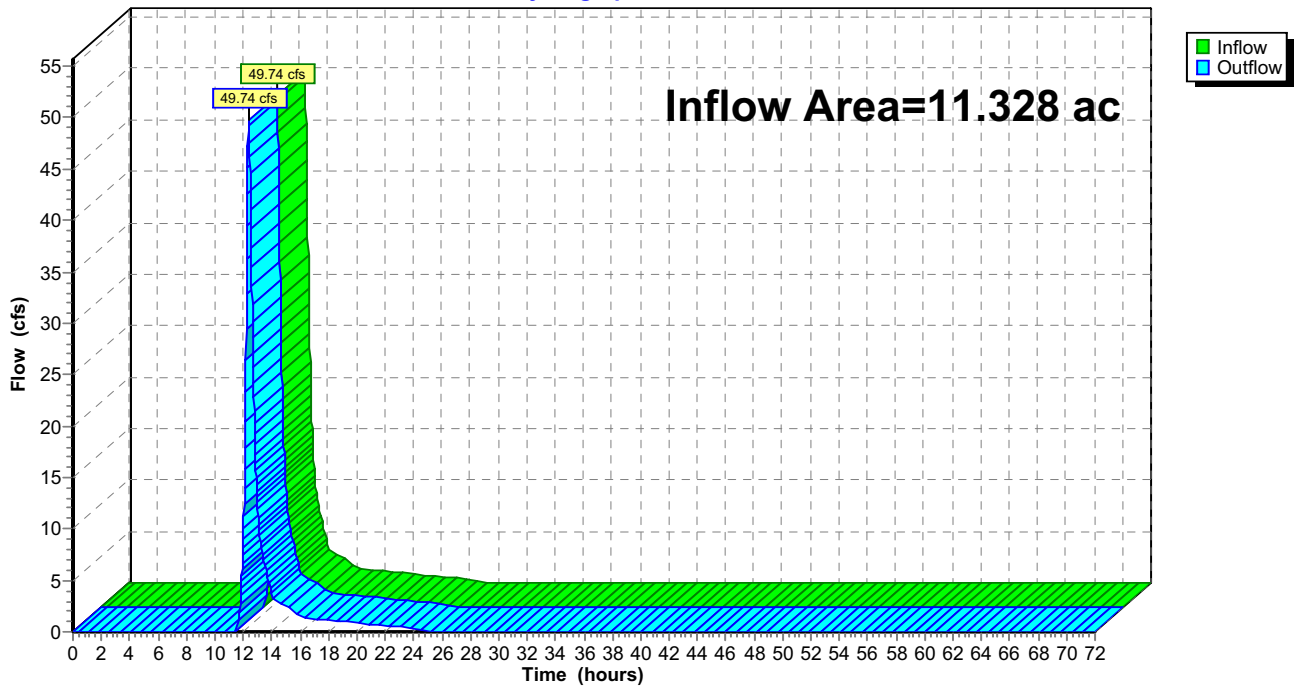
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 4.28" for 100yr-24hr event
Inflow = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af
Outflow = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 11R: Elm Creek Watershed

Hydrograph



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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond 9P: Wetland 9

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 4.60" for 100yr-24hr event
 Inflow = 52.52 cfs @ 12.32 hrs, Volume= 4.339 af
 Outflow = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af, Atten= 5%, Lag= 3.8 min
 Primary = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.95' @ 12.38 hrs Surf.Area= 16,723 sf Storage= 35,531 cf (29,006 cf above start)

Plug-Flow detention time= 73.5 min calculated for 3.889 af (90% of inflow)
 Center-of-Mass det. time= 24.9 min (829.2 - 804.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	36,345 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,011.00	16,723	16,723	36,345

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=49.72 cfs @ 12.38 hrs HW=1,010.95' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 49.72 cfs @ 2.61 fps)

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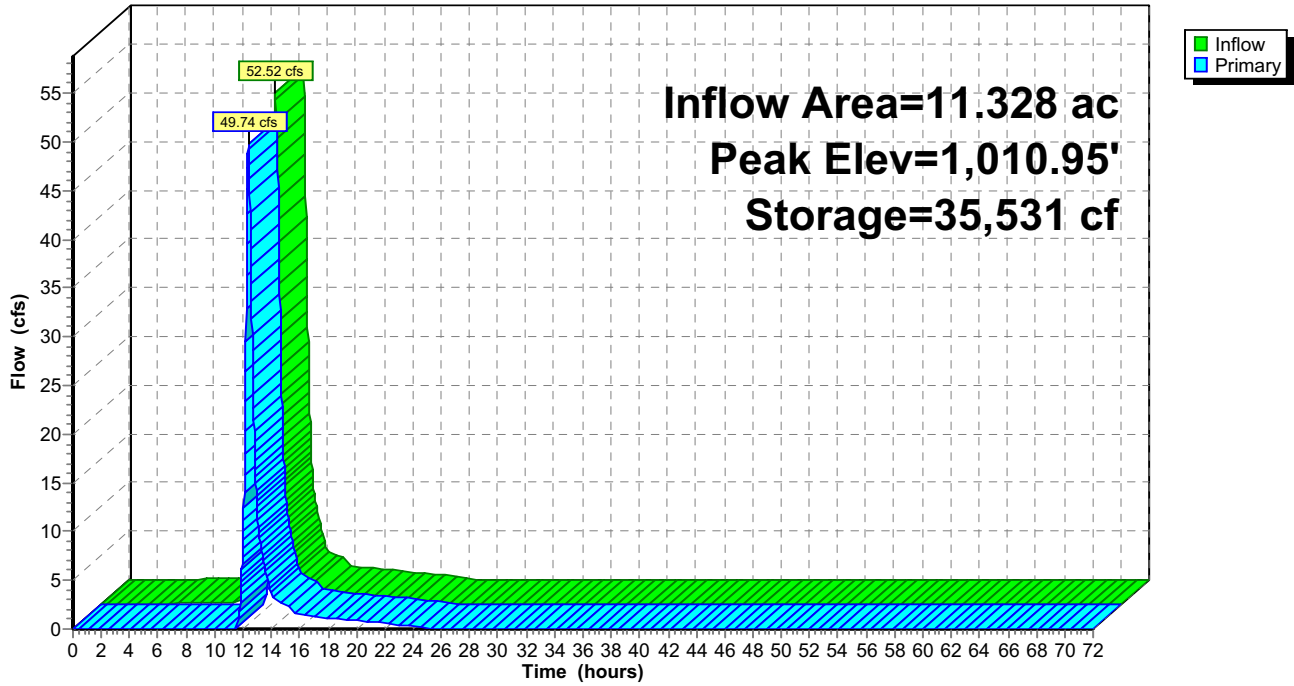
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

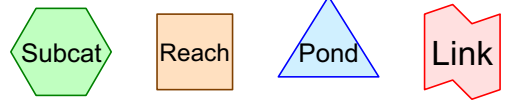
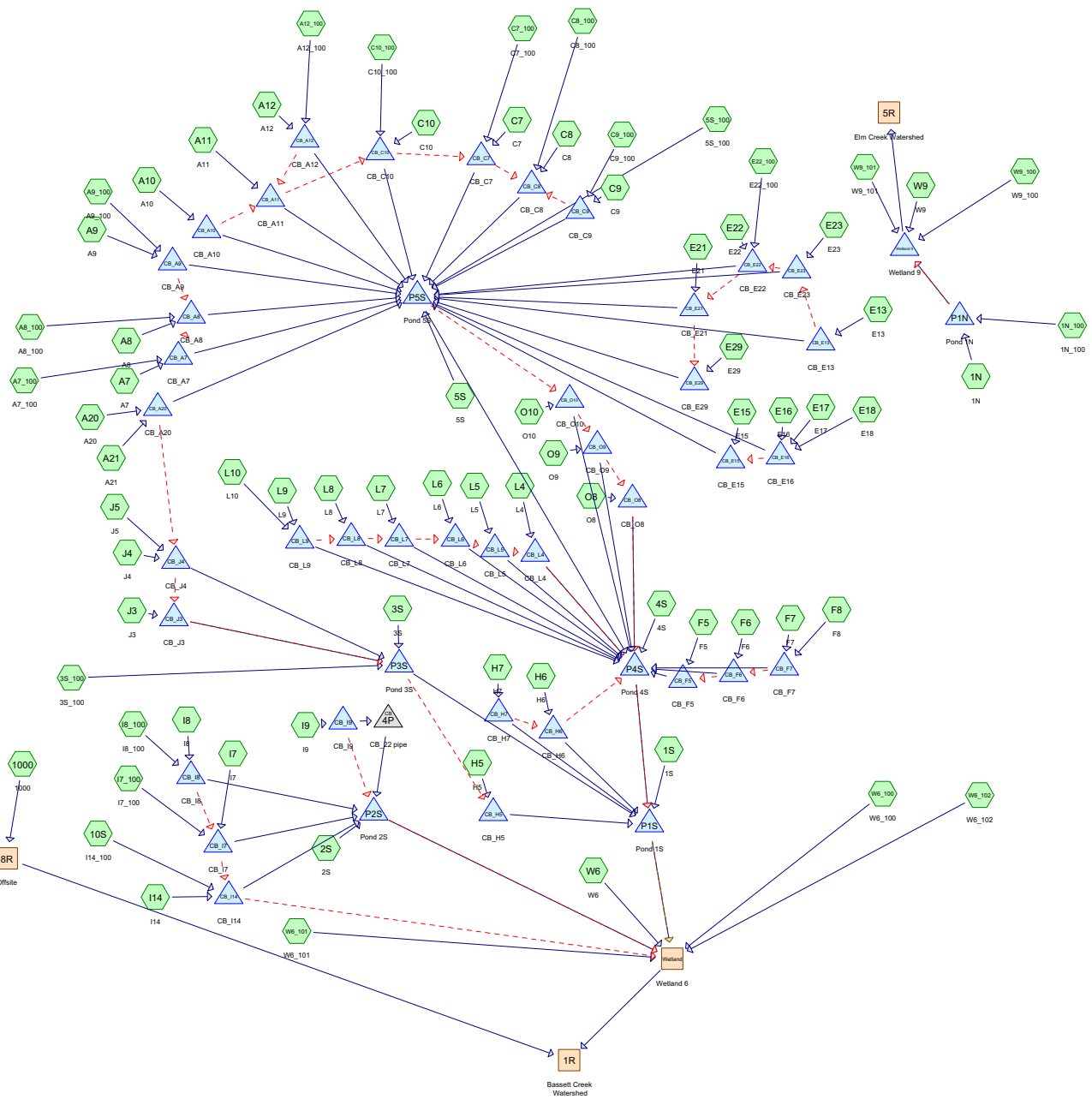
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Pond 9P: Wetland 9

Hydrograph





Routing Diagram for Hollydale - Proposed Conditions - 07.07.2021
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.657	39	>75% Grass cover, Good, HSG A (5S, L8, L9)
6.223	61	>75% Grass cover, Good, HSG B (1S, 4S, H5, H6, H7, L4)
80.789	74	>75% Grass cover, Good, HSG C (1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A11, A12, A12_100, A20, A21, A7, A8, A9, A9_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, E13, E15, E16, E17, E18, E21, E22, E22_100, E23, E29, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J4, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_100, W6_101, W6_102, W9, W9_100, W9_101)
34.660	98	Impervious (1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 1000, A10, A11, A12, A12_100, A20, A21, A7, A7_100, A8, A8_100, A9, A9_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, E13, E15, E16, E17, E18, E21, E22, E22_100, E23, E29, F5, F6, F7, F8, H5, H6, H7, I7, I7_100, I8, I8_100, I9, J3, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_101, W9_100, W9_101)
8.970	98	Pond (1N, 1S, 2S, 3S, 4S, 5S, A12, W9)
3.336	73	Woods, Fair, HSG C (1N_100, A10, A9, W6, W6_100, W6_101, W9, W9_100)
0.101	98	impervious (10S, I14)
136.736	80	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.657	HSG A	5S, L8, L9
6.223	HSG B	1S, 4S, H5, H6, H7, L4
84.125	HSG C	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A11, A12, A12_100, A20, A21, A7, A8, A9, A9_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, E13, E15, E16, E17, E18, E21, E22, E22_100, E23, E29, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J4, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_100, W6_101, W6_102, W9, W9_100, W9_101
0.000	HSG D	
43.731	Other	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A11, A12, A12_100, A20, A21, A7, A7_100, A8, A8_100, A9, A9_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, E13, E15, E16, E17, E18, E21, E22, E22_100, E23, E29, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_101, W9, W9_100, W9_101
136.736		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
2.657	6.223	80.789	0.000	0.000	89.669	>75% Grass cover, Good	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A11, A12, A12_100 , A20, A21, A7, A8, A9, A9_100, C10, C10_100 , C7, C7_100, C8, C8_100, C9, C9_100, E13, E15, E16, E17, E18, E21, E22, E22_100 , E23, E29, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J4, J5,

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Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	34.660	34.660	Impervious	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 1000, A10, A11, A12, A12_100 , A20, A21, A7, A7_100, A8, A8_100, A9, A9_100, C10, C10_100 , C7, C7_100, C8, C8_100, C9, C9_100, E13, E15, E16, E17, E18, E21, E22, E22_100 , E23, E29, F5, F6, F7, F8, H5, H6, H7, I7, I7_100, I8, I8_100,

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Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	8.970	8.970	Pond	1N, 1S, 2S, 3S, 4S, 5S, A12, W9
0.000	0.000	3.336	0.000	0.000	3.336	Woods, Fair	1N_100, A10, A9, W6, W6_100, W6_101, W9, W9_100
0.000	0.000	0.000	0.000	0.101	0.101	impervious	10S, I14
2.657	6.223	84.125	0.000	43.731	136.736	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	4P	969.20	969.00	40.7	0.0049	0.013	24.0	0.0	0.0
2	4P	969.50	969.20	87.0	0.0034	0.013	21.0	0.0	0.0
3	CB_A20	996.47	996.07	139.0	0.0029	0.013	18.0	0.0	0.0
4	CB_A20	1,000.00	996.47	37.0	0.0954	0.013	15.0	0.0	0.0
5	CB_E16	995.00	987.40	227.0	0.0335	0.013	15.0	0.0	0.0
6	CB_E29	995.00	994.59	36.0	0.0114	0.013	15.0	0.0	0.0
7	CB_F7	983.00	980.71	50.0	0.0458	0.013	15.0	0.0	0.0
8	CB_I14	985.00	981.70	140.0	0.0236	0.013	15.0	0.0	0.0
9	CB_J4	994.00	991.00	166.0	0.0181	0.013	15.0	0.0	0.0
10	CB_L9	982.00	975.68	163.0	0.0388	0.013	15.0	0.0	0.0
11	P1N	1,009.50	1,009.10	30.0	0.0133	0.013	15.0	0.0	0.0
12	P1N	1,006.50	1,007.00	44.0	-0.0114	0.013	15.0	0.0	0.0
13	P1S	967.00	966.84	31.4	0.0051	0.013	30.0	0.0	0.0
14	P1S	966.00	967.00	25.6	-0.0391	0.013	30.0	0.0	0.0
15	P2S	969.00	968.69	30.8	0.0101	0.013	24.0	0.0	0.0
16	P2S	966.00	967.00	36.7	-0.0272	0.013	24.0	0.0	0.0
17	P3S	967.20	967.00	55.0	0.0036	0.013	24.0	0.0	0.0
18	P3S	967.70	967.20	149.2	0.0034	0.013	24.0	0.0	0.0
19	P3S	967.90	967.70	86.0	0.0023	0.013	24.0	0.0	0.0
20	P3S	968.00	967.90	42.0	0.0024	0.013	21.0	0.0	0.0
21	P3S	968.50	968.00	184.0	0.0027	0.013	21.0	0.0	0.0
22	P3S	972.50	968.50	146.0	0.0274	0.013	21.0	0.0	0.0
23	P3S	973.00	972.50	92.0	0.0054	0.013	21.0	0.0	0.0
24	P3S	968.00	970.00	88.0	-0.0227	0.013	21.0	0.0	0.0
25	P4S	967.20	967.00	121.5	0.0016	0.013	48.0	0.0	0.0
26	P4S	967.30	967.20	27.5	0.0036	0.013	48.0	0.0	0.0
27	P4S	967.50	967.30	120.9	0.0017	0.013	48.0	0.0	0.0
28	P4S	963.00	964.00	33.0	-0.0303	0.013	48.0	0.0	0.0
29	P4S	969.00	968.00	150.3	0.0067	0.013	72.0	36.0	0.0
30	P5S	970.00	967.50	190.9	0.0131	0.013	18.0	0.0	0.0
31	P5S	972.00	970.00	70.0	0.0286	0.013	18.0	0.0	0.0
32	P5S	974.00	973.00	50.0	0.0200	0.013	18.0	0.0	0.0
33	P5S	978.00	974.00	78.0	0.0513	0.013	18.0	0.0	0.0
34	P5S	975.00	975.50	52.0	-0.0096	0.013	21.0	0.0	0.0

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1N: 1N	Runoff Area=4.840 ac 30.45% Impervious Runoff Depth=1.38" Tc=12.0 min CN=WQ Runoff=8.72 cfs 0.556 af
Subcatchment1N_100: 1N_100	Runoff Area=0.554 ac 22.74% Impervious Runoff Depth=1.23" Flow Length=300' Slope=0.0730 '/' Tc=14.8 min CN=WQ Runoff=0.81 cfs 0.057 af
Subcatchment1S: 1S	Runoff Area=13.529 ac 49.22% Impervious Runoff Depth=1.65" Tc=12.0 min CN=WQ Runoff=28.42 cfs 1.859 af
Subcatchment2S: 2S	Runoff Area=4.152 ac 49.86% Impervious Runoff Depth=1.73" Tc=12.0 min CN=WQ Runoff=9.29 cfs 0.599 af
Subcatchment3S: 3S	Runoff Area=9.641 ac 44.37% Impervious Runoff Depth=1.63" Tc=12.0 min CN=WQ Runoff=20.38 cfs 1.310 af
Subcatchment3S_100: 3S_100	Runoff Area=0.507 ac 69.43% Impervious Runoff Depth=2.08" Tc=12.0 min CN=WQ Runoff=1.36 cfs 0.088 af
Subcatchment4S: 4S	Runoff Area=9.391 ac 35.65% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=15.70 cfs 1.042 af
Subcatchment5S: 5S	Runoff Area=28.964 ac 47.03% Impervious Runoff Depth=1.61" Tc=12.0 min CN=WQ Runoff=60.07 cfs 3.876 af
Subcatchment5S_100: 5S_100	Runoff Area=0.289 ac 46.02% Impervious Runoff Depth=1.66" Tc=12.0 min CN=WQ Runoff=0.62 cfs 0.040 af
Subcatchment10S: I14_100	Runoff Area=0.378 ac 6.88% Impervious Runoff Depth=0.95" Tc=12.0 min CN=WQ Runoff=0.48 cfs 0.030 af
Subcatchment1000: 1000	Runoff Area=0.038 ac 36.84% Impervious Runoff Depth=1.49" Flow Length=115' Slope=0.0170 '/' Tc=12.3 min CN=WQ Runoff=0.07 cfs 0.005 af
SubcatchmentA10: A10	Runoff Area=0.552 ac 11.05% Impervious Runoff Depth=1.01" Tc=12.0 min CN=WQ Runoff=0.74 cfs 0.047 af
SubcatchmentA11: A11	Runoff Area=1.508 ac 12.07% Impervious Runoff Depth=1.05" Tc=12.0 min CN=WQ Runoff=2.10 cfs 0.131 af
SubcatchmentA12: A12	Runoff Area=0.782 ac 16.75% Impervious Runoff Depth=1.13" Tc=12.0 min CN=WQ Runoff=1.17 cfs 0.074 af
SubcatchmentA12_100: A12_100	Runoff Area=0.211 ac 29.86% Impervious Runoff Depth=1.37" Tc=12.0 min CN=WQ Runoff=0.38 cfs 0.024 af
SubcatchmentA20: A20	Runoff Area=0.095 ac 10.53% Impervious Runoff Depth=1.02" Tc=12.0 min CN=WQ Runoff=0.13 cfs 0.008 af

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SubcatchmentA21: A21	Runoff Area=0.671 ac 21.61% Impervious Runoff Depth=1.22" Tc=12.0 min CN=WQ Runoff=1.08 cfs 0.068 af
SubcatchmentA7: A7	Runoff Area=0.669 ac 25.11% Impervious Runoff Depth=1.28" Tc=12.0 min CN=WQ Runoff=1.13 cfs 0.071 af
SubcatchmentA7_100: A7_100	Runoff Area=0.027 ac 100.00% Impervious Runoff Depth=2.64" Tc=12.0 min CN=98 Runoff=0.09 cfs 0.006 af
SubcatchmentA8: A8	Runoff Area=0.830 ac 33.25% Impervious Runoff Depth=1.43" Tc=12.0 min CN=WQ Runoff=1.55 cfs 0.099 af
SubcatchmentA8_100: A8_100	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=2.64" Tc=12.0 min CN=WQ Runoff=0.11 cfs 0.007 af
SubcatchmentA9: A9	Runoff Area=1.110 ac 6.67% Impervious Runoff Depth=0.94" Tc=12.0 min CN=WQ Runoff=1.40 cfs 0.087 af
SubcatchmentA9_100: A9_100	Runoff Area=0.030 ac 90.00% Impervious Runoff Depth=2.46" Tc=12.0 min CN=WQ Runoff=0.09 cfs 0.006 af
SubcatchmentC10: C10	Runoff Area=1.521 ac 10.72% Impervious Runoff Depth=1.02" Tc=12.0 min CN=WQ Runoff=2.07 cfs 0.129 af
SubcatchmentC10_100: C10_100	Runoff Area=0.546 ac 59.71% Impervious Runoff Depth=1.91" Tc=12.0 min CN=WQ Runoff=1.34 cfs 0.087 af
SubcatchmentC7: C7	Runoff Area=1.440 ac 13.61% Impervious Runoff Depth=1.07" Tc=12.0 min CN=WQ Runoff=2.06 cfs 0.129 af
SubcatchmentC7_100: C7_100	Runoff Area=0.268 ac 62.31% Impervious Runoff Depth=1.96" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=0.63 cfs 0.044 af
SubcatchmentC8: C8	Runoff Area=1.457 ac 13.04% Impervious Runoff Depth=1.06" Tc=12.0 min CN=WQ Runoff=2.06 cfs 0.129 af
SubcatchmentC8_100: C8_100	Runoff Area=0.470 ac 62.77% Impervious Runoff Depth=1.96" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=1.11 cfs 0.077 af
SubcatchmentC9: C9	Runoff Area=1.762 ac 10.95% Impervious Runoff Depth=1.03" Tc=12.0 min CN=WQ Runoff=2.41 cfs 0.151 af
SubcatchmentC9_100: C9_100	Runoff Area=0.301 ac 65.12% Impervious Runoff Depth=2.01" Tc=12.0 min CN=WQ Runoff=0.78 cfs 0.050 af
SubcatchmentE13: E13	Runoff Area=0.605 ac 27.77% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=1.05 cfs 0.067 af
SubcatchmentE15: E15	Runoff Area=1.926 ac 26.90% Impervious Runoff Depth=1.31" Tc=12.0 min CN=WQ Runoff=3.32 cfs 0.211 af

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SubcatchmentE16: E16	Runoff Area=1.374 ac 25.84% Impervious Runoff Depth=1.30" Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.148 af
SubcatchmentE17: E17	Runoff Area=0.991 ac 20.48% Impervious Runoff Depth=1.20" Tc=12.0 min CN=WQ Runoff=1.57 cfs 0.099 af
SubcatchmentE18: E18	Runoff Area=1.734 ac 9.86% Impervious Runoff Depth=1.01" Tc=15.0 min CN=WQ Runoff=2.10 cfs 0.145 af
SubcatchmentE21: E21	Runoff Area=0.376 ac 3.46% Impervious Runoff Depth=0.89" Tc=12.0 min CN=WQ Runoff=0.45 cfs 0.028 af
SubcatchmentE22: E22	Runoff Area=0.511 ac 11.94% Impervious Runoff Depth=1.04" Tc=12.0 min CN=WQ Runoff=0.71 cfs 0.044 af
SubcatchmentE22_100: E22_100	Runoff Area=0.075 ac 56.00% Impervious Runoff Depth=1.84" Tc=12.0 min CN=WQ Runoff=0.18 cfs 0.012 af
SubcatchmentE23: E23	Runoff Area=1.215 ac 7.98% Impervious Runoff Depth=0.97" Tc=12.0 min CN=WQ Runoff=1.58 cfs 0.098 af
SubcatchmentE29: E29	Runoff Area=1.254 ac 16.11% Impervious Runoff Depth=1.12" Tc=12.0 min CN=WQ Runoff=1.86 cfs 0.117 af
SubcatchmentF5: F5	Runoff Area=1.224 ac 21.24% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.95 cfs 0.124 af
SubcatchmentF6: F6	Runoff Area=0.921 ac 21.06% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.47 cfs 0.093 af
SubcatchmentF7: F7	Runoff Area=0.667 ac 11.69% Impervious Runoff Depth=1.04" Tc=12.0 min CN=WQ Runoff=0.92 cfs 0.058 af
SubcatchmentF8: F8	Runoff Area=1.906 ac 16.00% Impervious Runoff Depth=1.12" Tc=15.0 min CN=WQ Runoff=2.54 cfs 0.177 af
SubcatchmentH5: H5	Runoff Area=2.168 ac 27.21% Impervious Runoff Depth=1.20" Tc=12.0 min CN=WQ Runoff=3.28 cfs 0.216 af
SubcatchmentH6: H6	Runoff Area=1.008 ac 19.54% Impervious Runoff Depth=0.86" Tc=12.0 min CN=WQ Runoff=1.00 cfs 0.072 af
SubcatchmentH7: H7	Runoff Area=1.176 ac 19.64% Impervious Runoff Depth=0.93" Tc=12.0 min CN=WQ Runoff=1.31 cfs 0.091 af
SubcatchmentI14: I14	Runoff Area=0.270 ac 27.78% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=0.47 cfs 0.030 af
SubcatchmentI7: I7	Runoff Area=0.610 ac 22.62% Impervious Runoff Depth=1.24" Tc=12.0 min CN=WQ Runoff=0.99 cfs 0.063 af

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SubcatchmentI7_100: I7_100	Runoff Area=0.205 ac 7.32% Impervious Runoff Depth=0.96" Tc=12.0 min CN=WQ Runoff=0.26 cfs 0.016 af
SubcatchmentI8: I8	Runoff Area=1.003 ac 25.12% Impervious Runoff Depth=1.28" Tc=12.0 min CN=WQ Runoff=1.69 cfs 0.107 af
SubcatchmentI8_100: I8_100	Runoff Area=0.170 ac 25.88% Impervious Runoff Depth=1.30" Tc=12.0 min CN=WQ Runoff=0.29 cfs 0.018 af
SubcatchmentI9: I9	Runoff Area=0.256 ac 27.73% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=0.45 cfs 0.028 af
SubcatchmentJ3: J3	Runoff Area=1.496 ac 20.32% Impervious Runoff Depth=1.20" Tc=12.0 min CN=WQ Runoff=2.36 cfs 0.149 af
SubcatchmentJ4: J4	Runoff Area=0.310 ac 0.00% Impervious Runoff Depth=0.83" Tc=12.0 min CN=74 Runoff=0.35 cfs 0.021 af
SubcatchmentJ5: J5	Runoff Area=0.683 ac 17.72% Impervious Runoff Depth=1.15" Tc=12.0 min CN=WQ Runoff=1.04 cfs 0.065 af
SubcatchmentL10: L10	Runoff Area=1.158 ac 17.53% Impervious Runoff Depth=1.14" Tc=12.0 min CN=WQ Runoff=1.75 cfs 0.110 af
SubcatchmentL4: L4	Runoff Area=0.167 ac 20.96% Impervious Runoff Depth=1.19" Tc=12.0 min CN=WQ Runoff=0.26 cfs 0.017 af
SubcatchmentL5: L5	Runoff Area=0.763 ac 22.02% Impervious Runoff Depth=1.23" Tc=12.0 min CN=WQ Runoff=1.23 cfs 0.078 af
SubcatchmentL6: L6	Runoff Area=1.091 ac 19.98% Impervious Runoff Depth=1.19" Tc=12.0 min CN=WQ Runoff=1.71 cfs 0.108 af
SubcatchmentL7: L7	Runoff Area=0.759 ac 21.21% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.21 cfs 0.077 af
SubcatchmentL8: L8	Runoff Area=1.441 ac 22.07% Impervious Runoff Depth=1.18" Tc=12.0 min CN=WQ Runoff=2.23 cfs 0.141 af
SubcatchmentL9: L9	Runoff Area=0.971 ac 21.11% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.54 cfs 0.098 af
SubcatchmentO10: O10	Runoff Area=0.609 ac 15.44% Impervious Runoff Depth=1.11" Tc=12.0 min CN=WQ Runoff=0.89 cfs 0.056 af
SubcatchmentO8: O8	Runoff Area=0.490 ac 12.24% Impervious Runoff Depth=1.05" Tc=12.0 min CN=WQ Runoff=0.68 cfs 0.043 af
SubcatchmentO9: O9	Runoff Area=1.143 ac 19.86% Impervious Runoff Depth=1.19" Tc=12.0 min CN=WQ Runoff=1.79 cfs 0.113 af

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SubcatchmentW6: W6	Runoff Area=9.984 ac 9.85% Impervious Runoff Depth=0.99" Flow Length=780' Tc=27.0 min CN=WQ Runoff=8.65 cfs 0.828 af
SubcatchmentW6_100: W6_100	Runoff Area=0.217 ac 0.00% Impervious Runoff Depth=0.80" Flow Length=550' Tc=42.4 min CN=WQ Runoff=0.11 cfs 0.014 af
SubcatchmentW6_101: W6_101	Runoff Area=2.158 ac 13.44% Impervious Runoff Depth=1.06" Flow Length=605' Tc=19.1 min CN=WQ Runoff=2.40 cfs 0.191 af
SubcatchmentW6_102: W6_102	Runoff Area=0.261 ac 0.00% Impervious Runoff Depth=0.83" Tc=15.5 min CN=74 Runoff=0.26 cfs 0.018 af
SubcatchmentW9: W9	Runoff Area=1.787 ac 12.14% Impervious Runoff Depth=1.04" Tc=12.0 min CN=WQ Runoff=2.48 cfs 0.155 af
SubcatchmentW9_100: W9_100	Runoff Area=2.497 ac 22.31% Impervious Runoff Depth=1.23" Flow Length=1,013' Tc=34.0 min CN=WQ Runoff=2.33 cfs 0.256 af
SubcatchmentW9_101: W9_101	Runoff Area=0.539 ac 49.17% Impervious Runoff Depth=1.72" Flow Length=300' Slope=0.0570 '/' Tc=16.4 min CN=WQ Runoff=1.04 cfs 0.077 af
Reach 1R: Bassett Creek Watershed	Inflow=17.69 cfs 13.344 af Outflow=17.69 cfs 13.344 af
Reach 5R: Elm Creek Watershed	Inflow=0.87 cfs 0.297 af Outflow=0.87 cfs 0.297 af
Reach 8R: Offsite	Inflow=0.07 cfs 0.005 af Outflow=0.07 cfs 0.005 af
Reach Wetland: Wetland 6	Inflow=17.66 cfs 13.339 af Outflow=17.66 cfs 13.339 af
Pond 4P: CB_22 pipe	Peak Elev=969.87' Inflow=0.45 cfs 0.028 af Outflow=0.45 cfs 0.028 af
Pond CB_A10: CB_A10	Peak Elev=998.10' Storage=22 cf Inflow=0.74 cfs 0.047 af Primary=0.74 cfs 0.047 af Secondary=0.00 cfs 0.000 af Outflow=0.74 cfs 0.047 af
Pond CB_A11: CB_A11	Peak Elev=996.23' Storage=117 cf Inflow=2.63 cfs 0.166 af Primary=2.60 cfs 0.166 af Secondary=0.00 cfs 0.000 af Outflow=2.60 cfs 0.166 af
Pond CB_A12: CB_A12	Peak Elev=998.12' Storage=157 cf Inflow=1.55 cfs 0.098 af Primary=0.98 cfs 0.063 af Secondary=0.54 cfs 0.035 af Outflow=1.52 cfs 0.098 af
Pond CB_A20: CB_A20	Peak Elev=1,000.51' Storage=198 cf Inflow=1.21 cfs 0.076 af Primary=1.13 cfs 0.076 af Secondary=0.00 cfs 0.000 af Outflow=1.13 cfs 0.076 af
Pond CB_A7: CB_A7	Peak Elev=998.14' Storage=42 cf Inflow=1.22 cfs 0.077 af Primary=1.21 cfs 0.077 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.077 af

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Pond CB_A8: CB_A8	Peak Elev=996.17' Storage=21 cf Inflow=1.66 cfs 0.106 af Outflow=1.66 cfs 0.106 af
Pond CB_A9: CB_A9	Peak Elev=998.16' Storage=22 cf Inflow=1.49 cfs 0.093 af Primary=1.49 cfs 0.093 af Secondary=0.00 cfs 0.000 af Outflow=1.49 cfs 0.093 af
Pond CB_C10: CB_C10	Peak Elev=994.28' Storage=157 cf Inflow=3.41 cfs 0.216 af Primary=3.37 cfs 0.216 af Secondary=0.00 cfs 0.000 af Outflow=3.37 cfs 0.216 af
Pond CB_C7: CB_C7	Peak Elev=992.74' Storage=94 cf Inflow=2.69 cfs 0.173 af Primary=2.67 cfs 0.173 af Secondary=0.00 cfs 0.000 af Outflow=2.67 cfs 0.173 af
Pond CB_C8: CB_C8	Peak Elev=991.27' Storage=40 cf Inflow=3.17 cfs 0.206 af Outflow=3.17 cfs 0.206 af
Pond CB_C9: CB_C9	Peak Elev=992.27' Storage=90 cf Inflow=3.18 cfs 0.201 af Primary=3.17 cfs 0.201 af Secondary=0.00 cfs 0.000 af Outflow=3.17 cfs 0.201 af
Pond CB_E13: CB_E13	Peak Elev=1,009.63' Storage=11 cf Inflow=1.05 cfs 0.067 af Primary=1.05 cfs 0.067 af Secondary=0.00 cfs 0.000 af Outflow=1.05 cfs 0.067 af
Pond CB_E15: CB_E15	Peak Elev=992.27' Storage=56 cf Inflow=3.32 cfs 0.211 af Outflow=3.31 cfs 0.211 af
Pond CB_E16: CB_E16	Peak Elev=996.47' Storage=532 cf Inflow=5.91 cfs 0.393 af Primary=5.44 cfs 0.393 af Secondary=0.00 cfs 0.000 af Outflow=5.44 cfs 0.393 af
Pond CB_E21: CB_E21	Peak Elev=1,000.07' Storage=13 cf Inflow=0.45 cfs 0.028 af Primary=0.45 cfs 0.028 af Secondary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.028 af
Pond CB_E22: CB_E22	Peak Elev=1,002.11' Storage=26 cf Inflow=0.89 cfs 0.056 af Primary=0.88 cfs 0.056 af Secondary=0.00 cfs 0.000 af Outflow=0.88 cfs 0.056 af
Pond CB_E23: CB_E23	Peak Elev=1,002.17' Storage=62 cf Inflow=1.58 cfs 0.098 af Primary=1.57 cfs 0.098 af Secondary=0.00 cfs 0.000 af Outflow=1.57 cfs 0.098 af
Pond CB_E29: CB_E29	Peak Elev=995.67' Storage=244 cf Inflow=1.86 cfs 0.117 af Outflow=1.75 cfs 0.117 af
Pond CB_F5: CB_F5	Peak Elev=983.19' Storage=53 cf Inflow=1.95 cfs 0.124 af Outflow=1.94 cfs 0.124 af
Pond CB_F6: CB_F6	Peak Elev=985.16' Storage=30 cf Inflow=1.47 cfs 0.093 af Primary=1.46 cfs 0.093 af Secondary=0.00 cfs 0.000 af Outflow=1.46 cfs 0.093 af
Pond CB_F7: CB_F7	Peak Elev=983.89' Storage=758 cf Inflow=3.44 cfs 0.235 af Primary=3.01 cfs 0.235 af Secondary=0.00 cfs 0.000 af Outflow=3.01 cfs 0.235 af
Pond CB_H5: CB_H5	Peak Elev=972.27' Storage=99 cf Inflow=3.28 cfs 0.216 af Outflow=3.26 cfs 0.216 af

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Pond CB_H6: CB_H6	Peak Elev=973.12' Storage=44 cf Inflow=1.00 cfs 0.072 af Primary=0.99 cfs 0.072 af Secondary=0.00 cfs 0.000 af Outflow=0.99 cfs 0.072 af
Pond CB_H7: CB_H7	Peak Elev=974.14' Storage=347 cf Inflow=1.31 cfs 0.091 af Primary=1.18 cfs 0.091 af Secondary=0.00 cfs 0.000 af Outflow=1.18 cfs 0.091 af
Pond CB_I14: CB_I14	Peak Elev=985.45' Storage=101 cf Inflow=0.95 cfs 0.060 af Primary=0.92 cfs 0.060 af Secondary=0.00 cfs 0.000 af Outflow=0.92 cfs 0.060 af
Pond CB_I7: CB_I7	Peak Elev=986.14' Storage=49 cf Inflow=1.26 cfs 0.079 af Primary=1.25 cfs 0.079 af Secondary=0.00 cfs 0.000 af Outflow=1.25 cfs 0.079 af
Pond CB_I8: CB_I8	Peak Elev=987.19' Storage=24 cf Inflow=1.98 cfs 0.126 af Primary=1.98 cfs 0.126 af Secondary=0.00 cfs 0.000 af Outflow=1.98 cfs 0.126 af
Pond CB_I9: CB_I9	Peak Elev=978.07' Storage=5 cf Inflow=0.45 cfs 0.028 af Primary=0.45 cfs 0.028 af Secondary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.028 af
Pond CB_J3: CB_J3	Peak Elev=991.22' Storage=41 cf Inflow=2.36 cfs 0.149 af Primary=2.35 cfs 0.149 af Secondary=0.00 cfs 0.000 af Outflow=2.35 cfs 0.149 af
Pond CB_J4: CB_J4	Peak Elev=994.54' Storage=227 cf Inflow=1.39 cfs 0.087 af Primary=1.27 cfs 0.087 af Secondary=0.00 cfs 0.000 af Outflow=1.27 cfs 0.087 af
Pond CB_L4: CB_L4	Peak Elev=978.05' Storage=4 cf Inflow=0.26 cfs 0.017 af Primary=0.26 cfs 0.017 af Secondary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.017 af
Pond CB_L5: CB_L5	Peak Elev=977.67' Storage=25 cf Inflow=1.61 cfs 0.116 af Primary=1.61 cfs 0.116 af Secondary=0.00 cfs 0.000 af Outflow=1.61 cfs 0.116 af
Pond CB_L6: CB_L6	Peak Elev=978.11' Storage=740 cf Inflow=1.71 cfs 0.108 af Primary=0.84 cfs 0.070 af Secondary=0.46 cfs 0.038 af Outflow=1.30 cfs 0.108 af
Pond CB_L7: CB_L7	Peak Elev=979.14' Storage=20 cf Inflow=1.21 cfs 0.077 af Primary=1.21 cfs 0.077 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.077 af
Pond CB_L8: CB_L8	Peak Elev=980.21' Storage=132 cf Inflow=2.23 cfs 0.141 af Primary=2.18 cfs 0.141 af Secondary=0.00 cfs 0.000 af Outflow=2.18 cfs 0.141 af
Pond CB_L9: CB_L9	Peak Elev=982.83' Storage=856 cf Inflow=3.30 cfs 0.208 af Primary=2.70 cfs 0.208 af Secondary=0.00 cfs 0.000 af Outflow=2.70 cfs 0.208 af
Pond CB_O10: CB_O10	Peak Elev=978.11' Storage=23 cf Inflow=0.89 cfs 0.056 af Primary=0.89 cfs 0.056 af Secondary=0.00 cfs 0.000 af Outflow=0.89 cfs 0.056 af
Pond CB_O8: CB_O8	Peak Elev=975.60' Storage=8 cf Inflow=0.68 cfs 0.043 af Primary=0.68 cfs 0.043 af Secondary=0.00 cfs 0.000 af Outflow=0.68 cfs 0.043 af
Pond CB_O9: CB_O9	Peak Elev=978.18' Storage=33 cf Inflow=1.79 cfs 0.113 af Primary=1.79 cfs 0.113 af Secondary=0.00 cfs 0.000 af Outflow=1.79 cfs 0.113 af

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Pond P1N: Pond 1N

Peak Elev=1,010.04' Storage=4.895 af Inflow=9.50 cfs 0.613 af
Primary=0.31 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=0.31 cfs 0.109 af

Pond P1S: Pond 1S

Peak Elev=968.49' Storage=8.735 af Inflow=41.58 cfs 11.798 af
Primary=10.06 cfs 11.407 af Secondary=0.00 cfs 0.000 af Outflow=10.06 cfs 11.407 af

Pond P2S: Pond 2S

Peak Elev=969.84' Storage=96,314 cf Inflow=13.82 cfs 0.892 af
Primary=3.65 cfs 0.882 af Secondary=0.00 cfs 0.000 af Outflow=3.65 cfs 0.882 af

Pond P3S: Pond 3S

Peak Elev=974.04' Storage=176,372 cf Inflow=25.22 cfs 1.634 af
Primary=4.44 cfs 1.600 af Secondary=0.00 cfs 0.000 af Outflow=4.44 cfs 1.600 af

Pond P4S: Pond 4S

Peak Elev=969.10' Storage=122,196 cf Inflow=35.01 cfs 8.071 af
Primary=13.32 cfs 7.961 af Secondary=0.00 cfs 0.000 af Outflow=13.32 cfs 7.961 af

Pond P5S: Pond 5S

Peak Elev=978.97' Storage=1,343,252 cf Inflow=96.48 cfs 6.309 af
Primary=5.08 cfs 5.737 af Secondary=0.00 cfs 0.000 af Outflow=5.08 cfs 5.737 af

Pond Wetland 9: Wetland 9

Peak Elev=1,010.07' Storage=0.477 af Inflow=4.89 cfs 0.598 af
Outflow=0.87 cfs 0.297 af

Total Runoff Area = 136.736 ac Runoff Volume = 15.564 af Average Runoff Depth = 1.37"
68.02% Pervious = 93.005 ac 31.98% Impervious = 43.731 ac

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 1N: 1N

Runoff = 8.72 cfs @ 12.20 hrs, Volume= 0.556 af, Depth= 1.38"

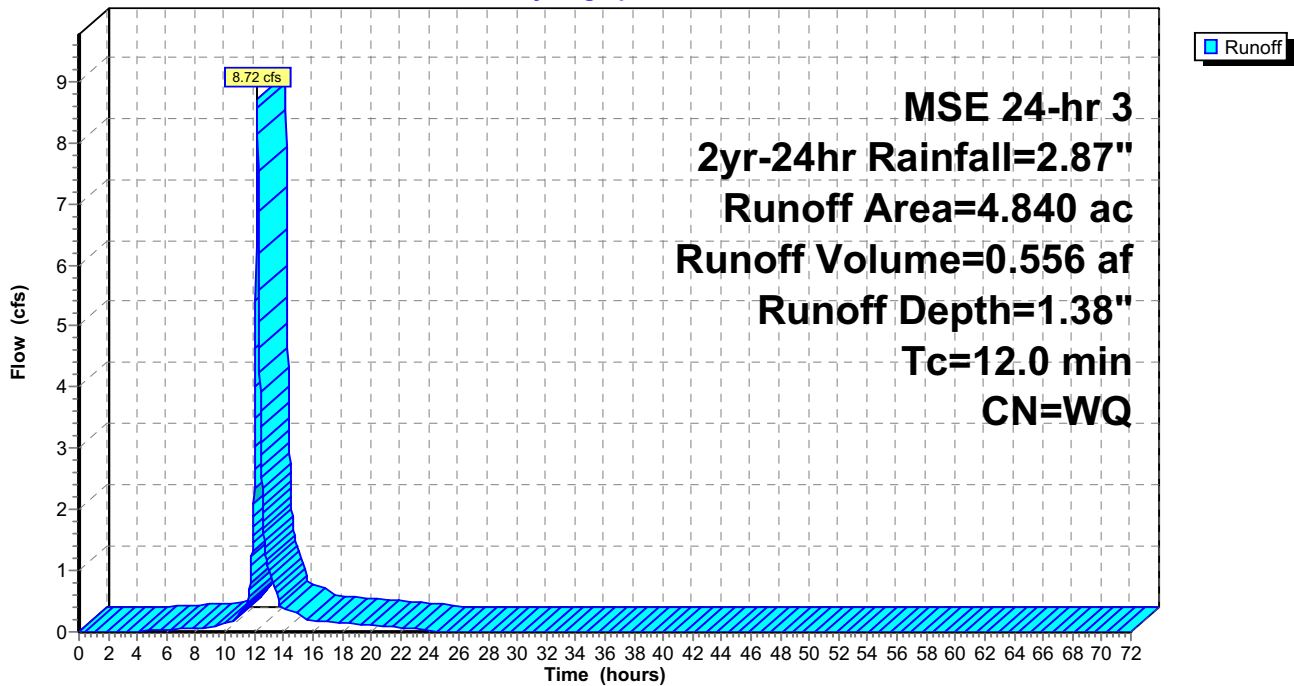
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.646	98	Impervious
3.366	74	>75% Grass cover, Good, HSG C
* 0.828	98	Pond
4.840		Weighted Average
3.366		69.55% Pervious Area
1.474		30.45% Impervious Area

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

Subcatchment 1N: 1N

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 1N_100: 1N_100

Runoff = 0.81 cfs @ 12.24 hrs, Volume= 0.057 af, Depth= 1.23"

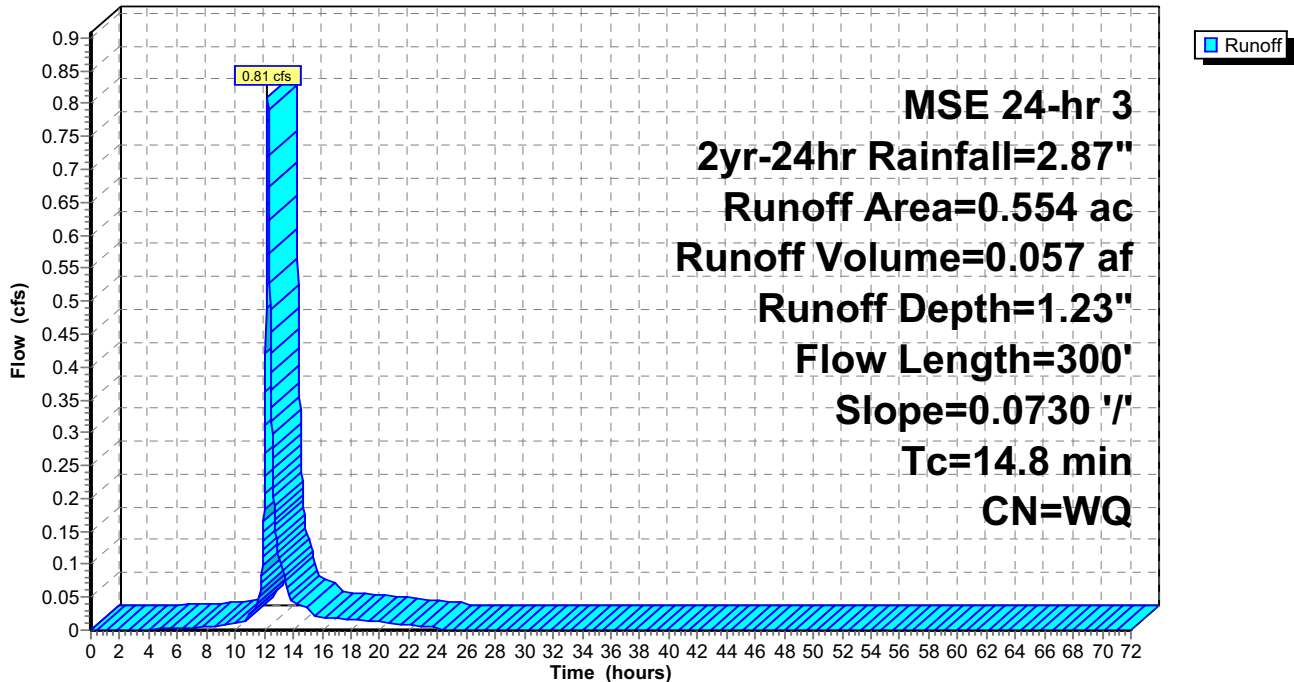
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.318	74	>75% Grass cover, Good, HSG C
* 0.126	98	Impervious
0.110	73	Woods, Fair, HSG C
0.554		Weighted Average
0.428		77.26% Pervious Area
0.126		22.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	300	0.0730	0.34		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1N_100: 1N_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 1S: 1S

Runoff = 28.42 cfs @ 12.20 hrs, Volume= 1.859 af, Depth= 1.65"

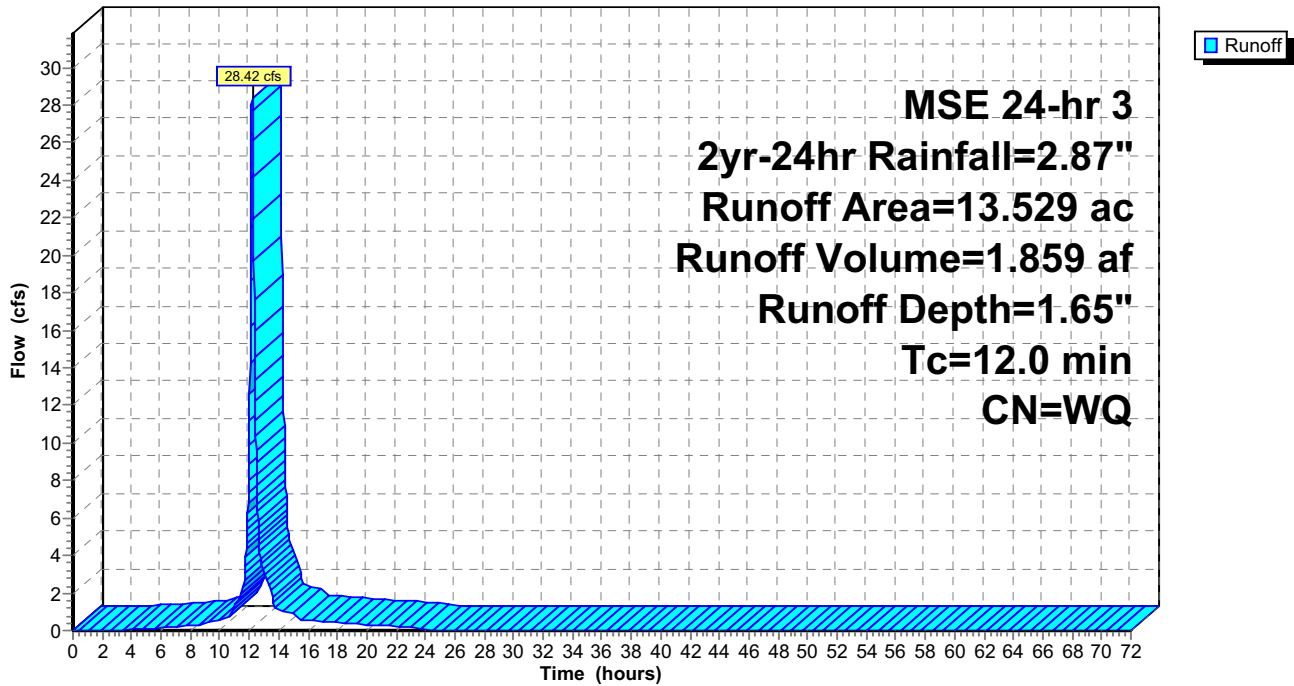
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 4.837	98	Impervious
1.856	61	>75% Grass cover, Good, HSG B
3.595	74	>75% Grass cover, Good, HSG C
1.419	74	>75% Grass cover, Good, HSG C
* 1.822	98	Pond
13.529		Weighted Average
6.870		50.78% Pervious Area
6.659		49.22% Impervious Area

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

Subcatchment 1S: 1S

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 2S: 2S

Runoff = 9.29 cfs @ 12.20 hrs, Volume= 0.599 af, Depth= 1.73"

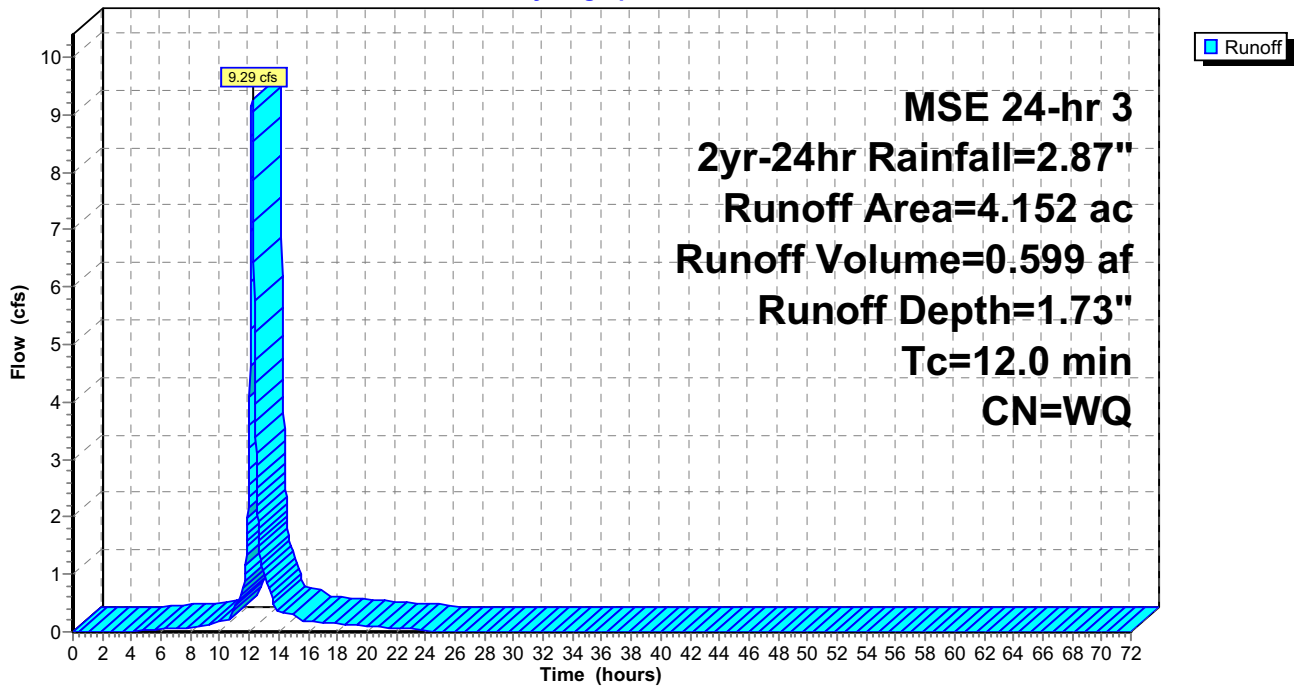
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

	Area (ac)	CN	Description
*	1.594	98	Impervious
	2.082	74	>75% Grass cover, Good, HSG C
*	0.476	98	Pond
<hr/>			
	4.152		Weighted Average
	2.082		50.14% Pervious Area
	2.070		49.86% Impervious Area

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

Subcatchment 2S: 2S

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 3S: 3S

Runoff = 20.38 cfs @ 12.20 hrs, Volume= 1.310 af, Depth= 1.63"

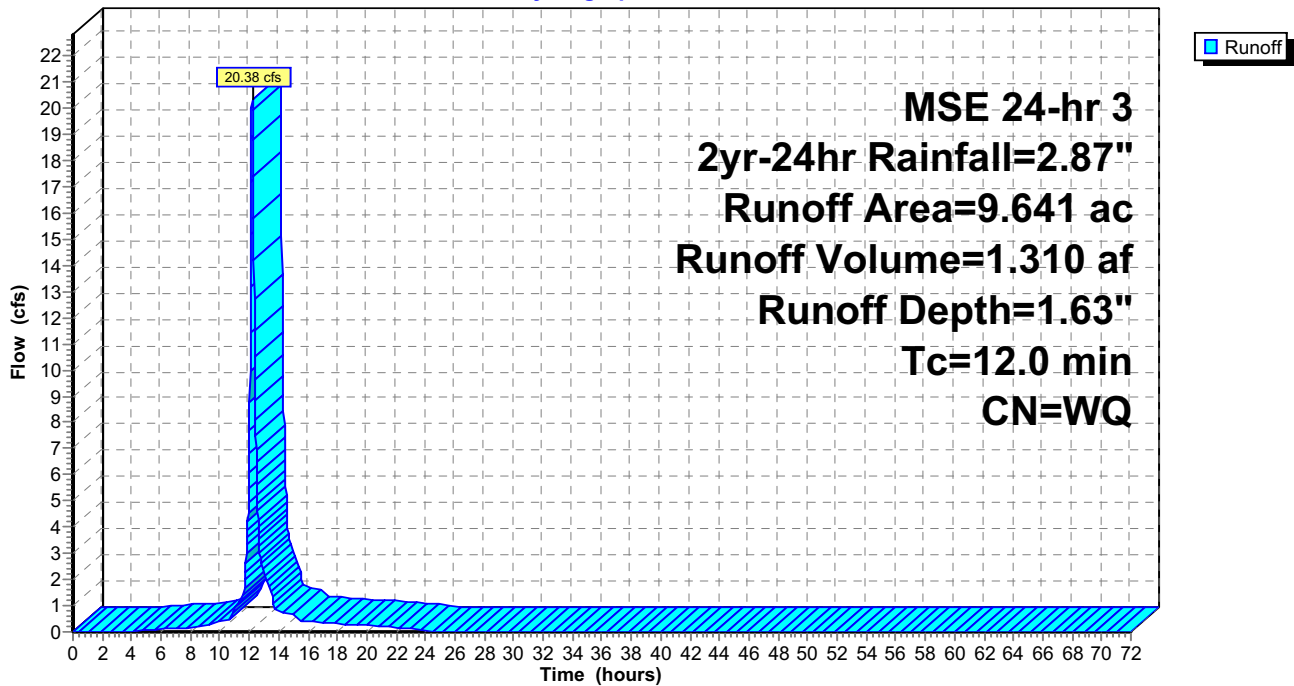
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 3.484	98	Impervious
5.363	74	>75% Grass cover, Good, HSG C
* 0.794	98	Pond
9.641		Weighted Average
5.363		55.63% Pervious Area
4.278		44.37% Impervious Area

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

Subcatchment 3S: 3S

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 3S_100: 3S_100

Runoff = 1.36 cfs @ 12.20 hrs, Volume= 0.088 af, Depth= 2.08"

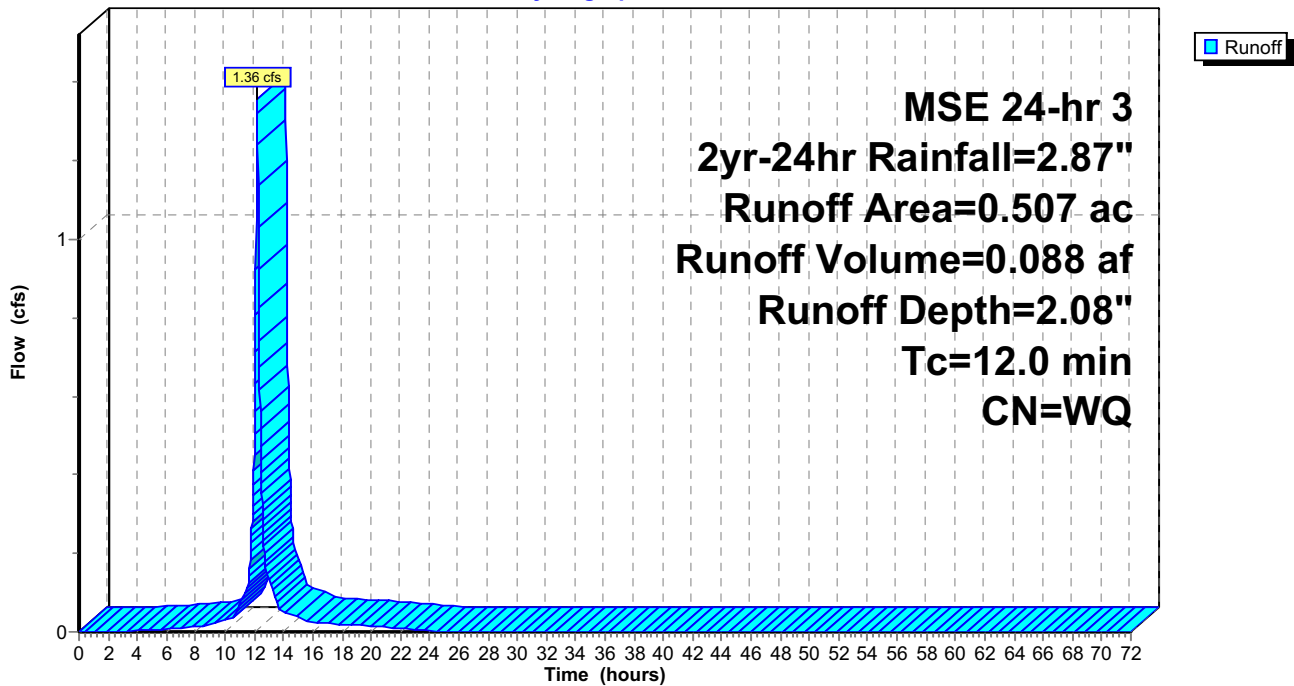
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.352	98	Impervious
0.031	74	>75% Grass cover, Good, HSG C
0.124	74	>75% Grass cover, Good, HSG C
0.507		Weighted Average
0.155		30.57% Pervious Area
0.352		69.43% Impervious Area

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

Subcatchment 3S_100: 3S_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 4S: 4S

Runoff = 15.70 cfs @ 12.20 hrs, Volume= 1.042 af, Depth= 1.33"

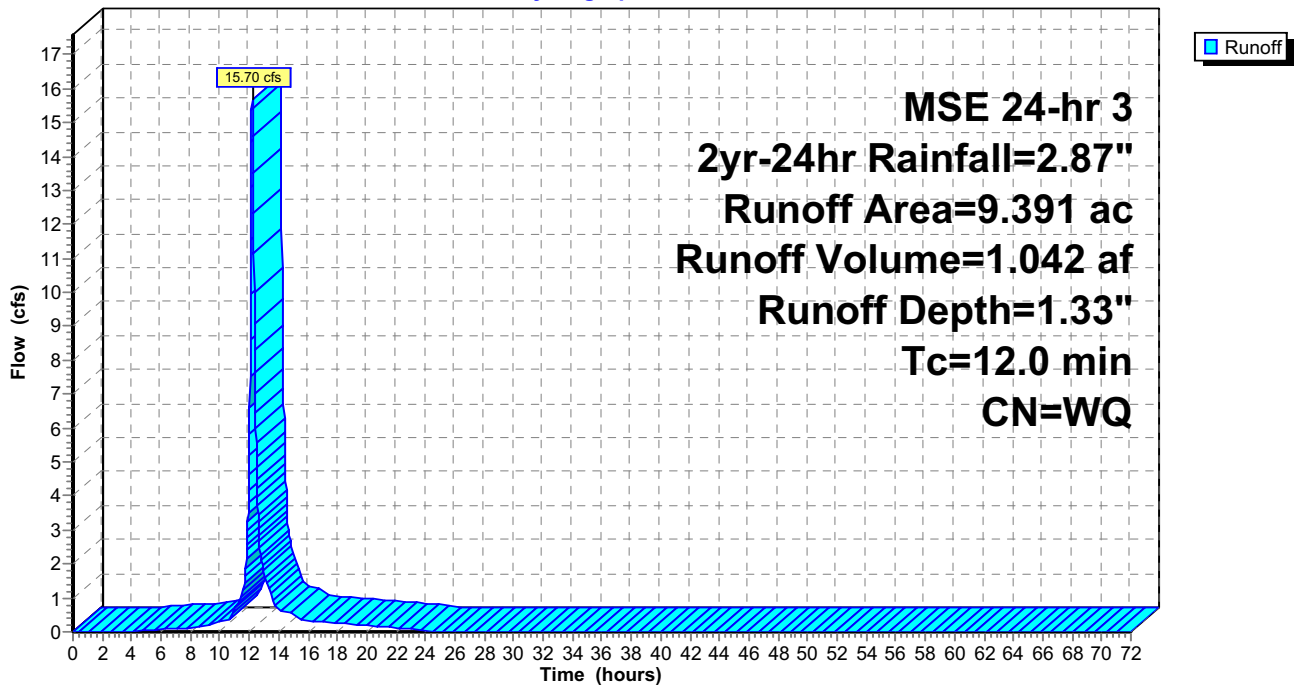
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 2.416	98	Impervious
2.605	61	>75% Grass cover, Good, HSG B
2.644	74	>75% Grass cover, Good, HSG C
0.606	74	>75% Grass cover, Good, HSG C
* 0.680	98	Pond
* 0.052	98	Impervious
* 0.200	98	Impervious
0.188	74	>75% Grass cover, Good, HSG C
9.391		Weighted Average
6.043		64.35% Pervious Area
3.348		35.65% Impervious Area

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

Subcatchment 4S: 4S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 5S: 5S

Runoff = 60.07 cfs @ 12.20 hrs, Volume= 3.876 af, Depth= 1.61"

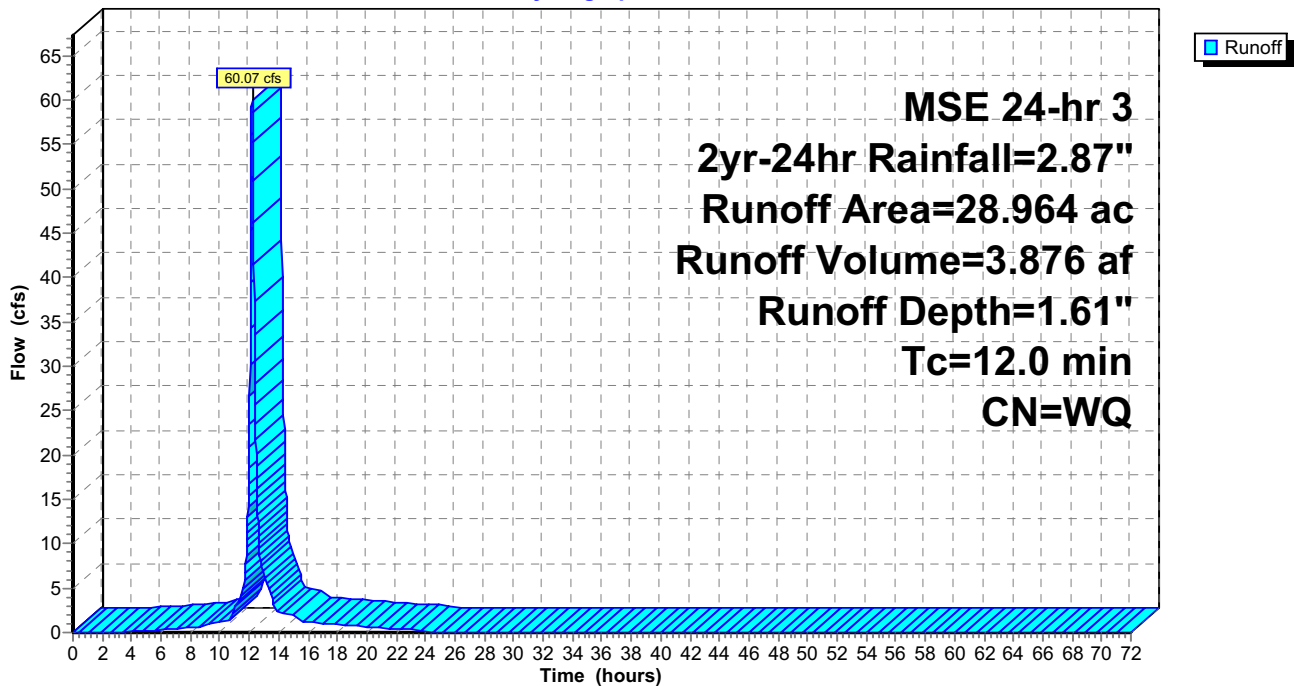
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 9.366	98	Impervious
2.568	39	>75% Grass cover, Good, HSG A
7.861	74	>75% Grass cover, Good, HSG C
4.450	74	>75% Grass cover, Good, HSG C
* 4.073	98	Pond
0.295	74	>75% Grass cover, Good, HSG C
* 0.080	98	Impervious
0.169	74	>75% Grass cover, Good, HSG C
* 0.102	98	Impervious
28.964		Weighted Average
15.343		52.97% Pervious Area
13.621		47.03% Impervious Area

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

Subcatchment 5S: 5S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 5S_100: 5S_100

Runoff = 0.62 cfs @ 12.20 hrs, Volume= 0.040 af, Depth= 1.66"

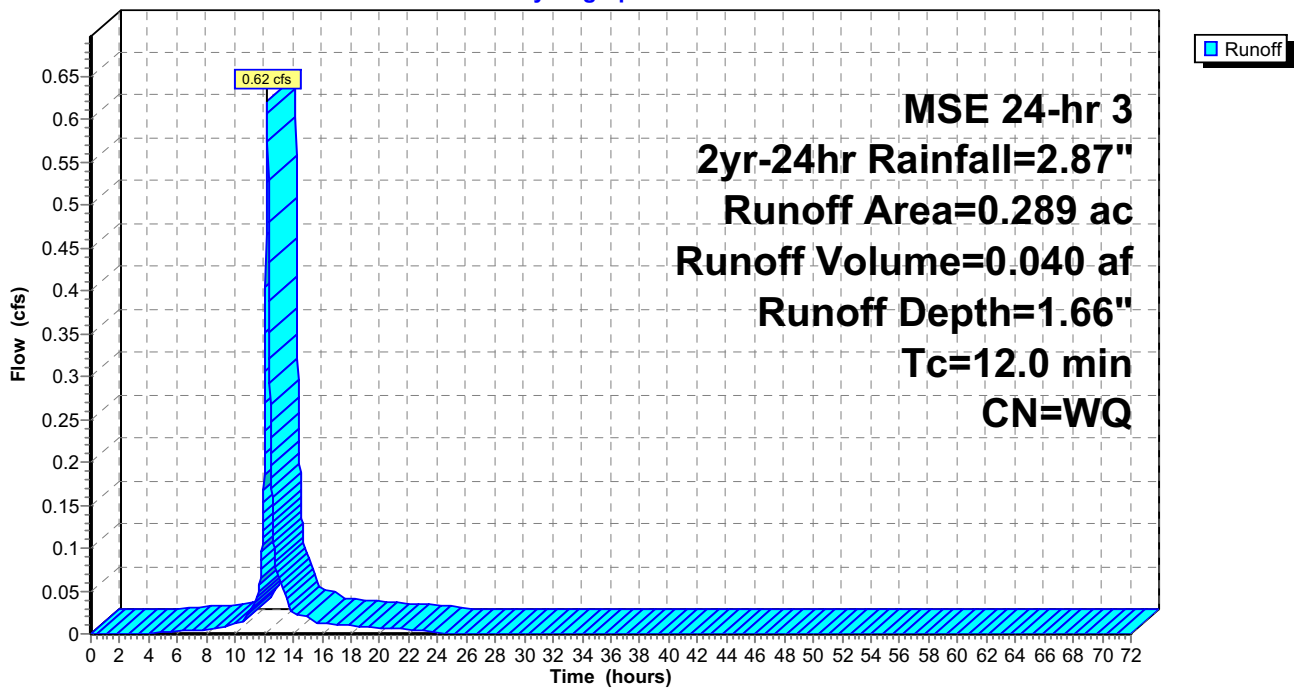
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

	Area (ac)	CN	Description
*	0.078	98	Impervious
	0.156	74	>75% Grass cover, Good, HSG C
*	0.055	98	Impervious
	0.289		Weighted Average
	0.156		53.98% Pervious Area
	0.133		46.02% Impervious Area

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

Subcatchment 5S_100: 5S_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 10S: I14_100

Runoff = 0.48 cfs @ 12.21 hrs, Volume= 0.030 af, Depth= 0.95"

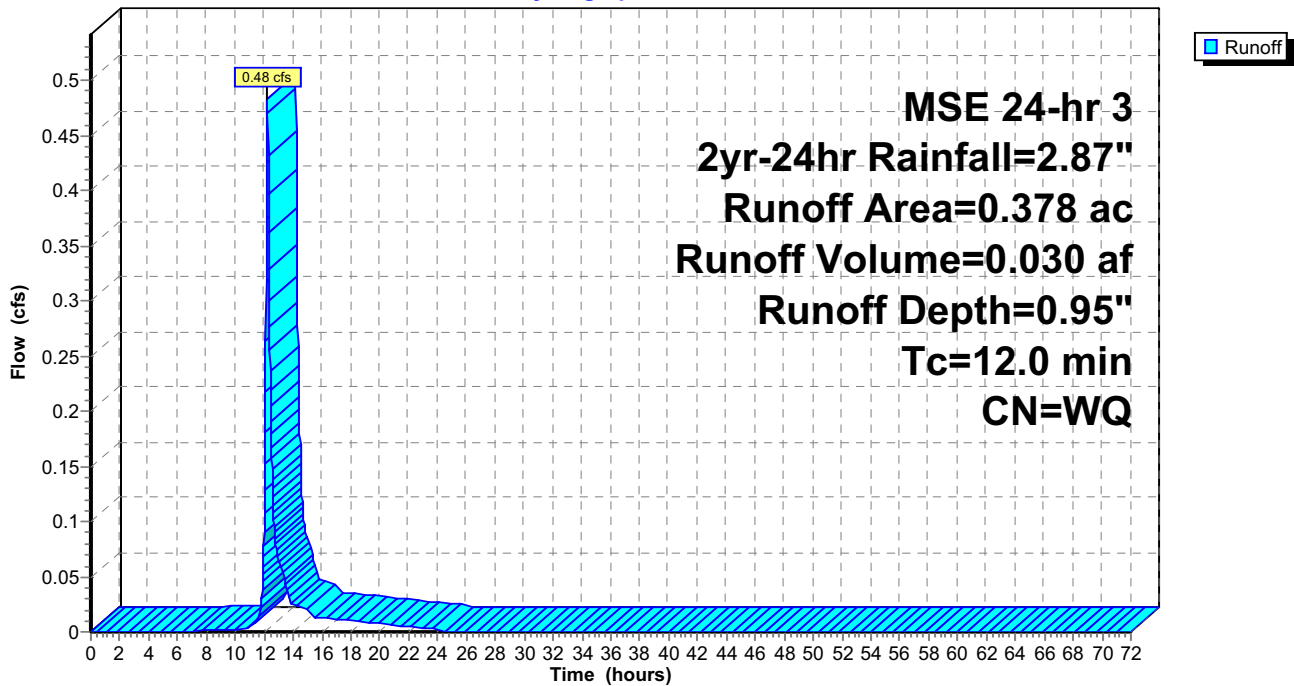
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
* 0.026	98	impervious
0.091	74	>75% Grass cover, Good, HSG C
0.378		Weighted Average
0.352		93.12% Pervious Area
0.026		6.88% Impervious Area

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

Subcatchment 10S: I14_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 1000: 1000

Runoff = 0.07 cfs @ 12.20 hrs, Volume= 0.005 af, Depth= 1.49"

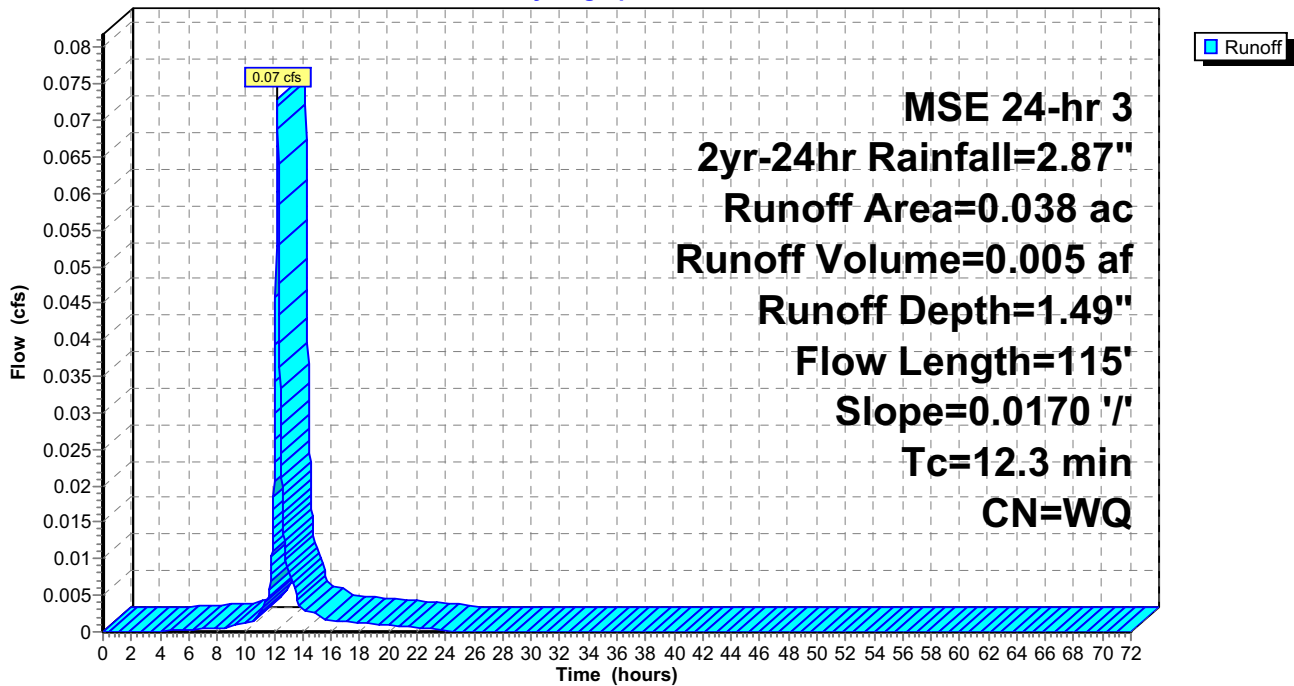
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.014	98	Impervious
0.024	74	>75% Grass cover, Good, HSG C
0.038		Weighted Average
0.024		63.16% Pervious Area
0.014		36.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	115	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1000: 1000

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A10: A10

Runoff = 0.74 cfs @ 12.21 hrs, Volume= 0.047 af, Depth= 1.01"

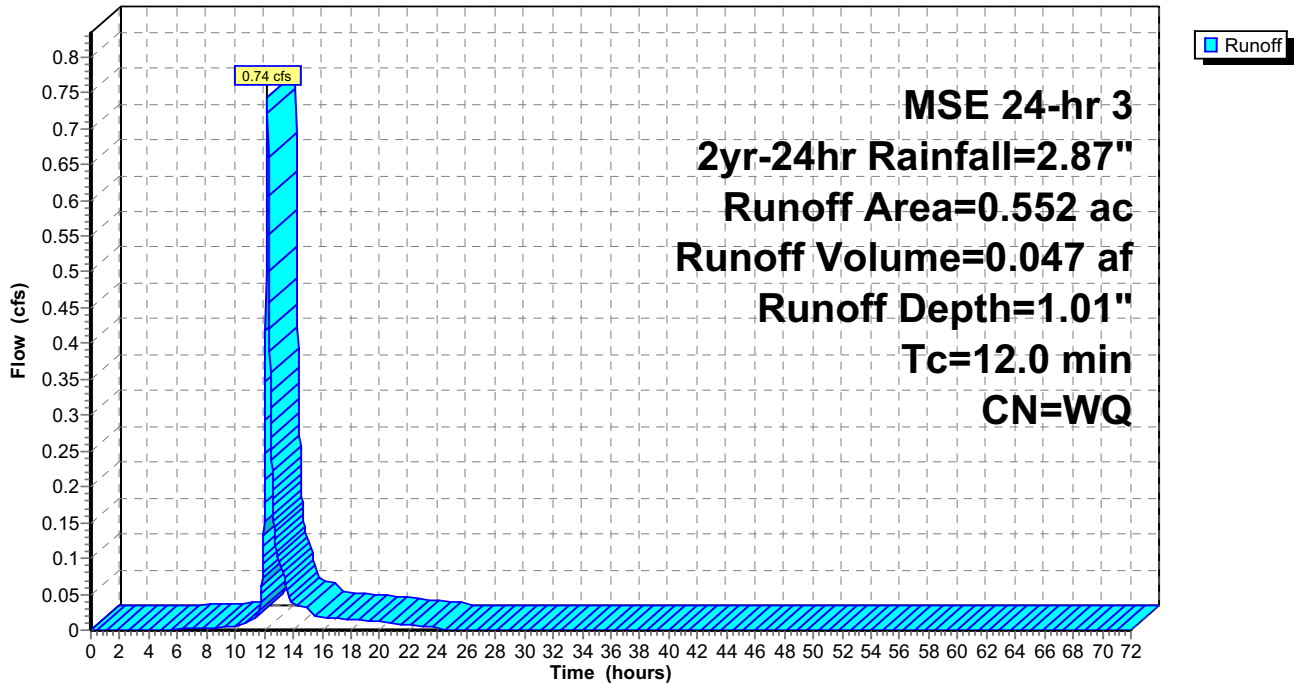
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.040	98	Impervious
0.337	74	>75% Grass cover, Good, HSG C
0.154	73	Woods, Fair, HSG C
* 0.021	98	Impervious
0.552		Weighted Average
0.491		88.95% Pervious Area
0.061		11.05% Impervious Area

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

Subcatchment A10: A10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A11: A11

Runoff = 2.10 cfs @ 12.21 hrs, Volume= 0.131 af, Depth= 1.05"

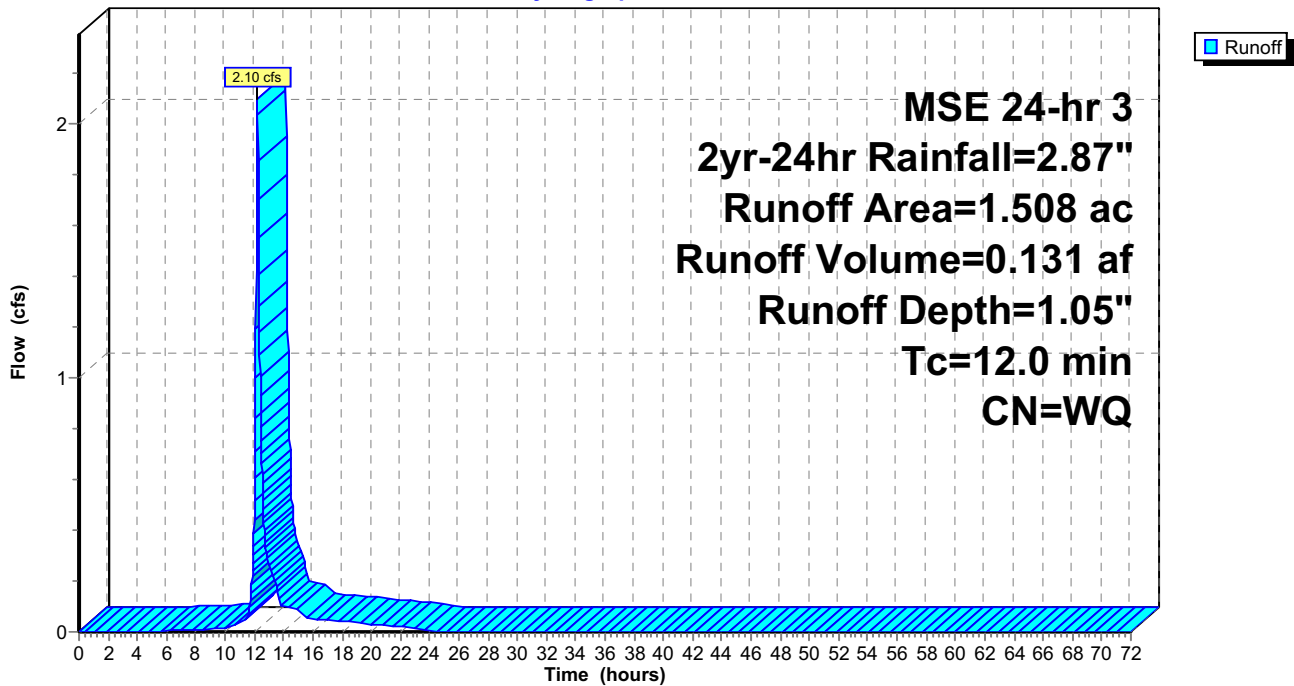
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.140	98	Impervious
1.326	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
1.508		Weighted Average
1.326		87.93% Pervious Area
0.182		12.07% Impervious Area

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

Subcatchment A11: A11

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A12: A12

Runoff = 1.17 cfs @ 12.20 hrs, Volume= 0.074 af, Depth= 1.13"

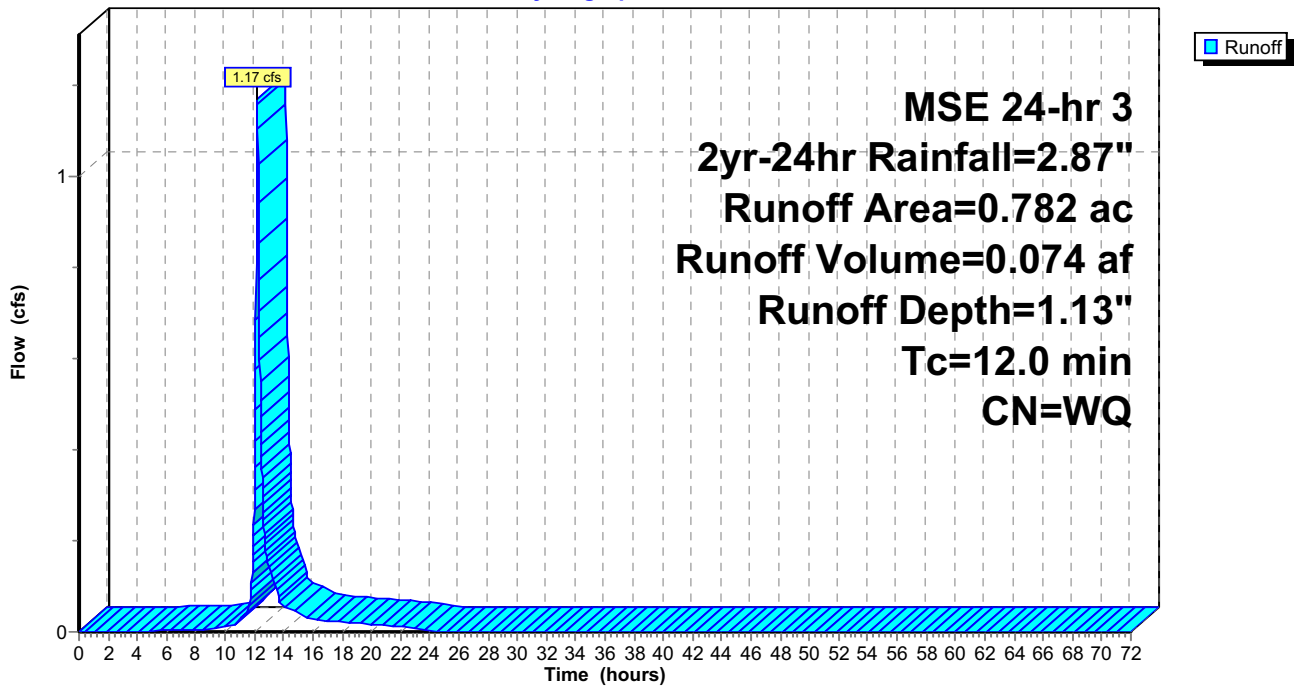
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.651	74	>75% Grass cover, Good, HSG C
* 0.080	98	Pond
* 0.051	98	Impervious
0.782		Weighted Average
0.651		83.25% Pervious Area
0.131		16.75% Impervious Area

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

Subcatchment A12: A12

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A12_100: A12_100

Runoff = 0.38 cfs @ 12.20 hrs, Volume= 0.024 af, Depth= 1.37"

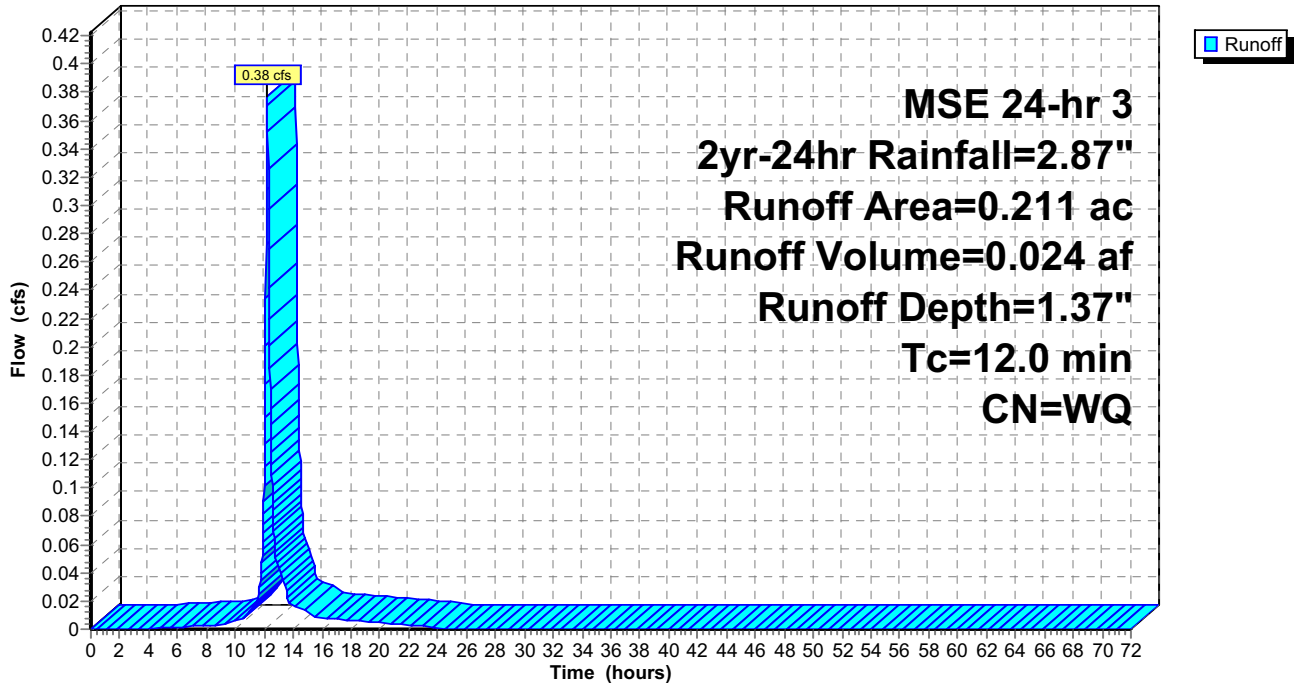
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.148	74	>75% Grass cover, Good, HSG C
* 0.063	98	Impervious
0.211		Weighted Average
0.148		70.14% Pervious Area
0.063		29.86% Impervious Area

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

Subcatchment A12_100: A12_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A20: A20

Runoff = 0.13 cfs @ 12.21 hrs, Volume= 0.008 af, Depth= 1.02"

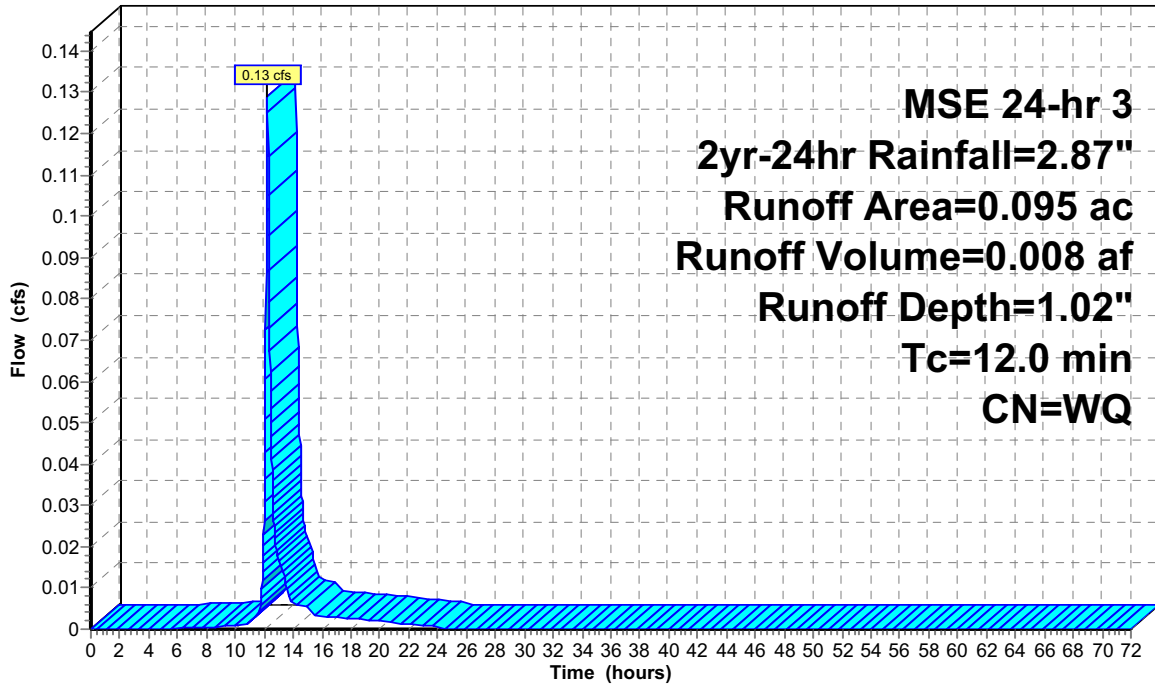
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.010	98	Impervious
0.085	74	>75% Grass cover, Good, HSG C
0.095		Weighted Average
0.085		89.47% Pervious Area
0.010		10.53% Impervious Area

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

Subcatchment A20: A20

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A21: A21

Runoff = 1.08 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 1.22"

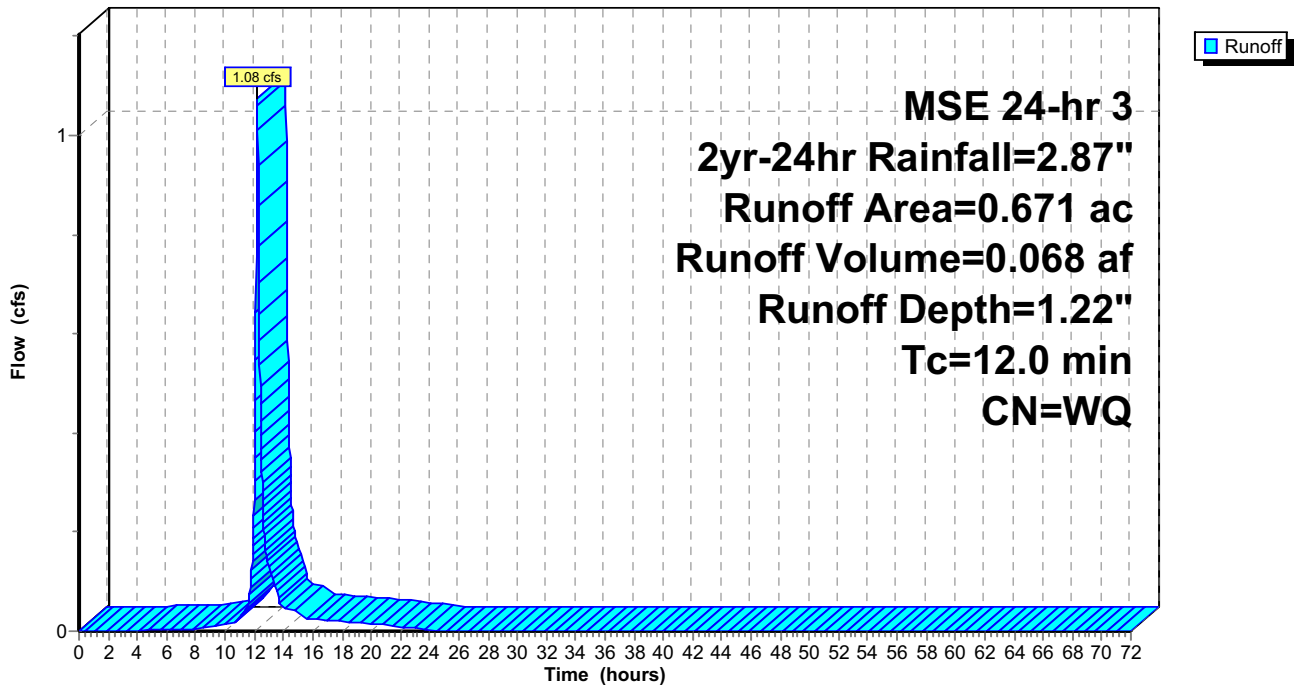
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.145	98	Impervious
0.526	74	>75% Grass cover, Good, HSG C
0.671		Weighted Average
0.526		78.39% Pervious Area
0.145		21.61% Impervious Area

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

Subcatchment A21: A21

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A7: A7

Runoff = 1.13 cfs @ 12.20 hrs, Volume= 0.071 af, Depth= 1.28"

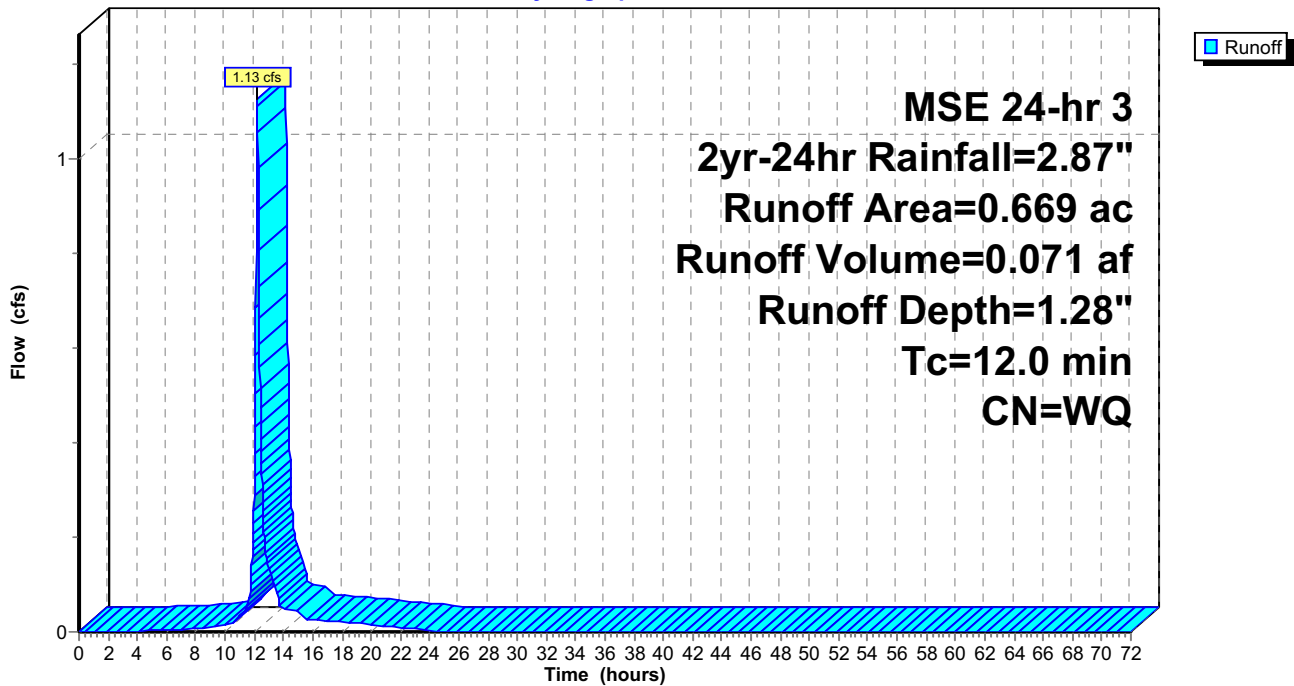
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.119	98	Impervious
0.501	74	>75% Grass cover, Good, HSG C
* 0.049	98	Impervious
0.669		Weighted Average
0.501		74.89% Pervious Area
0.168		25.11% Impervious Area

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

Subcatchment A7: A7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A7_100: A7_100

Runoff = 0.09 cfs @ 12.19 hrs, Volume= 0.006 af, Depth= 2.64"

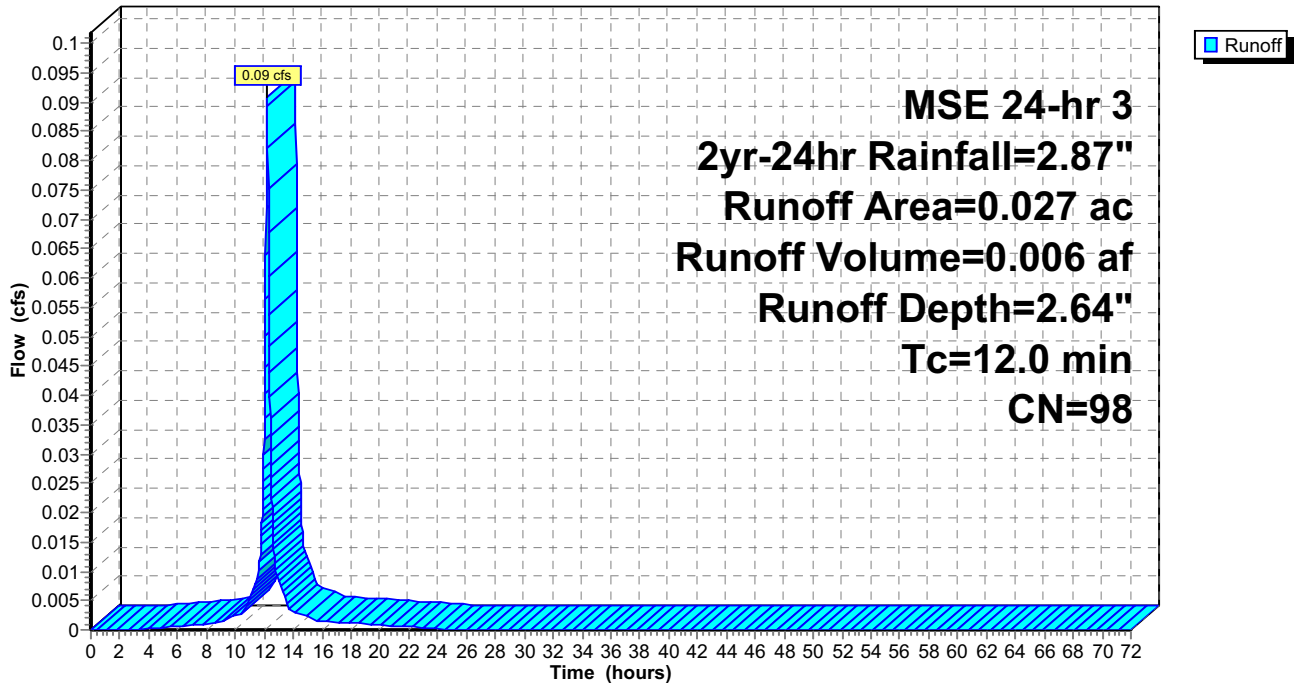
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.027	98	Impervious
0.027		100.00% Impervious Area

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

Subcatchment A7_100: A7_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A8: A8

Runoff = 1.55 cfs @ 12.20 hrs, Volume= 0.099 af, Depth= 1.43"

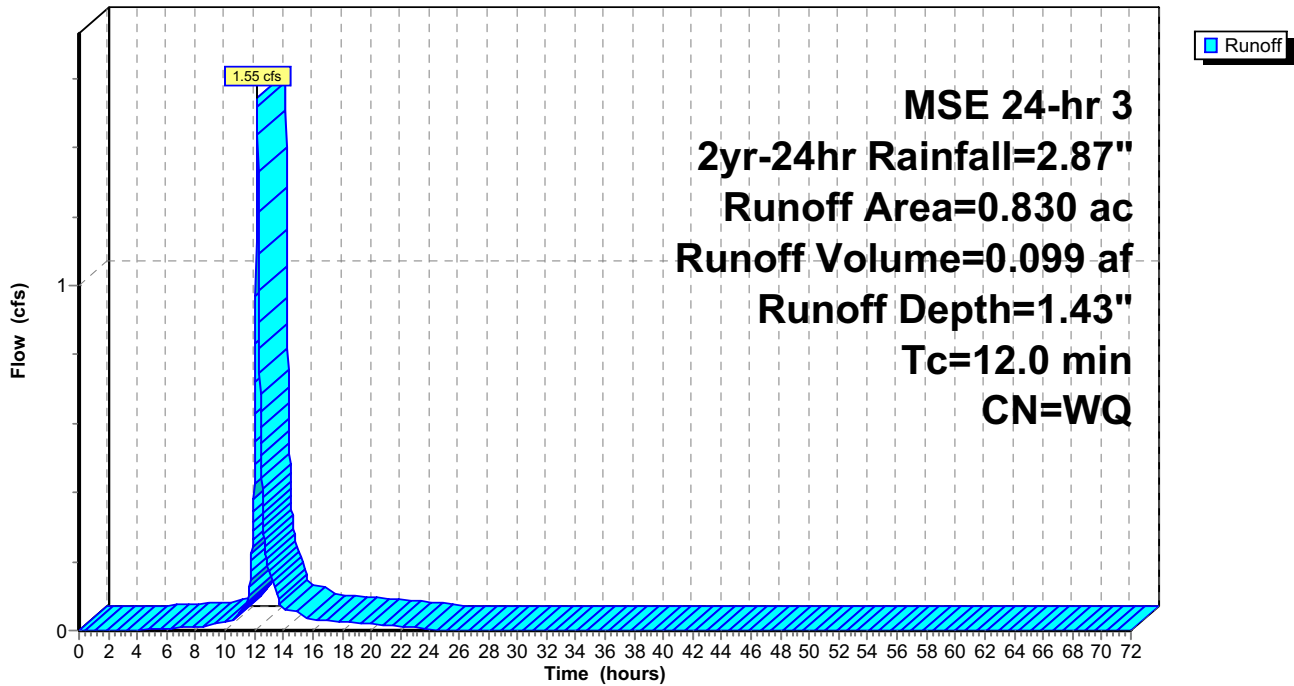
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.109	98	Impervious
0.531	74	>75% Grass cover, Good, HSG C
* 0.057	98	Impervious
* 0.110	98	Impervious
0.023	74	>75% Grass cover, Good, HSG C
0.830		Weighted Average
0.554		66.75% Pervious Area
0.276		33.25% Impervious Area

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

Subcatchment A8: A8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A8_100: A8_100

Runoff = 0.11 cfs @ 12.19 hrs, Volume= 0.007 af, Depth= 2.64"

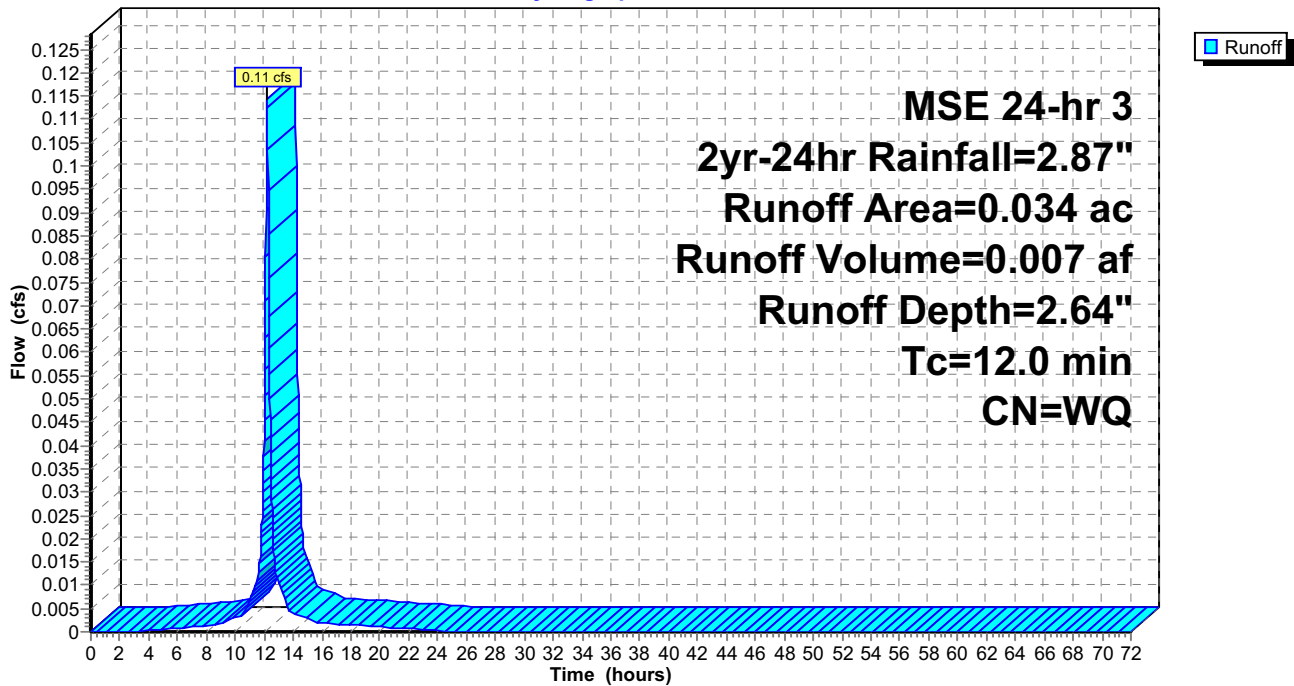
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.024	98	Impervious
* 0.010	98	Impervious
0.034		Weighted Average
0.034		100.00% Impervious Area

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

Subcatchment A8_100: A8_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A9: A9

Runoff = 1.40 cfs @ 12.21 hrs, Volume= 0.087 af, Depth= 0.94"

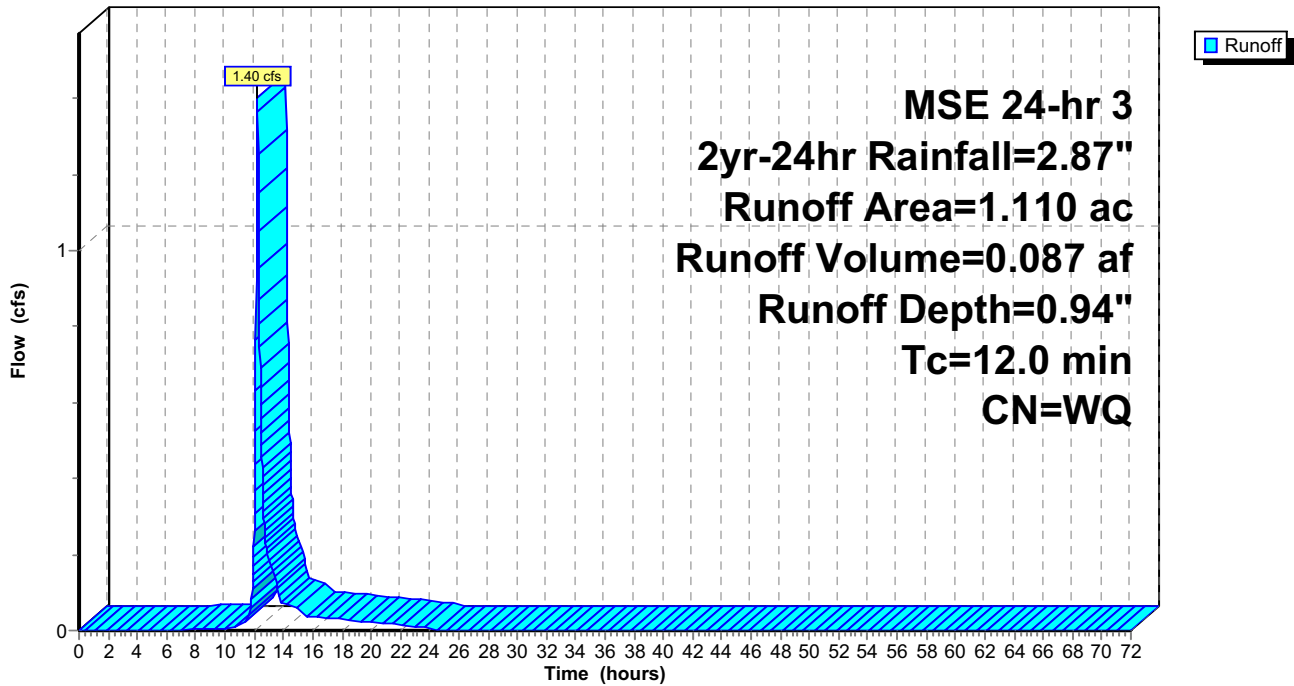
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.127	74	>75% Grass cover, Good, HSG C
0.647	74	>75% Grass cover, Good, HSG C
* 0.074	98	Impervious
0.165	73	Woods, Fair, HSG C
0.097	74	>75% Grass cover, Good, HSG C
1.110		Weighted Average
1.036		93.33% Pervious Area
0.074		6.67% Impervious Area

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

Subcatchment A9: A9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A9_100: A9_100

Runoff = 0.09 cfs @ 12.19 hrs, Volume= 0.006 af, Depth= 2.46"

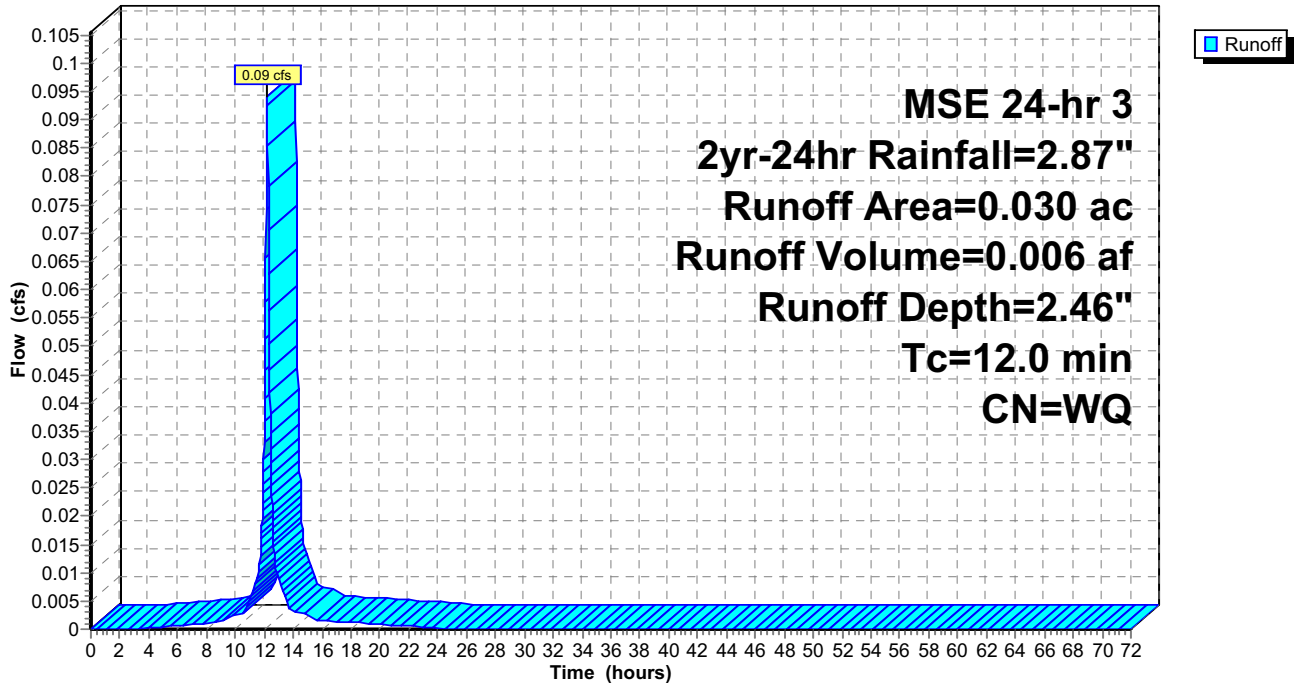
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.003	74	>75% Grass cover, Good, HSG C
* 0.027	98	Impervious
0.030		Weighted Average
0.003		10.00% Pervious Area
0.027		90.00% Impervious Area

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

Subcatchment A9_100: A9_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C10: C10

Runoff = 2.07 cfs @ 12.21 hrs, Volume= 0.129 af, Depth= 1.02"

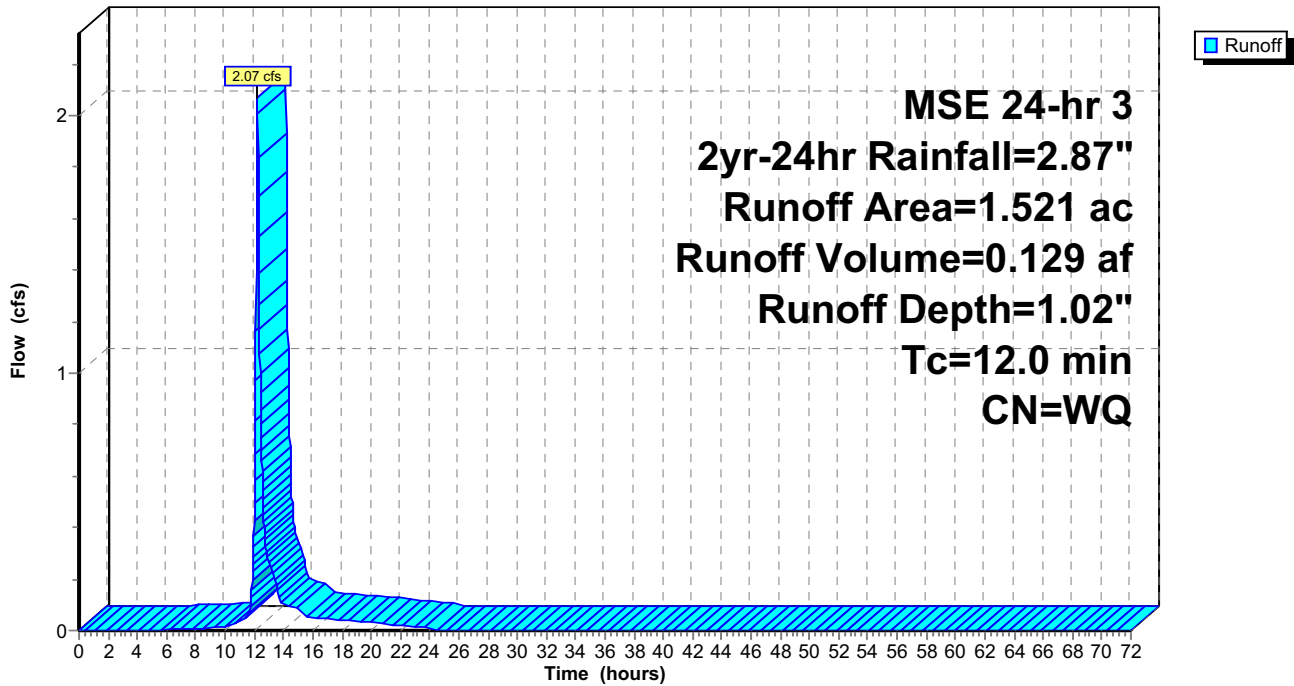
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.036	98	Impervious
1.278	74	>75% Grass cover, Good, HSG C
0.080	74	>75% Grass cover, Good, HSG C
* 0.078	98	Impervious
* 0.049	98	Impervious
1.521		Weighted Average
1.358		89.28% Pervious Area
0.163		10.72% Impervious Area

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

Subcatchment C10: C10

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C10_100: C10_100

Runoff = 1.34 cfs @ 12.20 hrs, Volume= 0.087 af, Depth= 1.91"

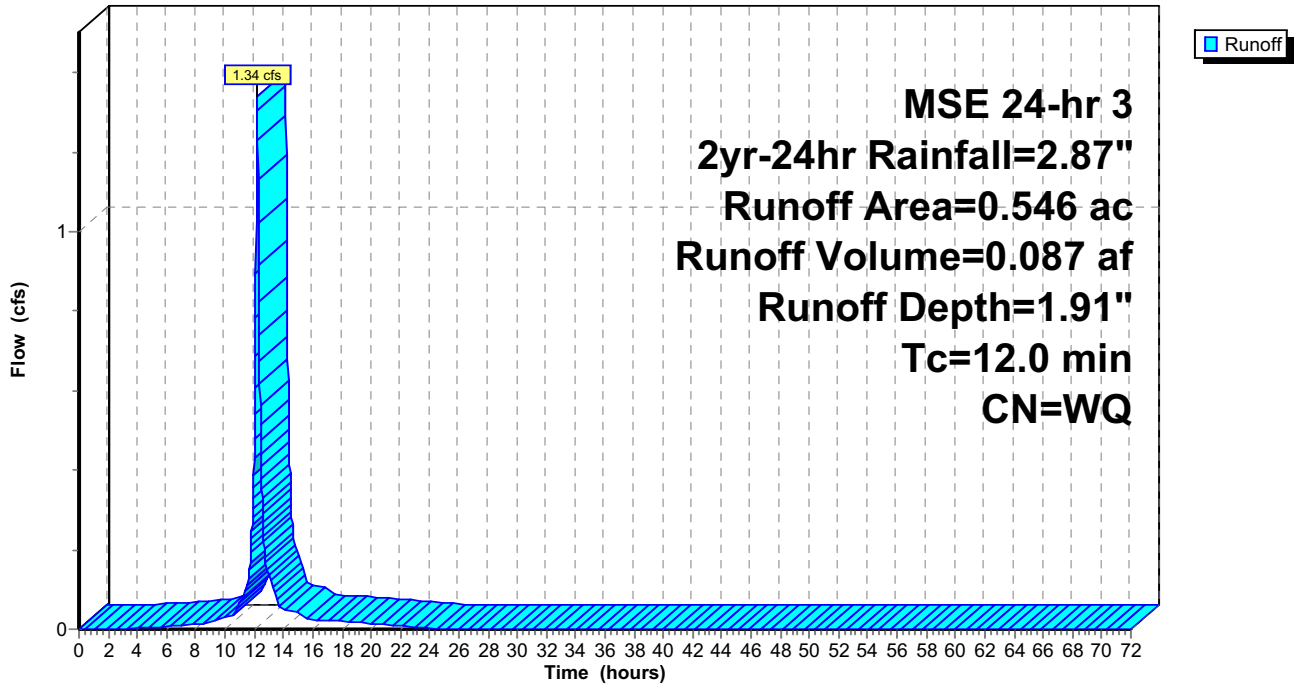
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.220	74	>75% Grass cover, Good, HSG C
* 0.326	98	Impervious
0.546		Weighted Average
0.220		40.29% Pervious Area
0.326		59.71% Impervious Area

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

Subcatchment C10_100: C10_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C7: C7

Runoff = 2.06 cfs @ 12.21 hrs, Volume= 0.129 af, Depth= 1.07"

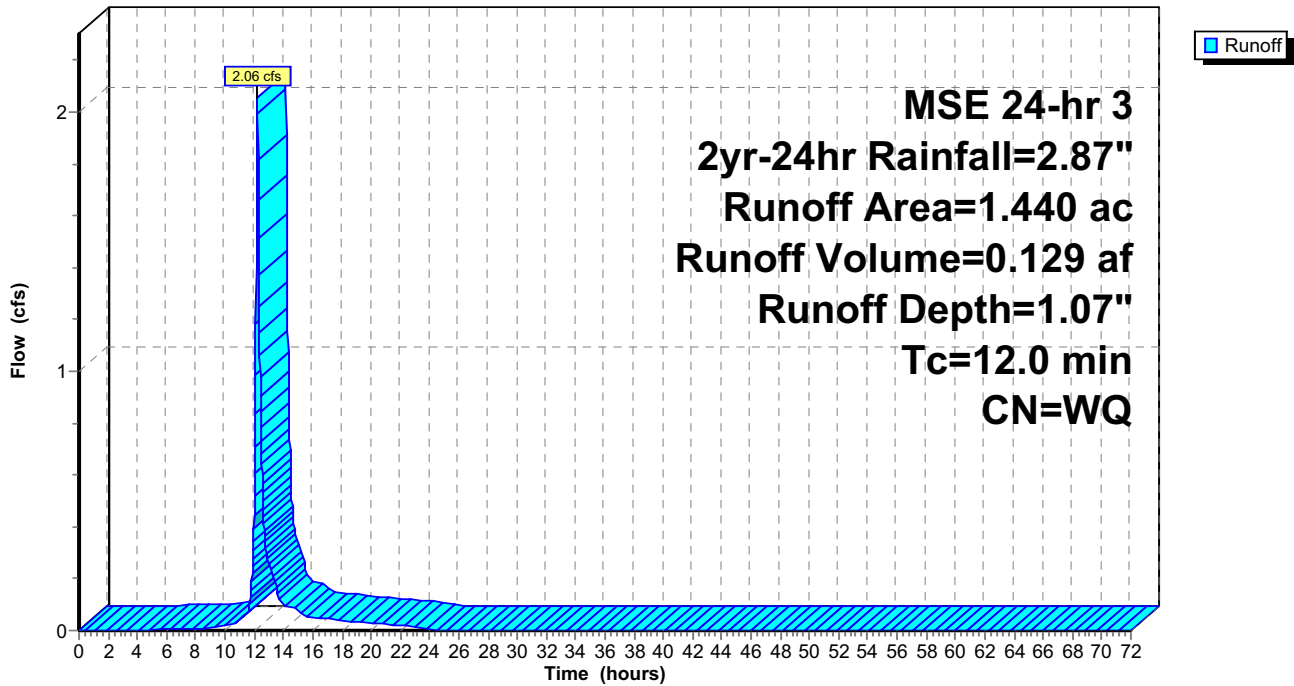
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.018	98	Impervious
1.011	74	>75% Grass cover, Good, HSG C
0.233	74	>75% Grass cover, Good, HSG C
* 0.128	98	Impervious
* 0.050	98	Impervious
1.440		Weighted Average
1.244		86.39% Pervious Area
0.196		13.61% Impervious Area

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

Subcatchment C7: C7

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C7_100: C7_100

Runoff = 0.63 cfs @ 12.22 hrs, Volume= 0.044 af, Depth= 1.96"

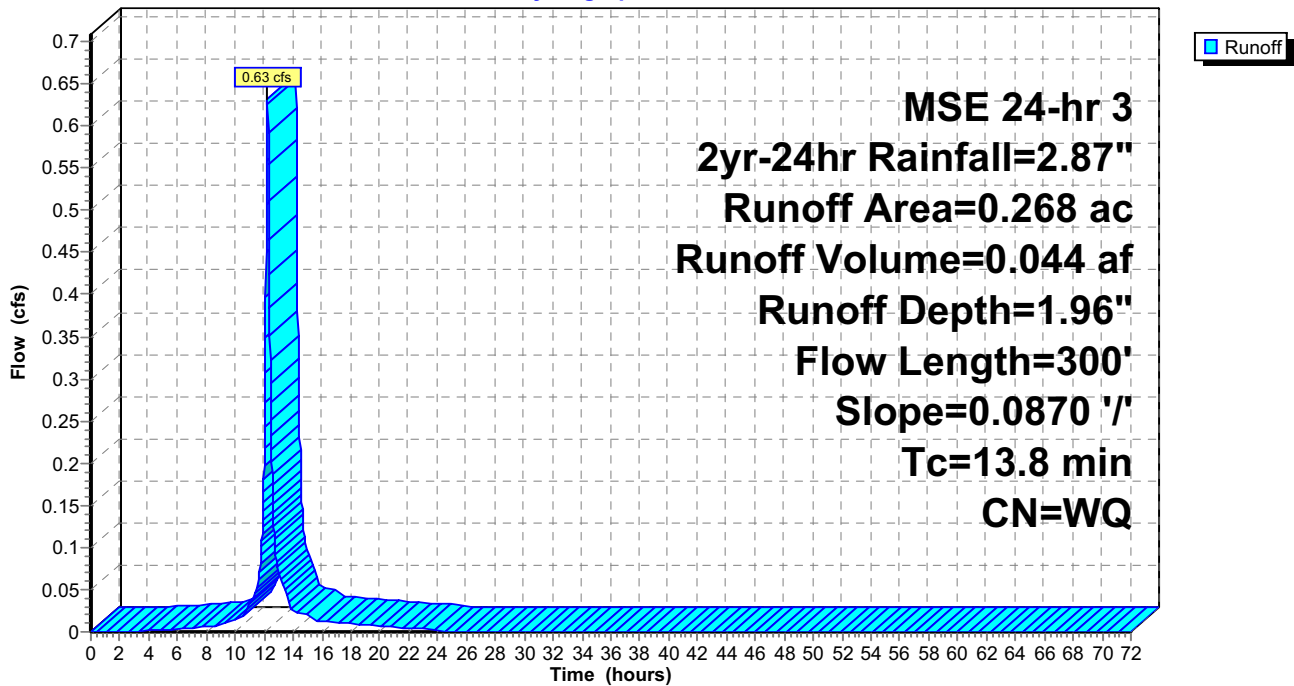
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.101	74	>75% Grass cover, Good, HSG C
* 0.167	98	Impervious
0.268		Weighted Average
0.101		37.69% Pervious Area
0.167		62.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C7_100: C7_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C8: C8

Runoff = 2.06 cfs @ 12.21 hrs, Volume= 0.129 af, Depth= 1.06"

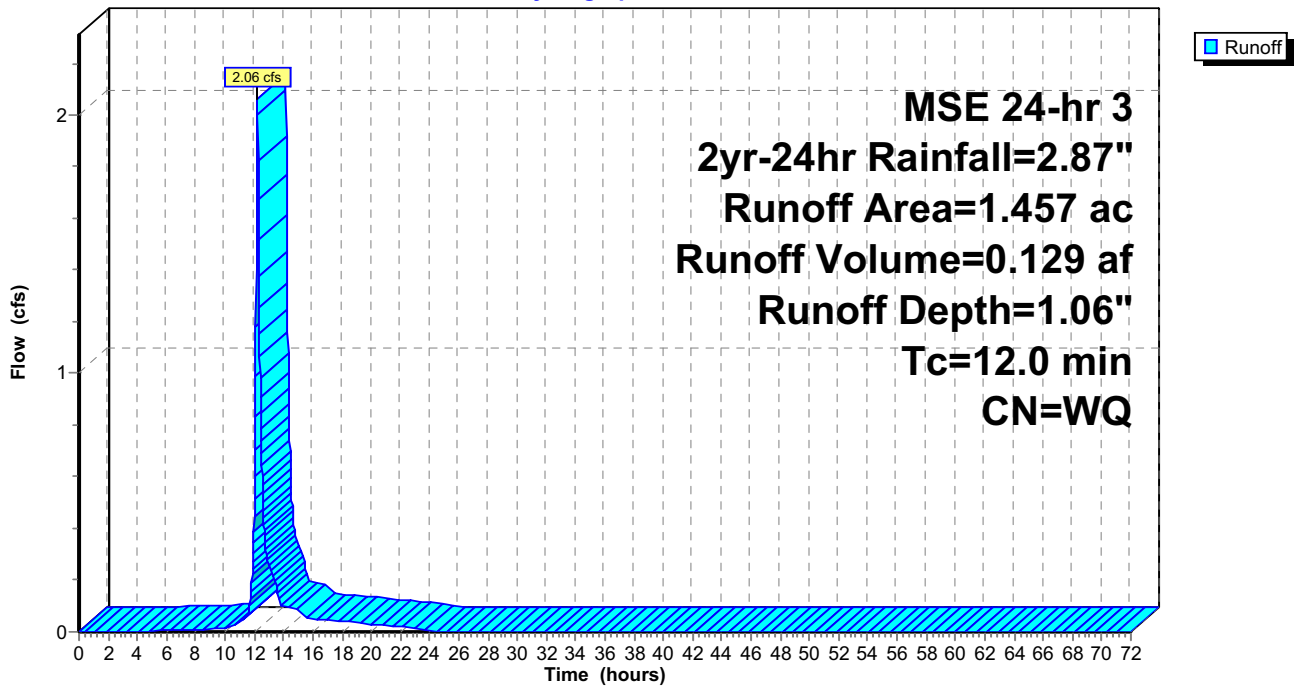
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

	Area (ac)	CN	Description
*	0.138	98	Impervious
	1.267	74	>75% Grass cover, Good, HSG C
*	0.052	98	Impervious
	1.457		Weighted Average
	1.267		86.96% Pervious Area
	0.190		13.04% Impervious Area

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

Subcatchment C8: C8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C8_100: C8_100

Runoff = 1.11 cfs @ 12.22 hrs, Volume= 0.077 af, Depth= 1.96"

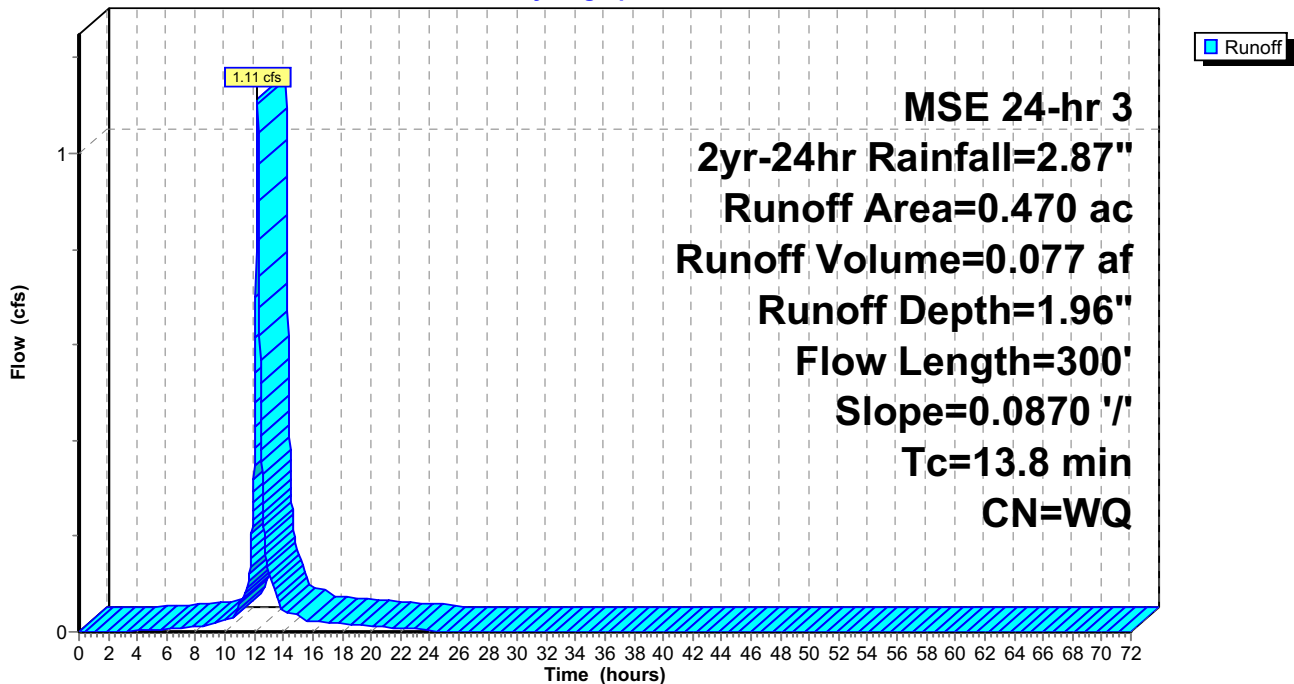
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.175	74	>75% Grass cover, Good, HSG C
* 0.295	98	Impervious
0.470		Weighted Average
0.175		37.23% Pervious Area
0.295		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C8_100: C8_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C9: C9

Runoff = 2.41 cfs @ 12.21 hrs, Volume= 0.151 af, Depth= 1.03"

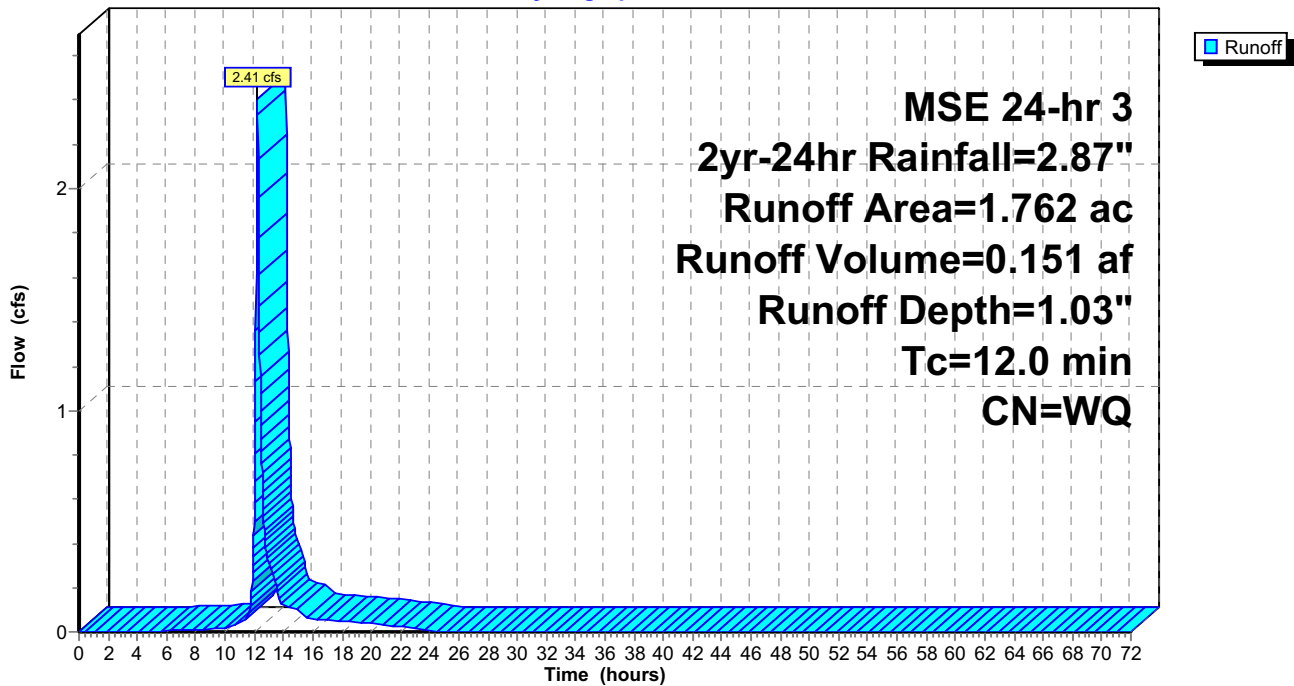
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

	Area (ac)	CN	Description
*	0.132	98	Impervious
	1.569	74	>75% Grass cover, Good, HSG C
*	0.061	98	Impervious
	1.762		Weighted Average
	1.569		89.05% Pervious Area
	0.193		10.95% Impervious Area

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

Subcatchment C9: C9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C9_100: C9_100

Runoff = 0.78 cfs @ 12.20 hrs, Volume= 0.050 af, Depth= 2.01"

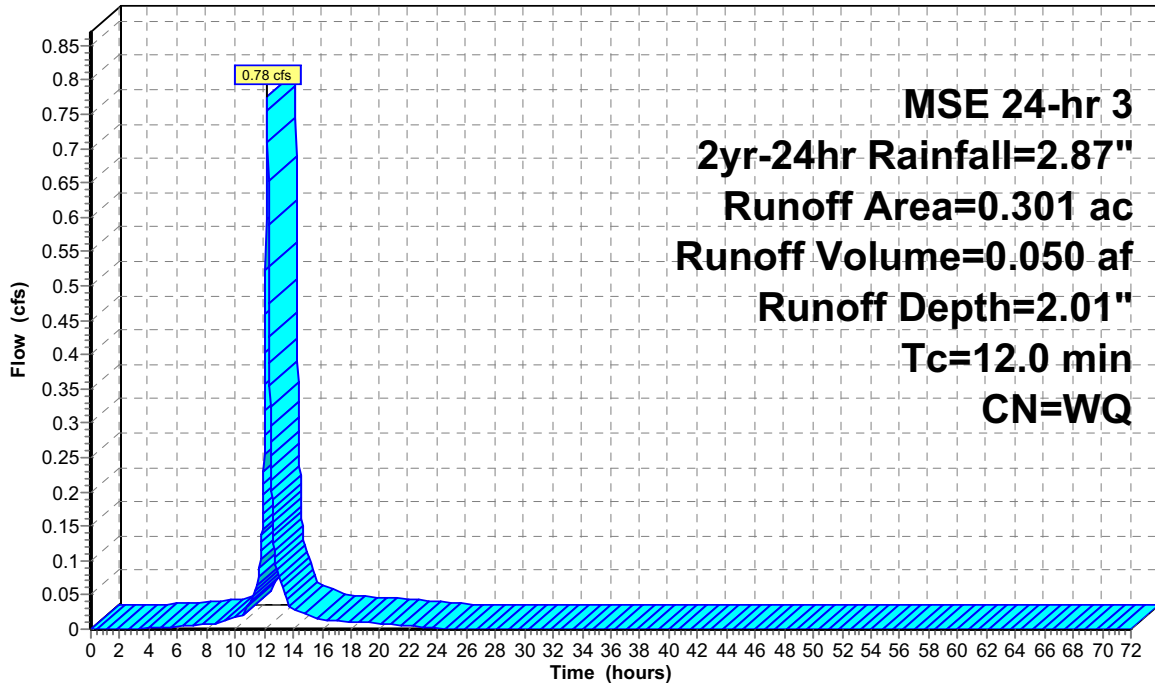
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.105	74	>75% Grass cover, Good, HSG C
* 0.196	98	Impervious
0.301		Weighted Average
0.105		34.88% Pervious Area
0.196		65.12% Impervious Area

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

Subcatchment C9_100: C9_100

Hydrograph



Runoff

**MSE 24-hr 3
2yr-24hr Rainfall=2.87"
Runoff Area=0.301 ac
Runoff Volume=0.050 af
Runoff Depth=2.01"
Tc=12.0 min
CN=WQ**

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E13: E13

Runoff = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af, Depth= 1.33"

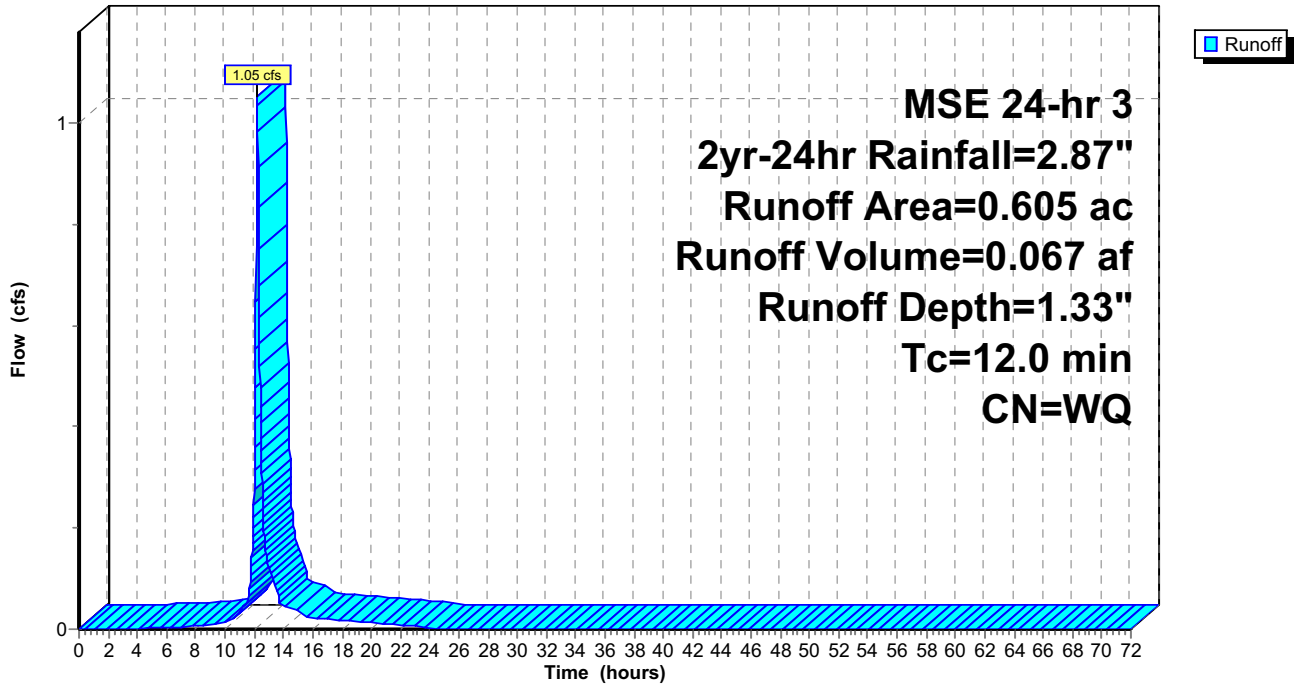
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.168	98	Impervious
0.437	74	>75% Grass cover, Good, HSG C
0.605		Weighted Average
0.437		72.23% Pervious Area
0.168		27.77% Impervious Area

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

Subcatchment E13: E13

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E15: E15

Runoff = 3.32 cfs @ 12.20 hrs, Volume= 0.211 af, Depth= 1.31"

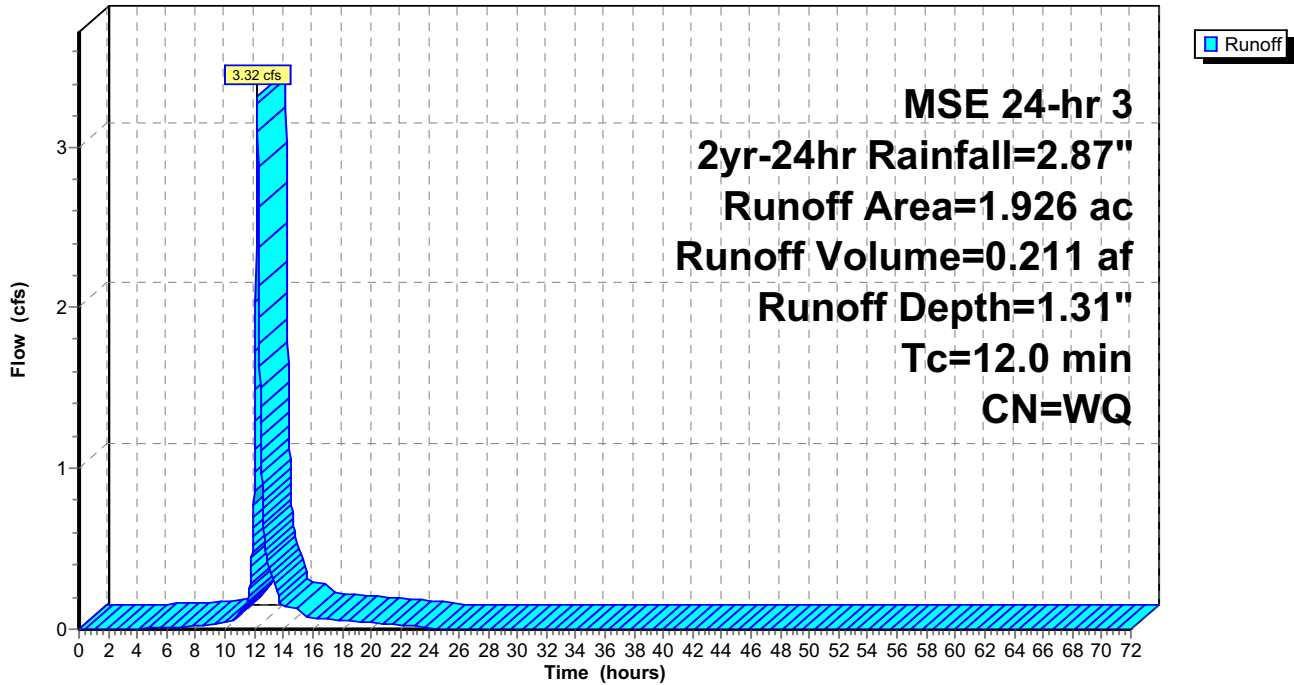
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.518	98	Impervious
1.408	74	>75% Grass cover, Good, HSG C
1.926		Weighted Average
1.408		73.10% Pervious Area
0.518		26.90% Impervious Area

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

Subcatchment E15: E15

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E16: E16

Runoff = 2.33 cfs @ 12.20 hrs, Volume= 0.148 af, Depth= 1.30"

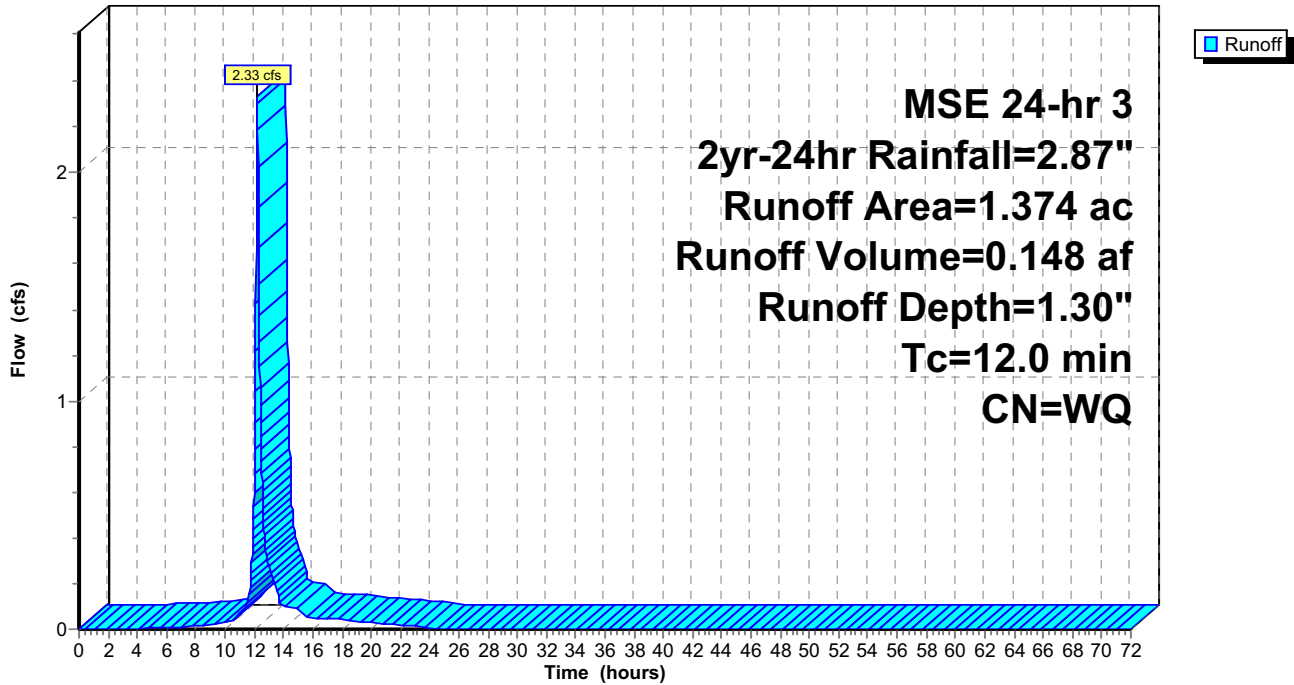
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.355	98	Impervious
1.019	74	>75% Grass cover, Good, HSG C
1.374		Weighted Average
1.019		74.16% Pervious Area
0.355		25.84% Impervious Area

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

Subcatchment E16: E16

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E17: E17

Runoff = 1.57 cfs @ 12.20 hrs, Volume= 0.099 af, Depth= 1.20"

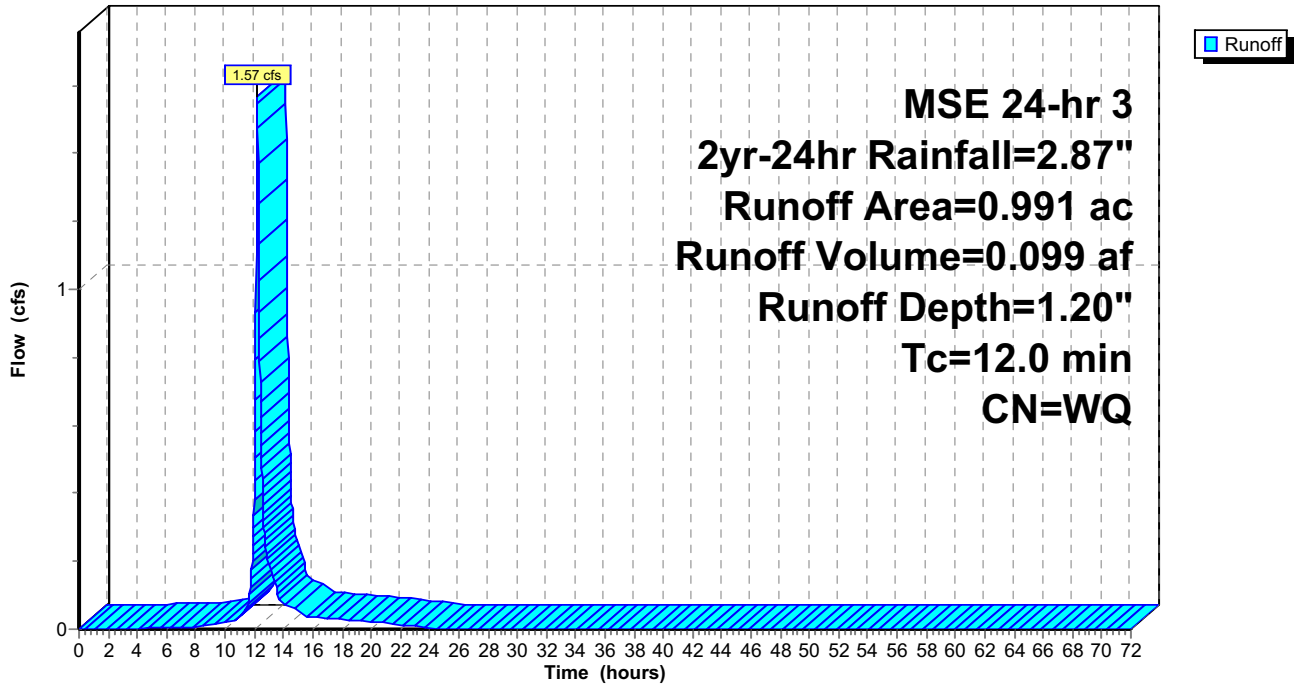
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.788	74	>75% Grass cover, Good, HSG C
0.991		Weighted Average
0.788		79.52% Pervious Area
0.203		20.48% Impervious Area

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

Subcatchment E17: E17

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E18: E18

Runoff = 2.10 cfs @ 12.24 hrs, Volume= 0.145 af, Depth= 1.01"

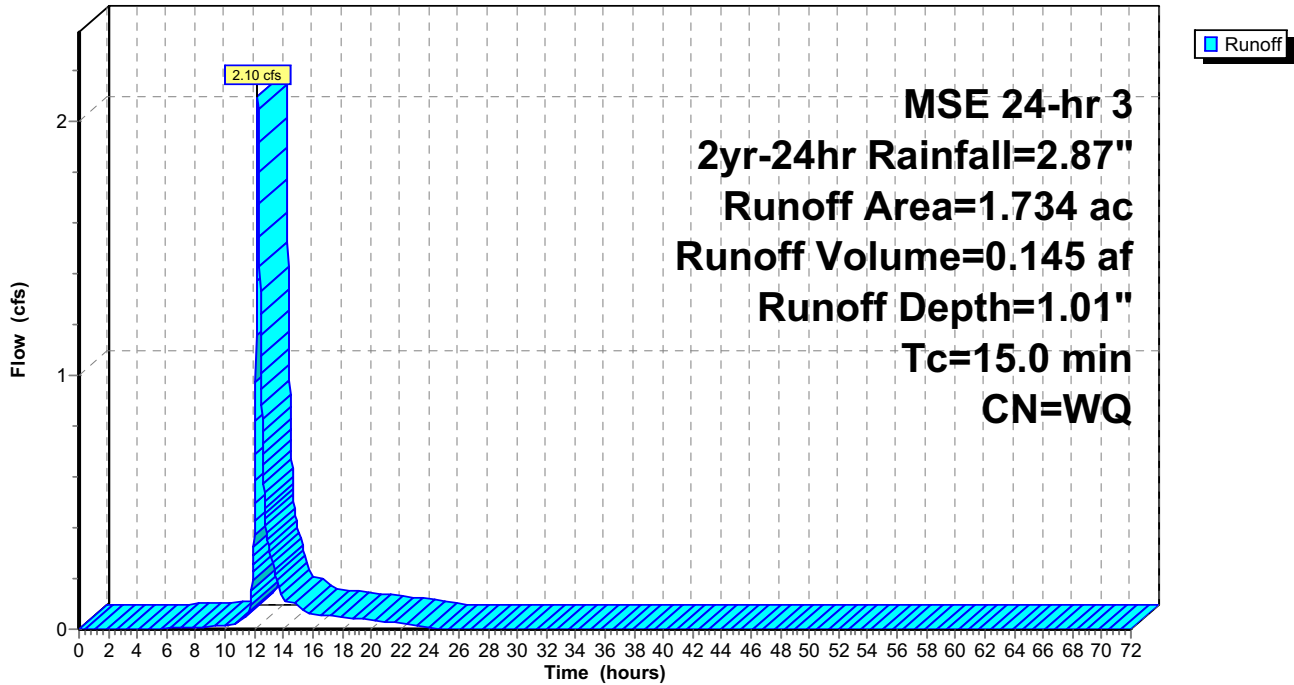
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.171	98	Impervious
1.563	74	>75% Grass cover, Good, HSG C
1.734		Weighted Average
1.563		90.14% Pervious Area
0.171		9.86% Impervious Area

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

Subcatchment E18: E18

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E21: E21

Runoff = 0.45 cfs @ 12.21 hrs, Volume= 0.028 af, Depth= 0.89"

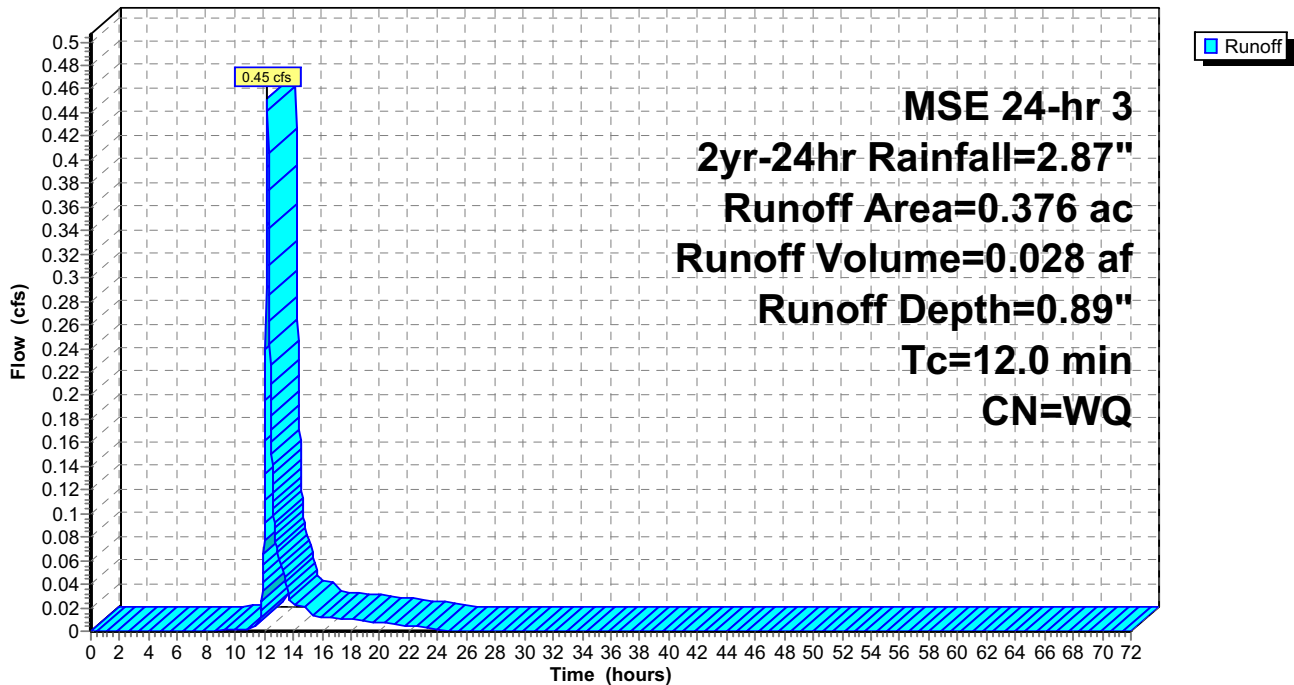
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.013	98	Impervious
0.363	74	>75% Grass cover, Good, HSG C
0.376		Weighted Average
0.363		96.54% Pervious Area
0.013		3.46% Impervious Area

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

Subcatchment E21: E21

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E22: E22

Runoff = 0.71 cfs @ 12.21 hrs, Volume= 0.044 af, Depth= 1.04"

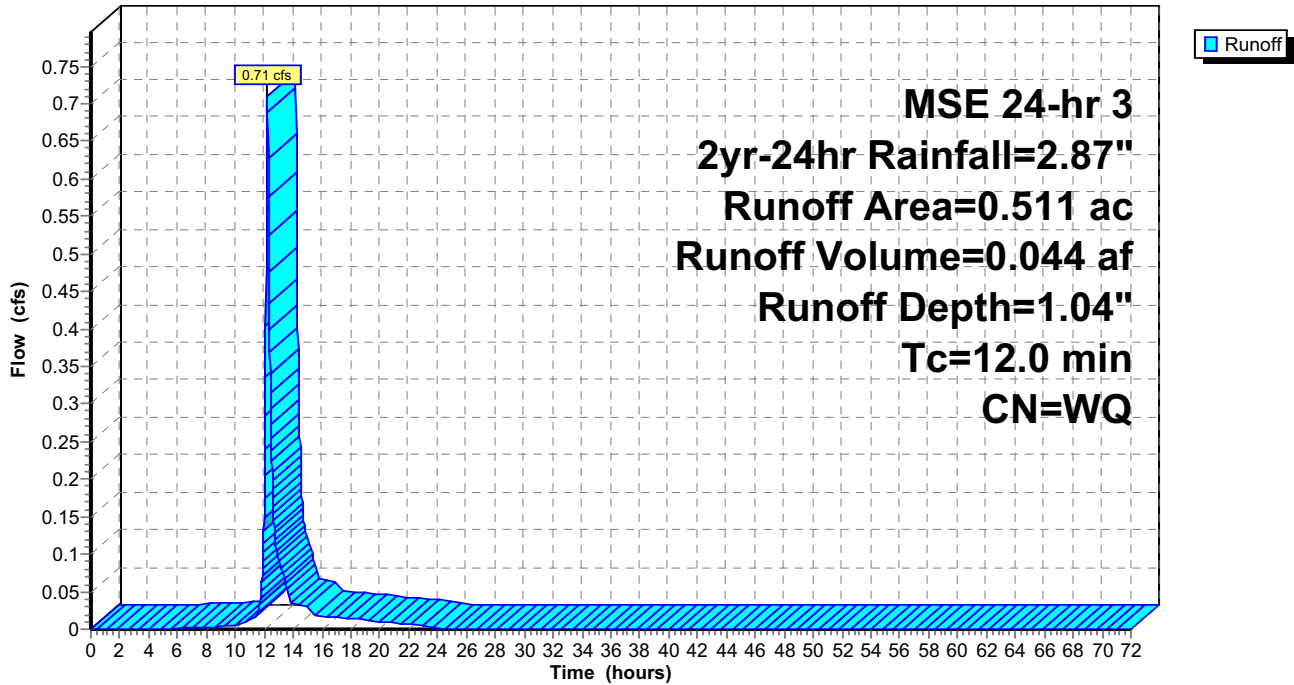
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.061	98	Impervious
0.450	74	>75% Grass cover, Good, HSG C
0.511		Weighted Average
0.450		88.06% Pervious Area
0.061		11.94% Impervious Area

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

Subcatchment E22: E22

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E22_100: E22_100

Runoff = 0.18 cfs @ 12.20 hrs, Volume= 0.012 af, Depth= 1.84"

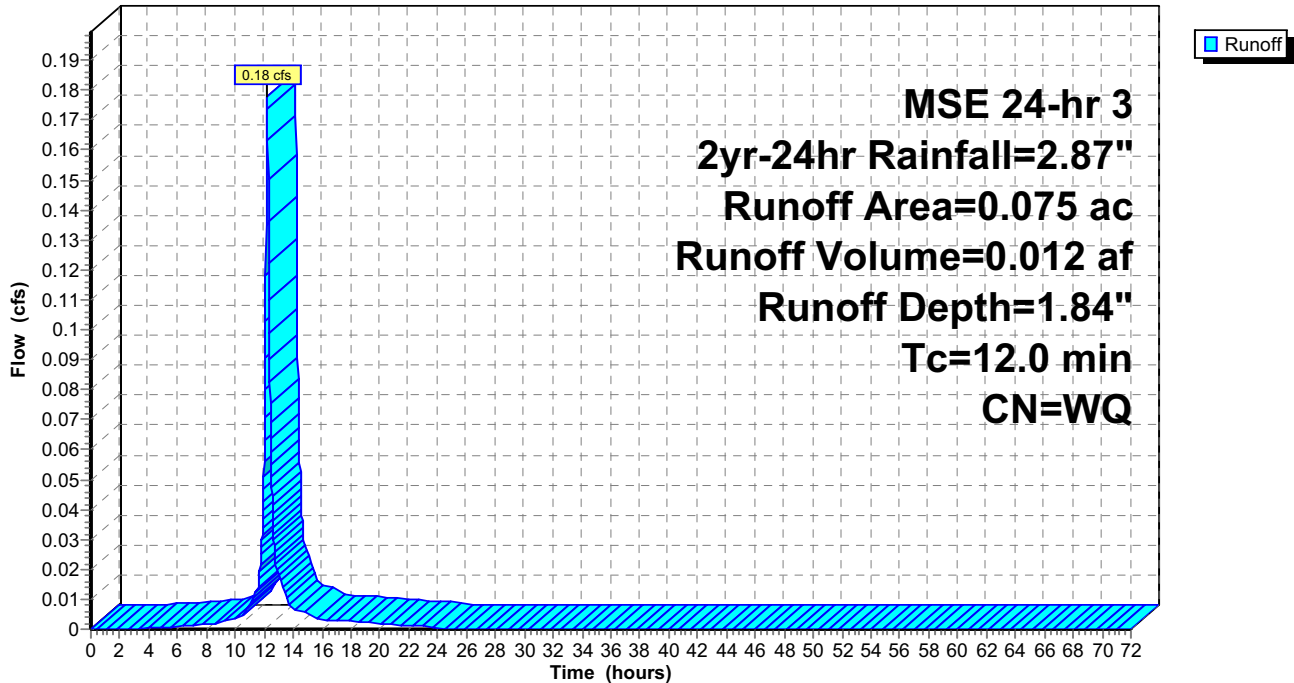
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.033	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
0.075		Weighted Average
0.033		44.00% Pervious Area
0.042		56.00% Impervious Area

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

Subcatchment E22_100: E22_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E23: E23

Runoff = 1.58 cfs @ 12.21 hrs, Volume= 0.098 af, Depth= 0.97"

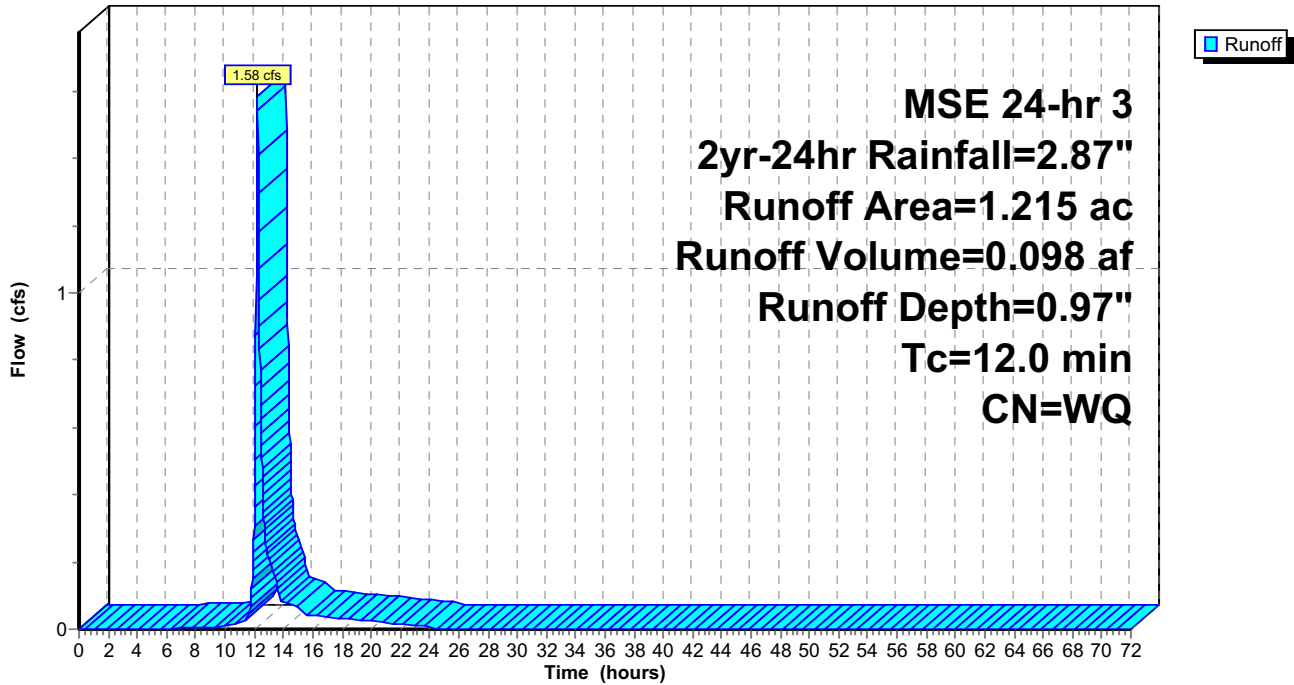
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.097	98	Impervious
1.118	74	>75% Grass cover, Good, HSG C
1.215		Weighted Average
1.118		92.02% Pervious Area
0.097		7.98% Impervious Area

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

Subcatchment E23: E23

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E29: E29

Runoff = 1.86 cfs @ 12.20 hrs, Volume= 0.117 af, Depth= 1.12"

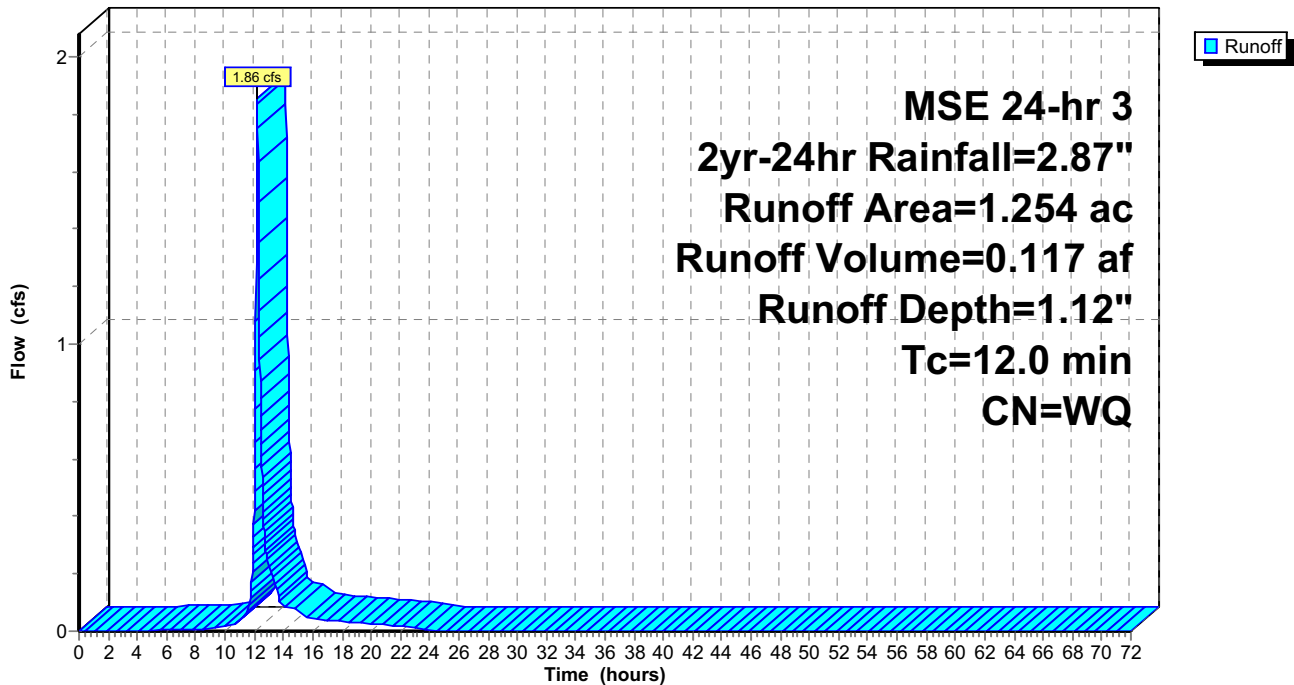
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.202	98	Impervious
1.052	74	>75% Grass cover, Good, HSG C
1.254		Weighted Average
1.052		83.89% Pervious Area
0.202		16.11% Impervious Area

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

Subcatchment E29: E29

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment F5: F5

Runoff = 1.95 cfs @ 12.20 hrs, Volume= 0.124 af, Depth= 1.21"

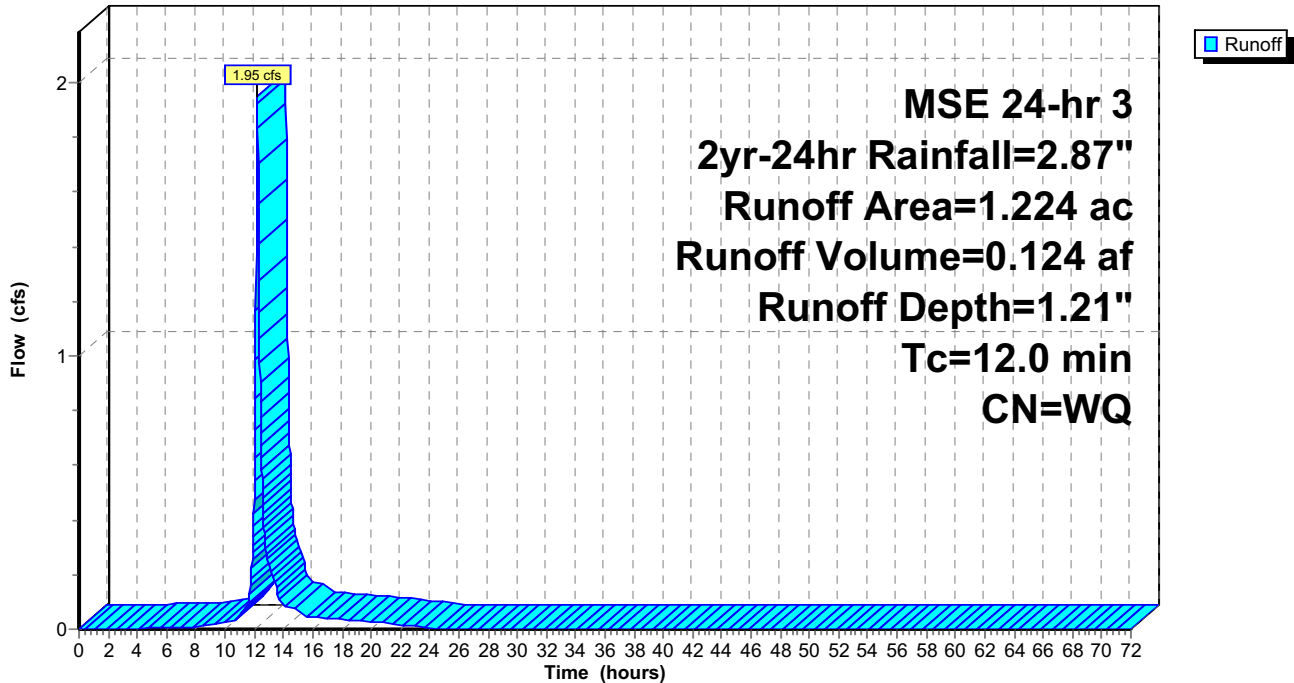
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.260	98	Impervious
0.964	74	>75% Grass cover, Good, HSG C
1.224		Weighted Average
0.964		78.76% Pervious Area
0.260		21.24% Impervious Area

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

Subcatchment F5: F5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment F6: F6

Runoff = 1.47 cfs @ 12.20 hrs, Volume= 0.093 af, Depth= 1.21"

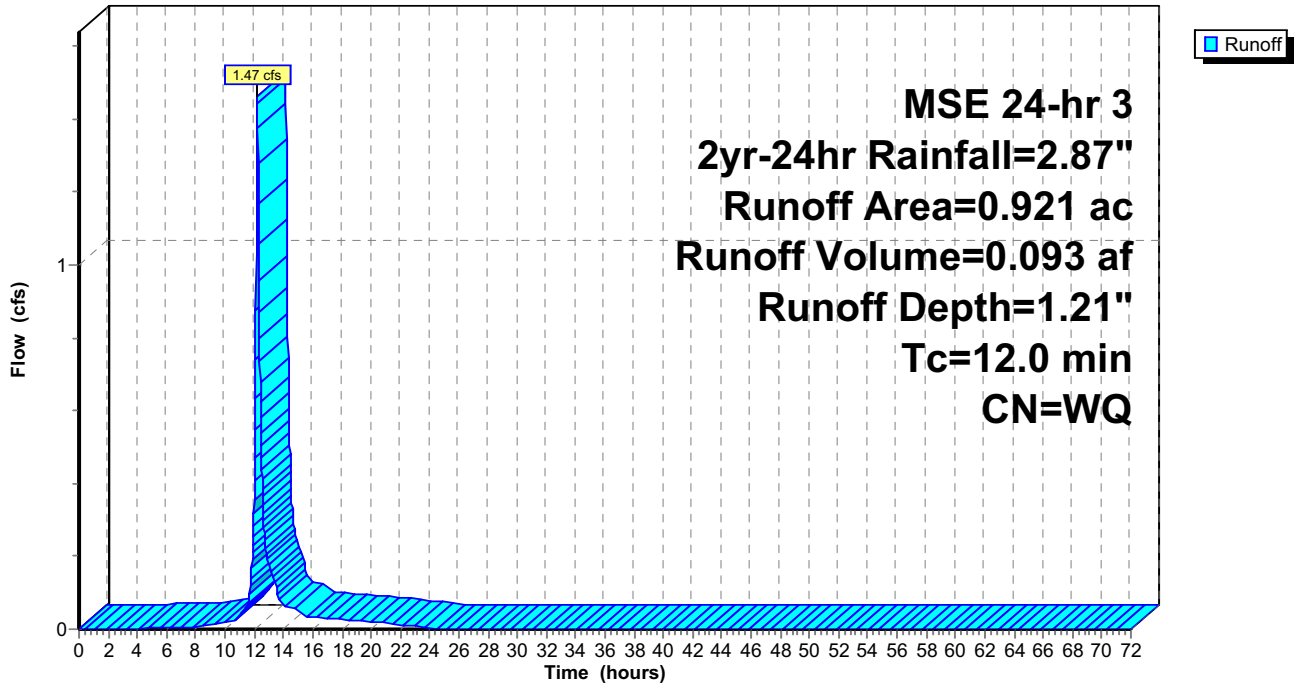
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.194	98	Impervious
0.727	74	>75% Grass cover, Good, HSG C
0.921		Weighted Average
0.727		78.94% Pervious Area
0.194		21.06% Impervious Area

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

Subcatchment F6: F6

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment F7: F7

Runoff = 0.92 cfs @ 12.21 hrs, Volume= 0.058 af, Depth= 1.04"

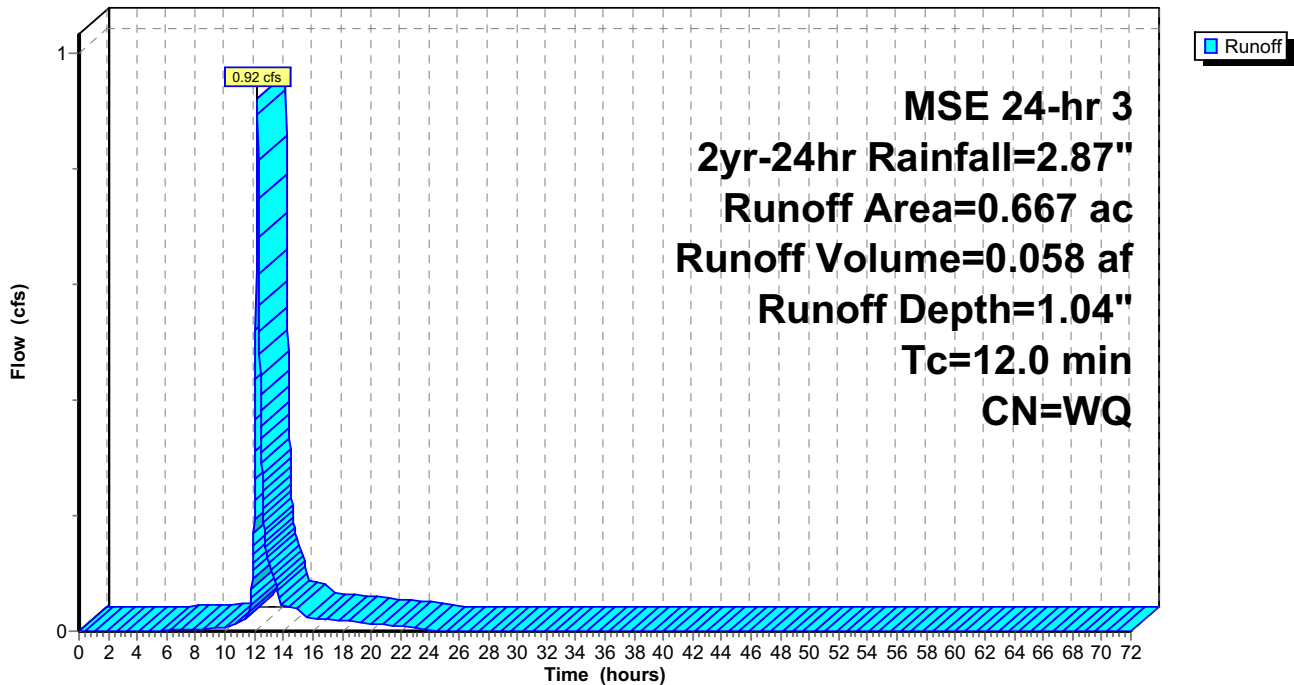
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.589	74	>75% Grass cover, Good, HSG C
0.667		Weighted Average
0.589		88.31% Pervious Area
0.078		11.69% Impervious Area

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

Subcatchment F7: F7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment F8: F8

Runoff = 2.54 cfs @ 12.24 hrs, Volume= 0.177 af, Depth= 1.12"

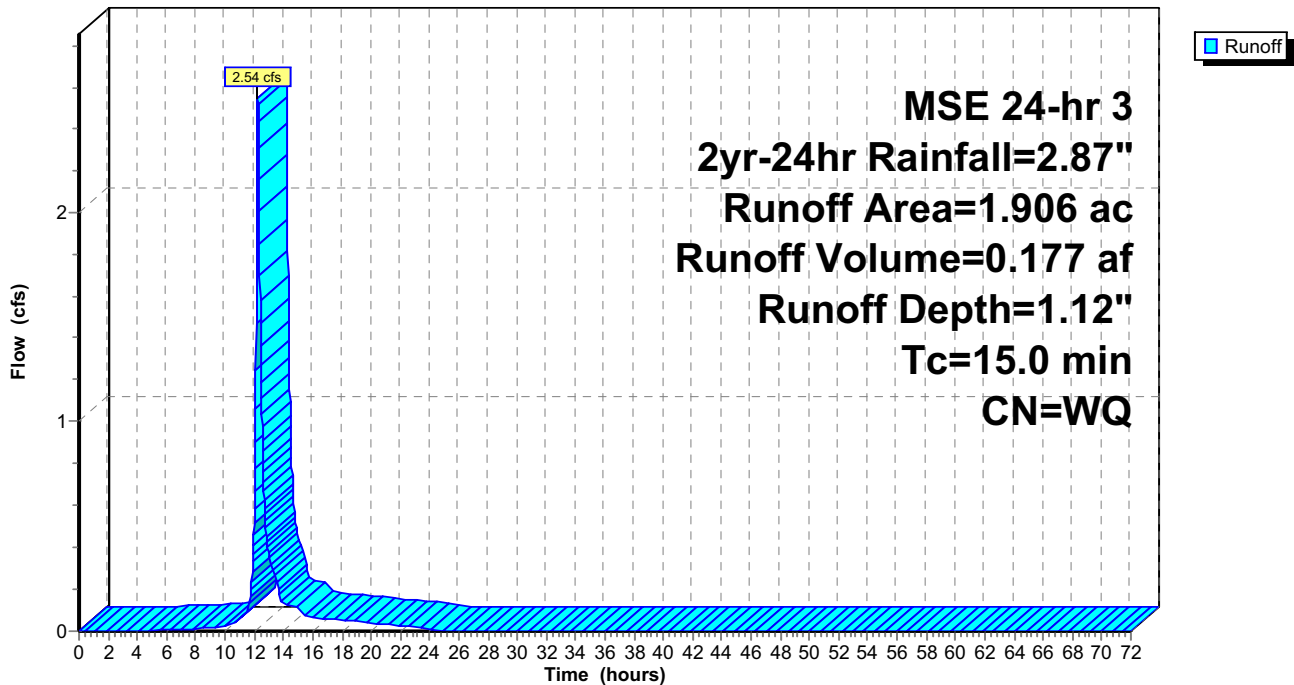
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.305	98	Impervious
1.601	74	>75% Grass cover, Good, HSG C
1.906		Weighted Average
1.601		84.00% Pervious Area
0.305		16.00% Impervious Area

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

Subcatchment F8: F8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment H5: H5

Runoff = 3.28 cfs @ 12.20 hrs, Volume= 0.216 af, Depth= 1.20"

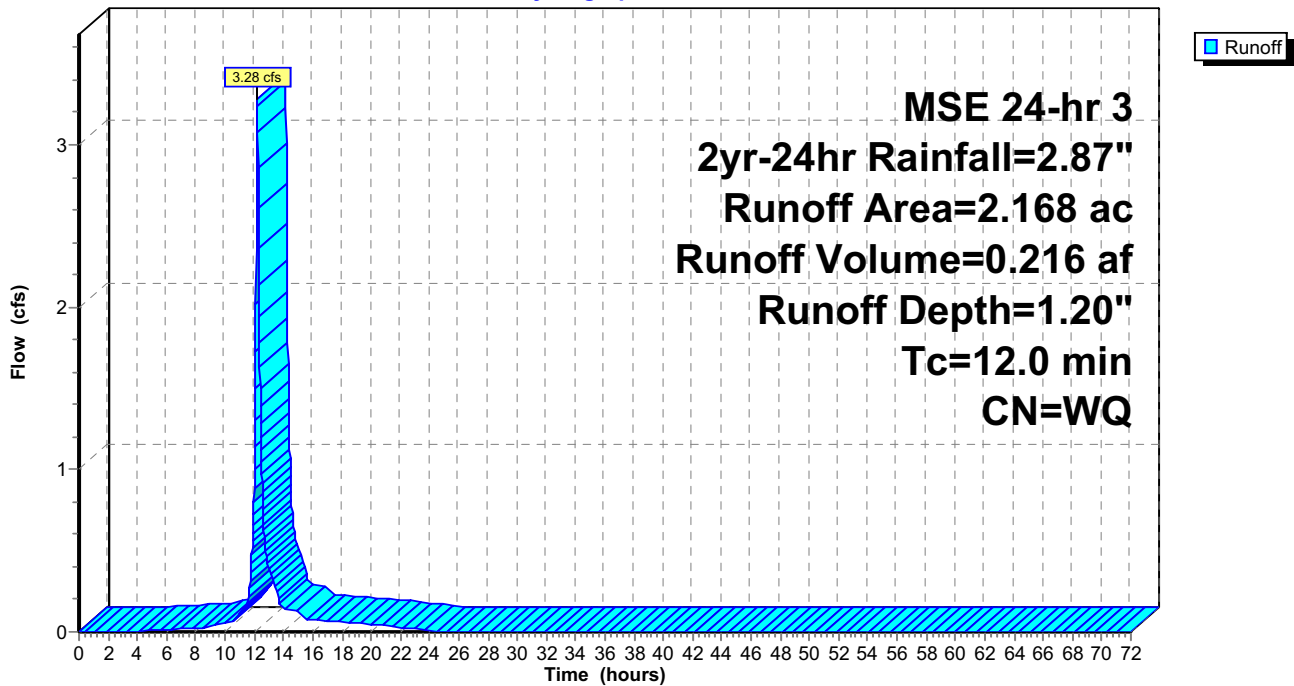
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.590	98	Impervious
0.526	61	>75% Grass cover, Good, HSG B
1.052	74	>75% Grass cover, Good, HSG C
2.168		Weighted Average
1.578		72.79% Pervious Area
0.590		27.21% Impervious Area

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

Subcatchment H5: H5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment H6: H6

Runoff = 1.00 cfs @ 12.21 hrs, Volume= 0.072 af, Depth= 0.86"

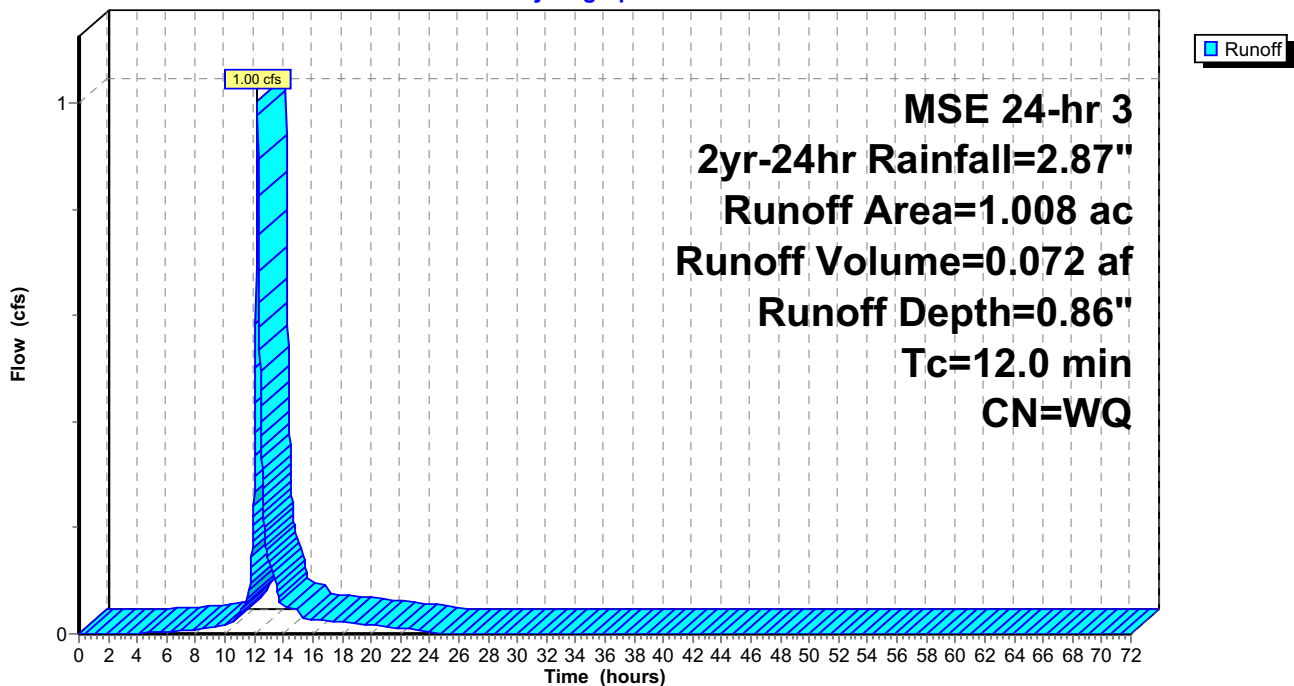
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.197	98	Impervious
0.640	61	>75% Grass cover, Good, HSG B
0.171	74	>75% Grass cover, Good, HSG C
1.008		Weighted Average
0.811		80.46% Pervious Area
0.197		19.54% Impervious Area

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

Subcatchment H6: H6

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment H7: H7

Runoff = 1.31 cfs @ 12.21 hrs, Volume= 0.091 af, Depth= 0.93"

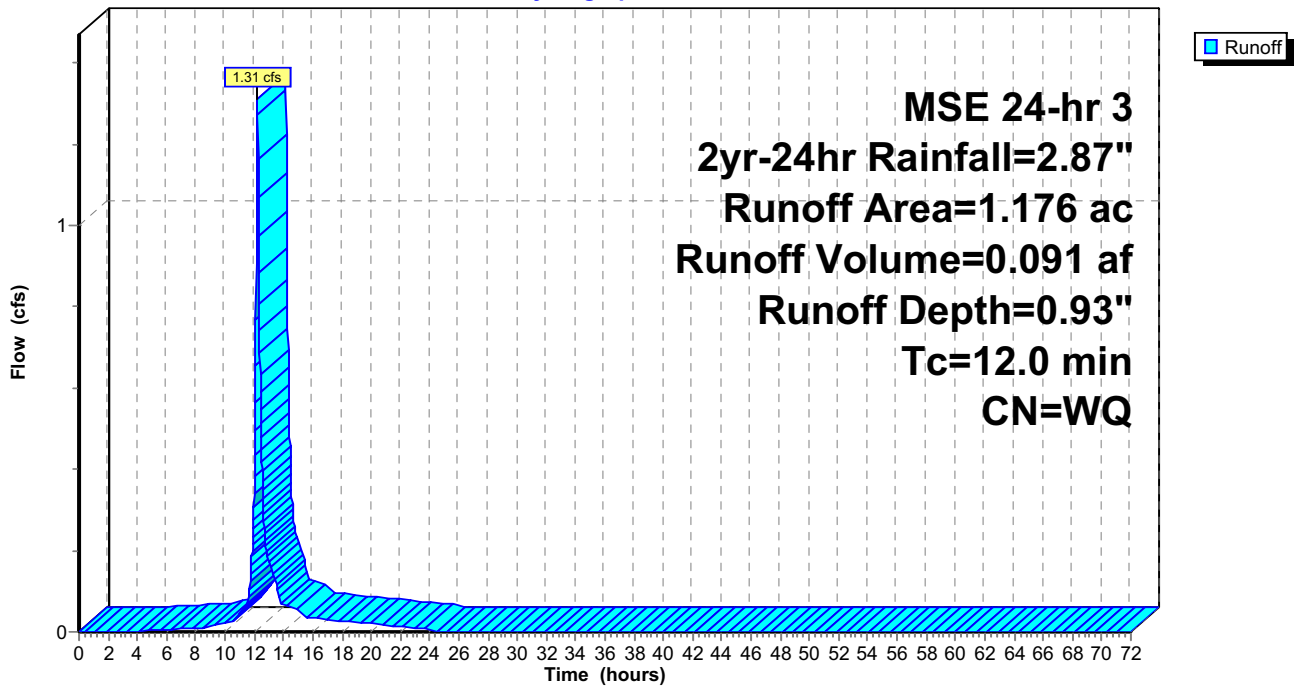
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.231	98	Impervious
0.591	61	>75% Grass cover, Good, HSG B
0.354	74	>75% Grass cover, Good, HSG C
1.176		Weighted Average
0.945		80.36% Pervious Area
0.231		19.64% Impervious Area

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

Subcatchment H7: H7

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I14: I14

Runoff = 0.47 cfs @ 12.20 hrs, Volume= 0.030 af, Depth= 1.33"

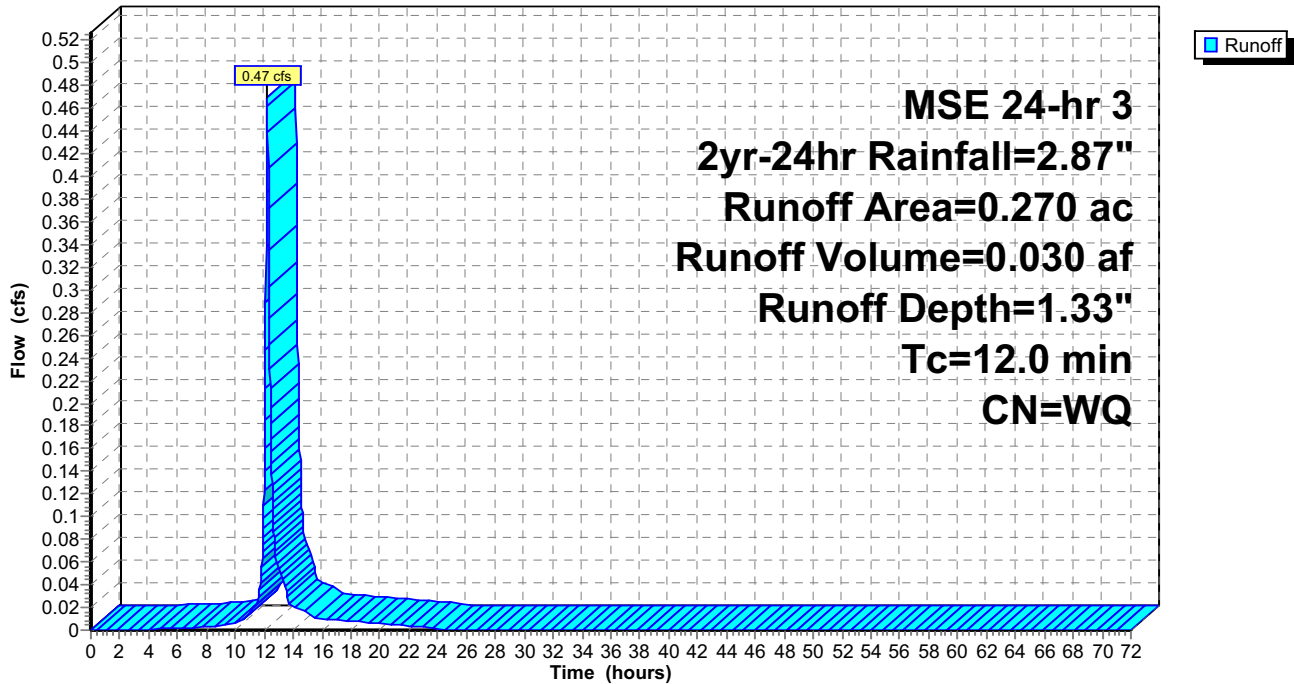
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.050	98	impervious
0.124	74	>75% Grass cover, Good, HSG C
* 0.025	98	impervious
0.071	74	>75% Grass cover, Good, HSG C
0.270		Weighted Average
0.195		72.22% Pervious Area
0.075		27.78% Impervious Area

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

Subcatchment I14: I14

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I7: I7

Runoff = 0.99 cfs @ 12.20 hrs, Volume= 0.063 af, Depth= 1.24"

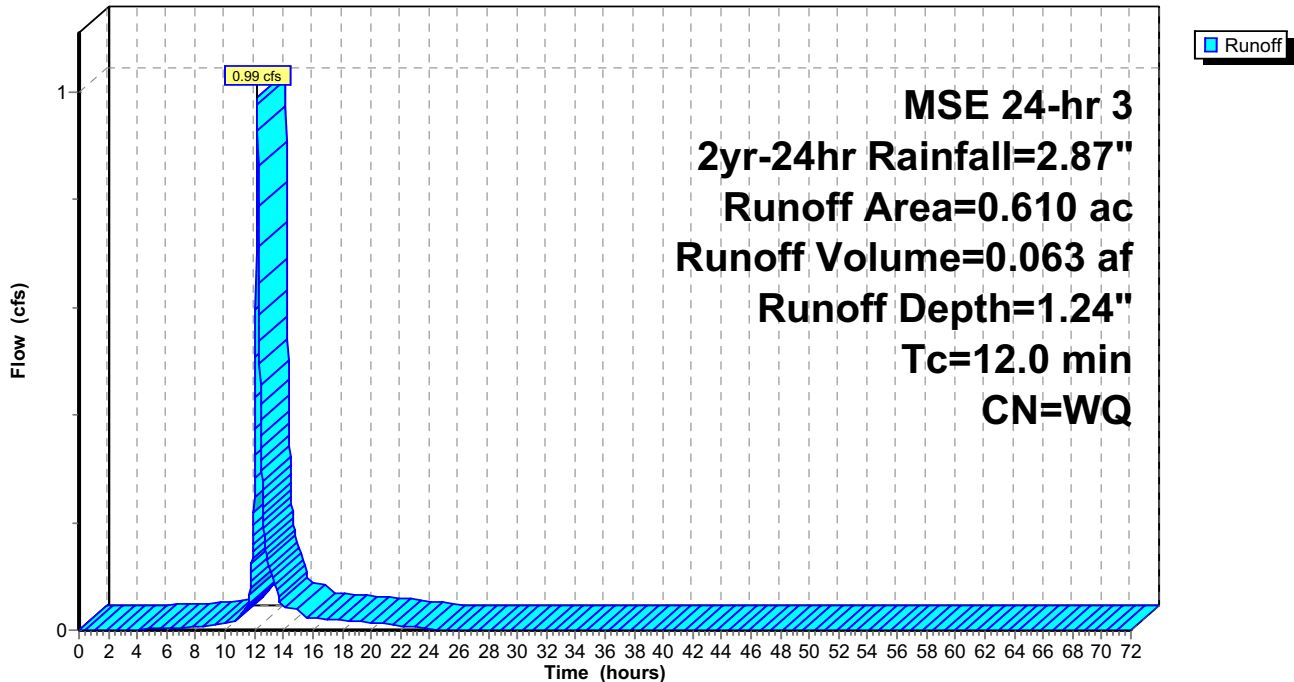
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.066	98	Impervious
0.252	74	>75% Grass cover, Good, HSG C
* 0.072	98	Impervious
0.220	74	>75% Grass cover, Good, HSG C
0.610		Weighted Average
0.472		77.38% Pervious Area
0.138		22.62% Impervious Area

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

Subcatchment I7: I7

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Summary for Subcatchment I7_100: I7_100

Runoff = 0.26 cfs @ 12.21 hrs, Volume= 0.016 af, Depth= 0.96"

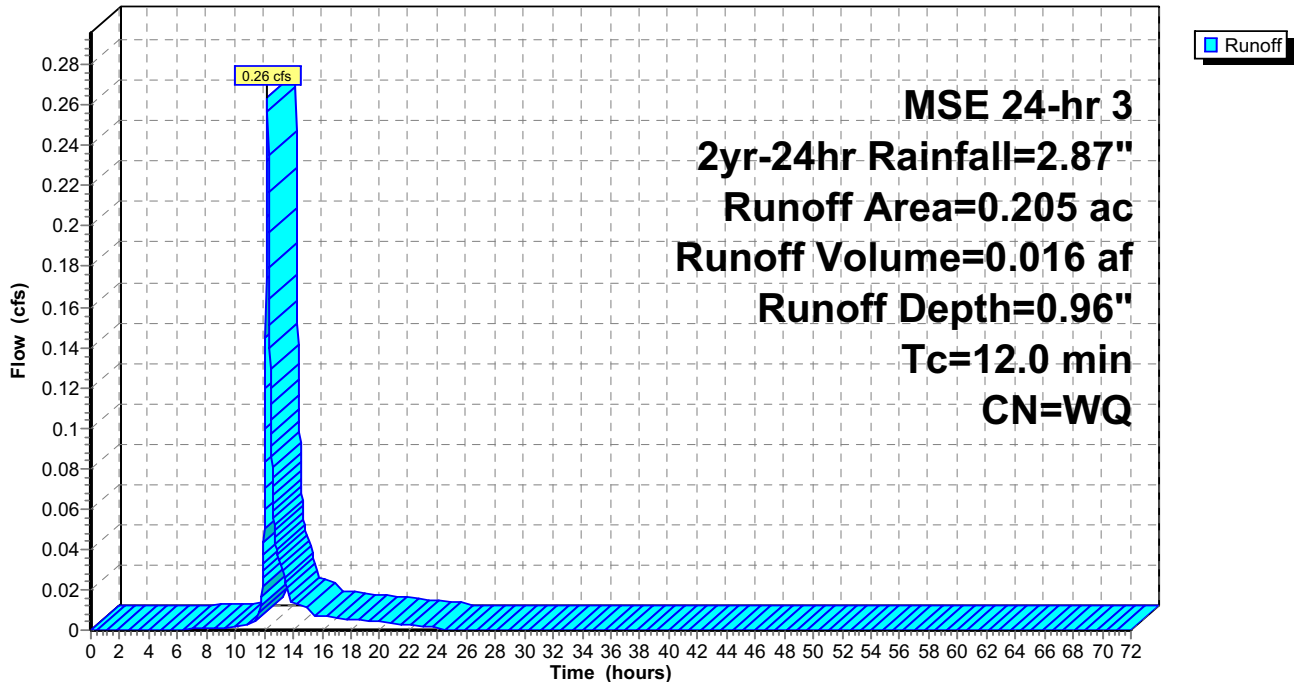
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
* 0.008	98	Impervious
* 0.007	98	Impervious
0.166	74	>75% Grass cover, Good, HSG C
0.205		Weighted Average
0.190		92.68% Pervious Area
0.015		7.32% Impervious Area

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

Subcatchment I7_100: I7_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I8: I8

Runoff = 1.69 cfs @ 12.20 hrs, Volume= 0.107 af, Depth= 1.28"

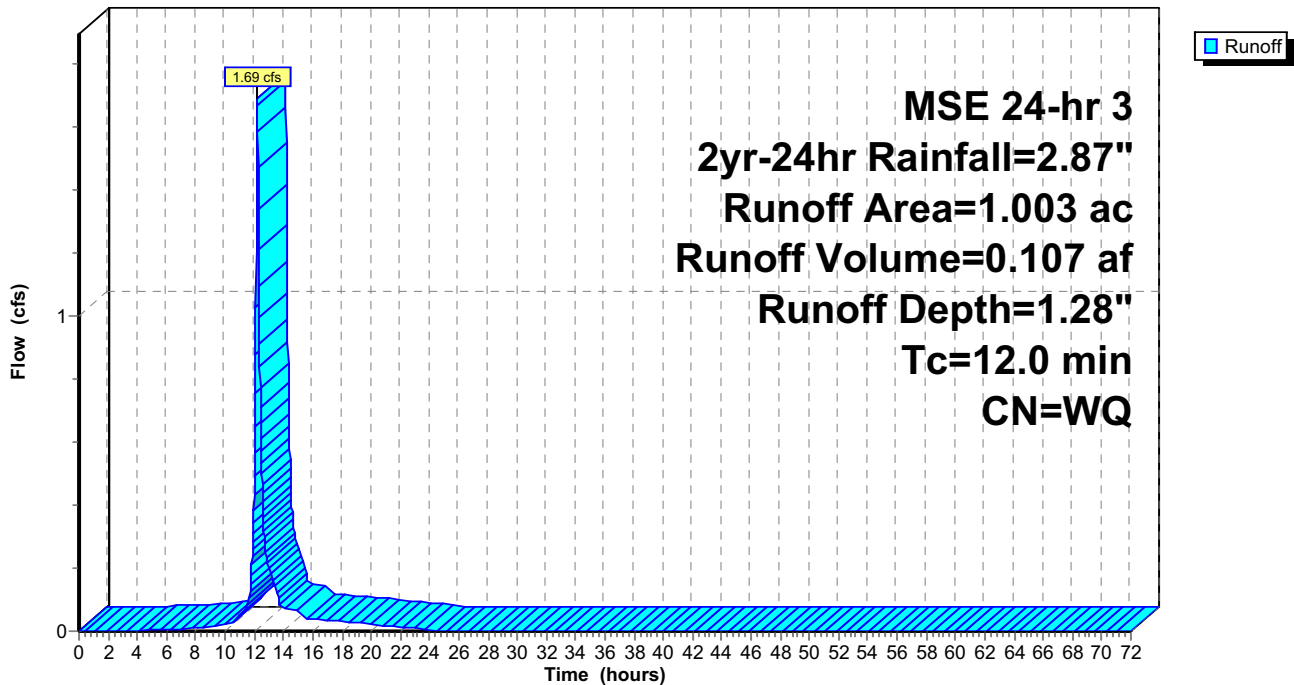
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.252	98	Impervious
0.751	74	>75% Grass cover, Good, HSG C
1.003		Weighted Average
0.751		74.88% Pervious Area
0.252		25.12% Impervious Area

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

Subcatchment I8: I8

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Summary for Subcatchment I8_100: I8_100

Runoff = 0.29 cfs @ 12.20 hrs, Volume= 0.018 af, Depth= 1.30"

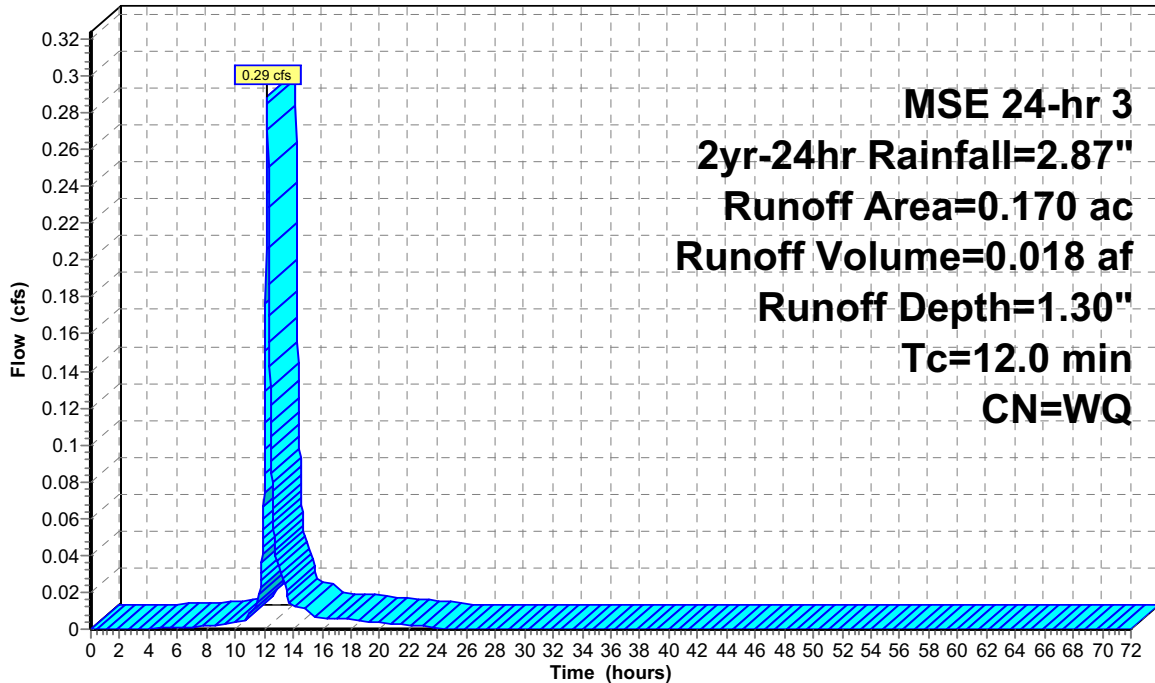
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.126	74	>75% Grass cover, Good, HSG C
* 0.044	98	Impervious
0.170		Weighted Average
0.126		74.12% Pervious Area
0.044		25.88% Impervious Area

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

Subcatchment I8_100: I8_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I9: I9

Runoff = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af, Depth= 1.33"

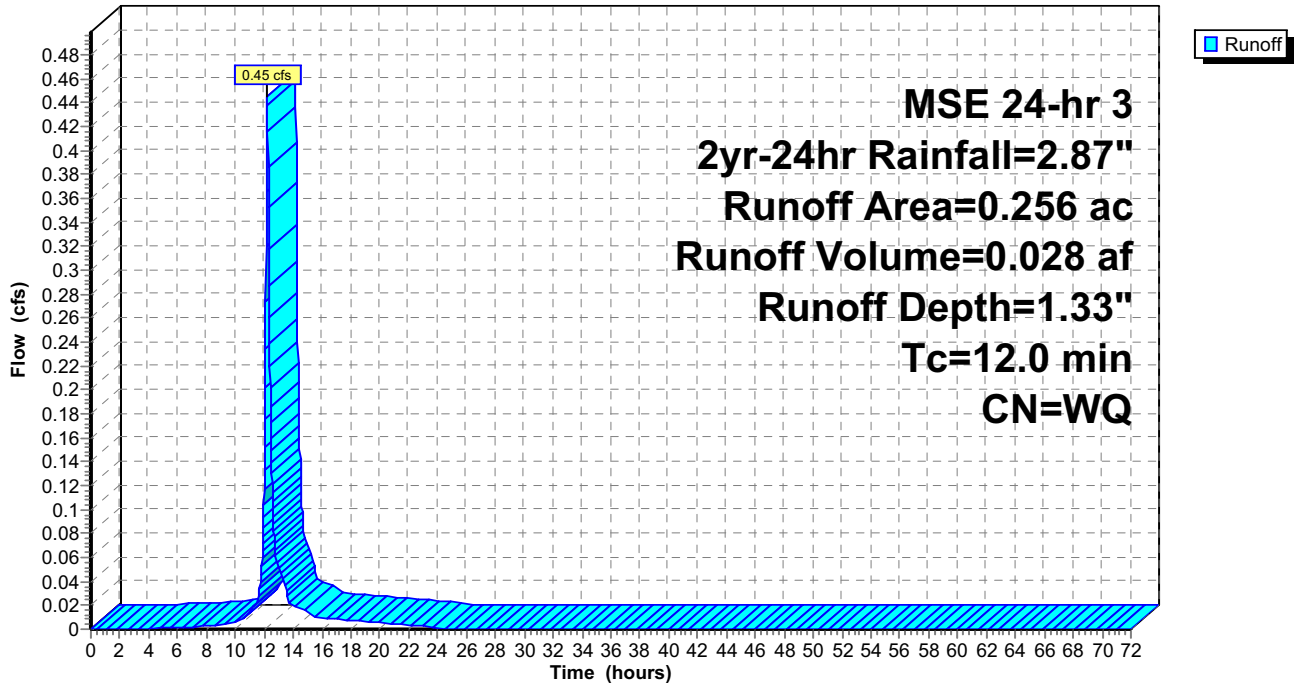
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.071	98	Impervious
0.185	74	>75% Grass cover, Good, HSG C
0.256		Weighted Average
0.185		72.27% Pervious Area
0.071		27.73% Impervious Area

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

Subcatchment I9: I9

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Summary for Subcatchment J3: J3

Runoff = 2.36 cfs @ 12.20 hrs, Volume= 0.149 af, Depth= 1.20"

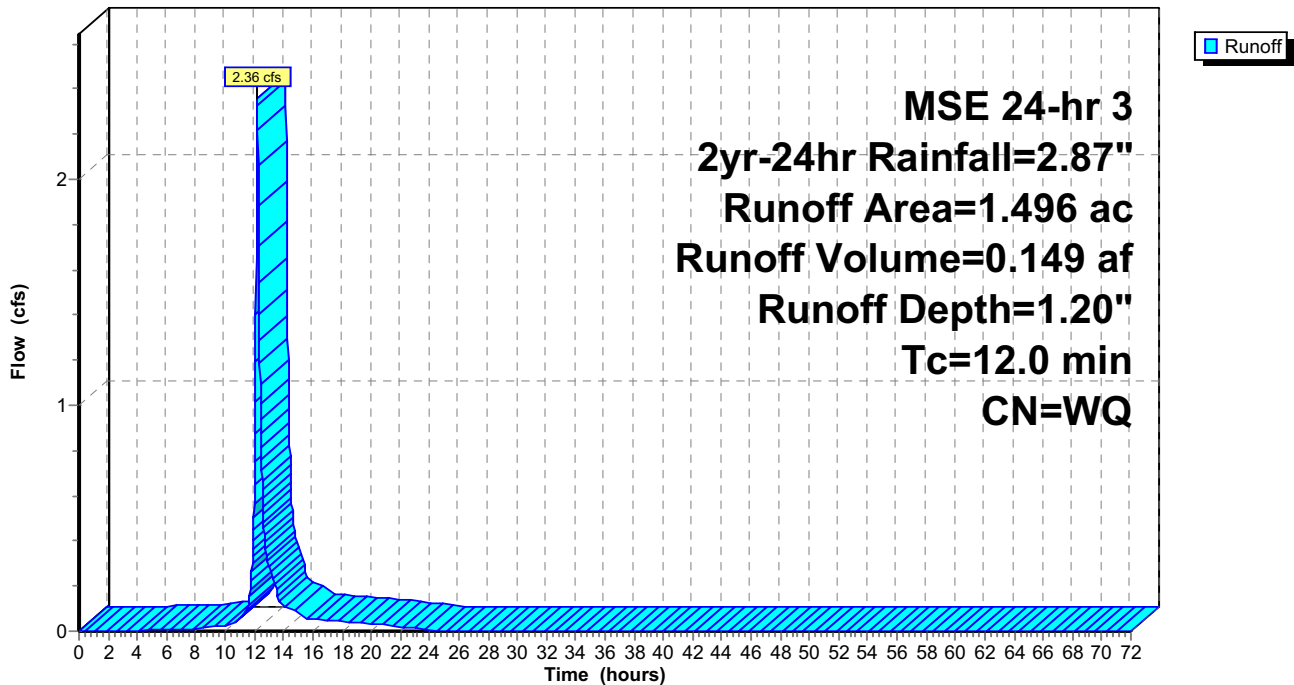
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.304	98	Impervious
1.192	74	>75% Grass cover, Good, HSG C
1.496		Weighted Average
1.192		79.68% Pervious Area
0.304		20.32% Impervious Area

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

Subcatchment J3: J3

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment J4: J4

Runoff = 0.35 cfs @ 12.21 hrs, Volume= 0.021 af, Depth= 0.83"

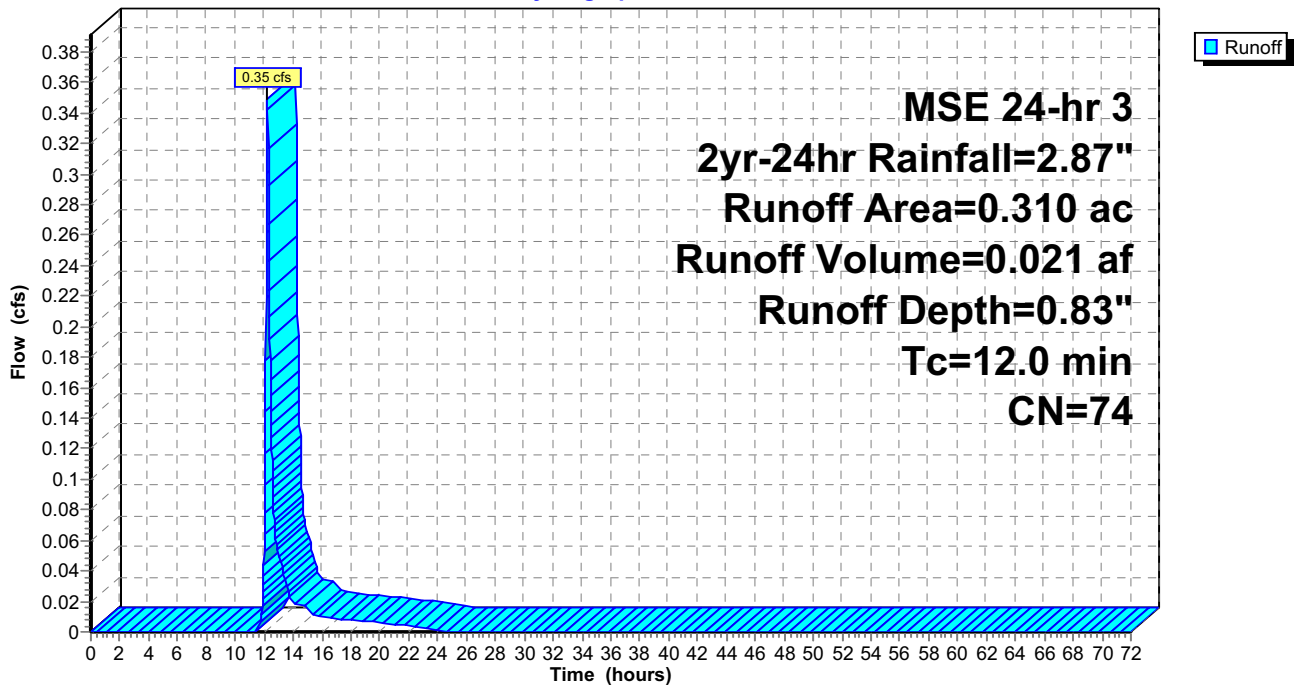
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.310	74	>75% Grass cover, Good, HSG C
0.310		100.00% Pervious Area

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

Subcatchment J4: J4

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment J5: J5

Runoff = 1.04 cfs @ 12.20 hrs, Volume= 0.065 af, Depth= 1.15"

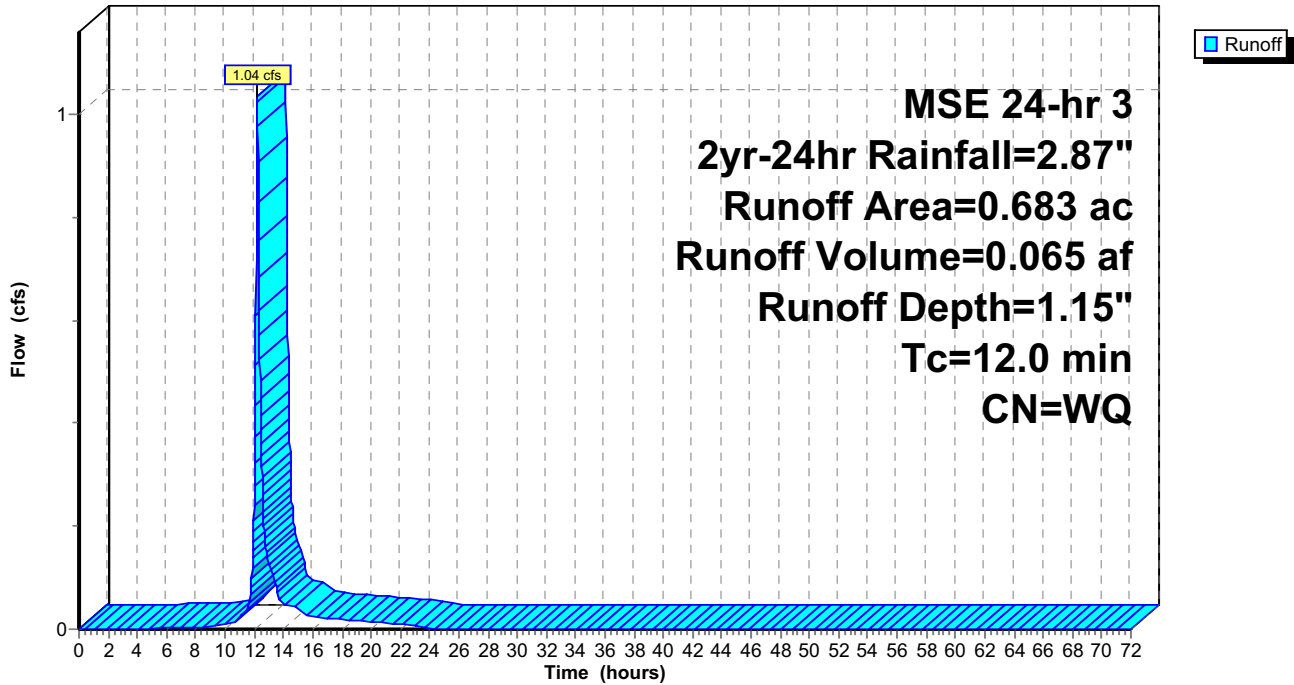
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.121	98	Impervious
0.562	74	>75% Grass cover, Good, HSG C
0.683		Weighted Average
0.562		82.28% Pervious Area
0.121		17.72% Impervious Area

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

Subcatchment J5: J5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L10: L10

Runoff = 1.75 cfs @ 12.20 hrs, Volume= 0.110 af, Depth= 1.14"

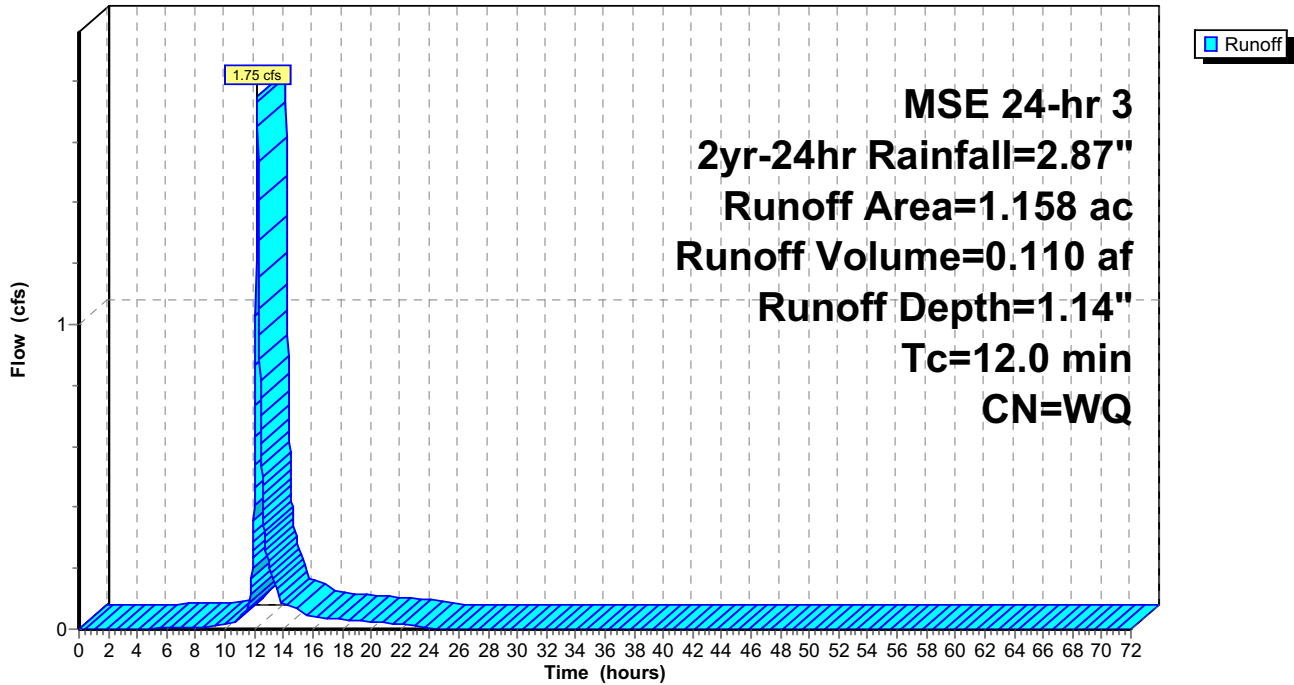
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.955	74	>75% Grass cover, Good, HSG C
1.158		Weighted Average
0.955		82.47% Pervious Area
0.203		17.53% Impervious Area

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

Subcatchment L10: L10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L4: L4

Runoff = 0.26 cfs @ 12.20 hrs, Volume= 0.017 af, Depth= 1.19"

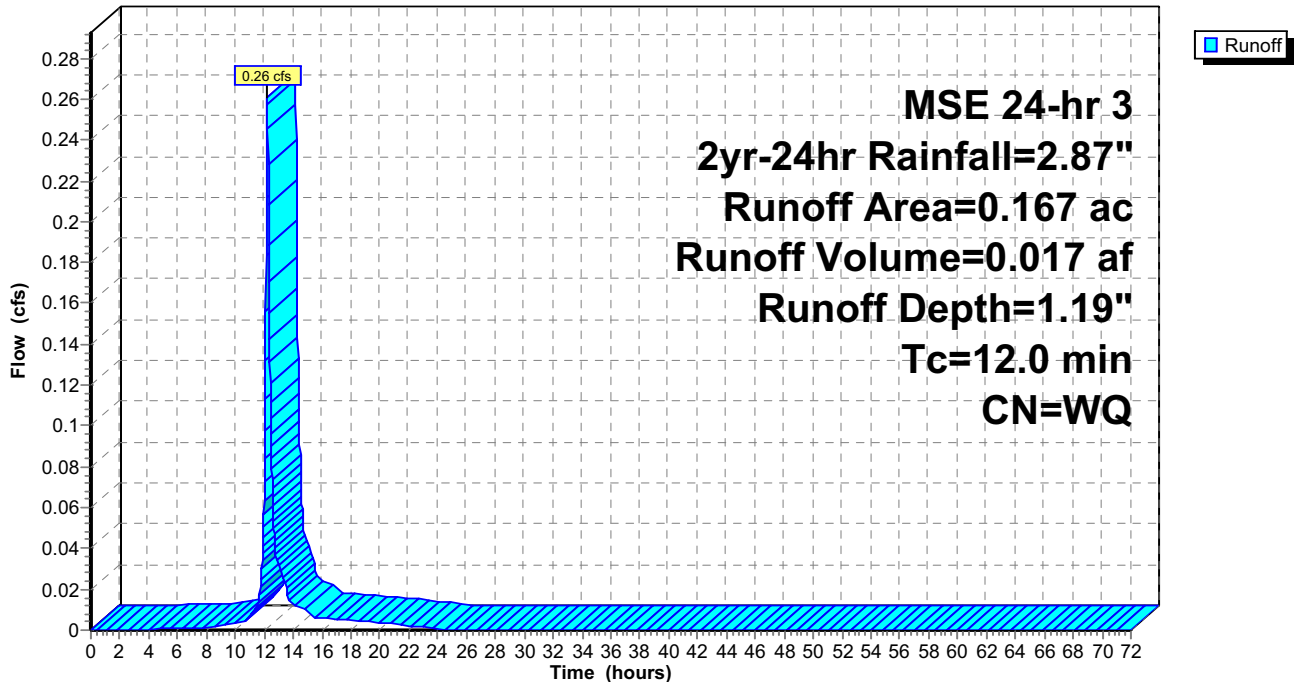
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.002	98	Impervious
0.005	61	>75% Grass cover, Good, HSG B
0.127	74	>75% Grass cover, Good, HSG C
* 0.033	98	Impervious
0.167		Weighted Average
0.132		79.04% Pervious Area
0.035		20.96% Impervious Area

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

Subcatchment L4: L4

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L5: L5

Runoff = 1.23 cfs @ 12.20 hrs, Volume= 0.078 af, Depth= 1.23"

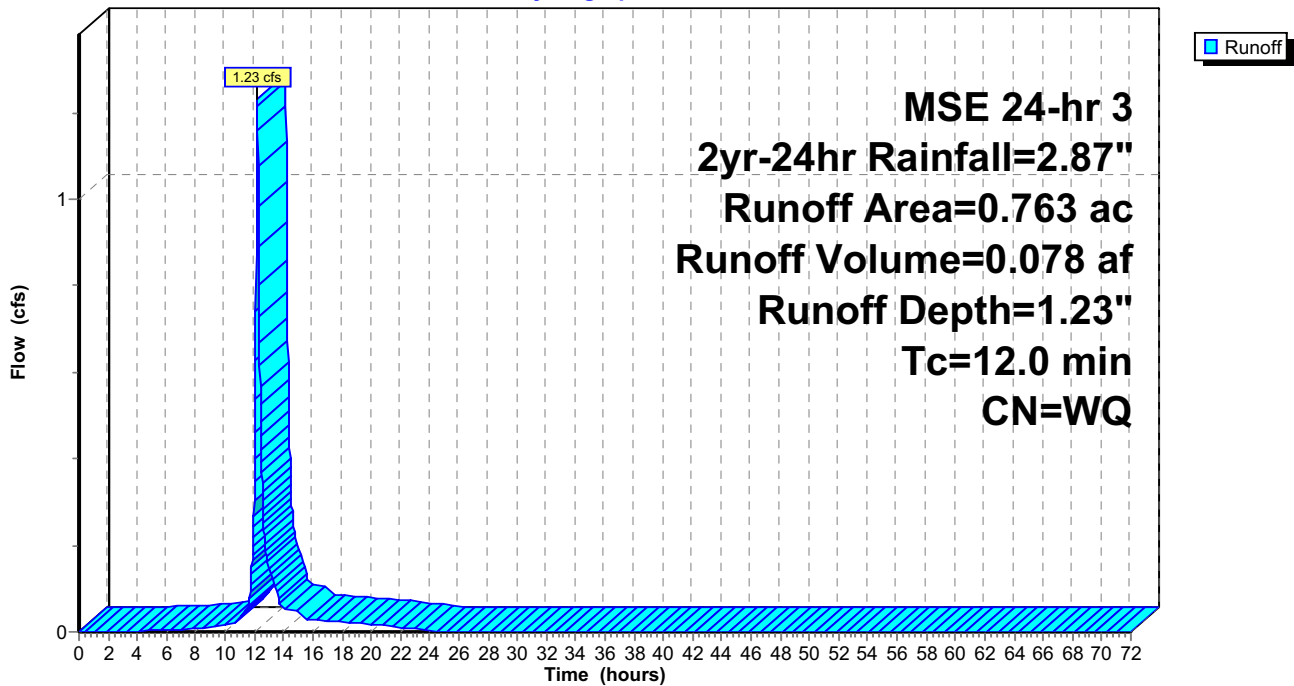
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

	Area (ac)	CN	Description
*	0.101	98	Impervious
	0.595	74	>75% Grass cover, Good, HSG C
*	0.067	98	Impervious
	0.763		Weighted Average
	0.595		77.98% Pervious Area
	0.168		22.02% Impervious Area

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

Subcatchment L5: L5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L6: L6

Runoff = 1.71 cfs @ 12.20 hrs, Volume= 0.108 af, Depth= 1.19"

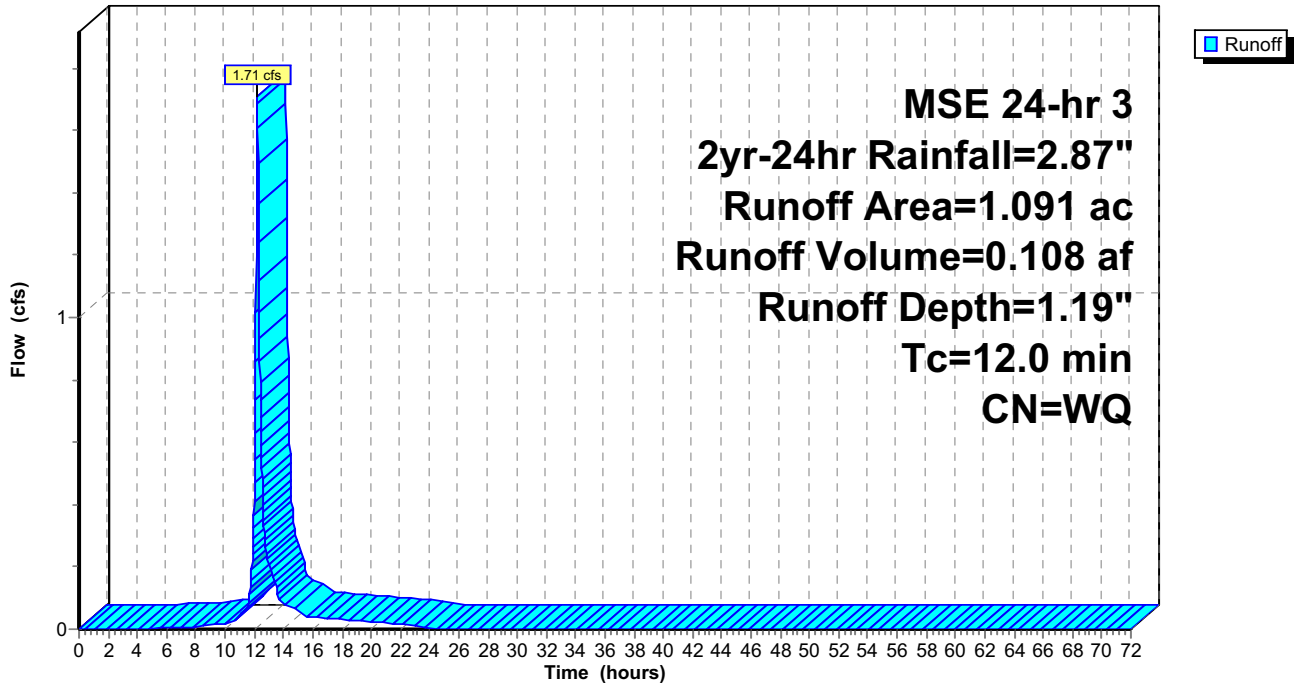
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.218	98	Impervious
0.873	74	>75% Grass cover, Good, HSG C
1.091		Weighted Average
0.873		80.02% Pervious Area
0.218		19.98% Impervious Area

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

Subcatchment L6: L6

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L7: L7

Runoff = 1.21 cfs @ 12.20 hrs, Volume= 0.077 af, Depth= 1.21"

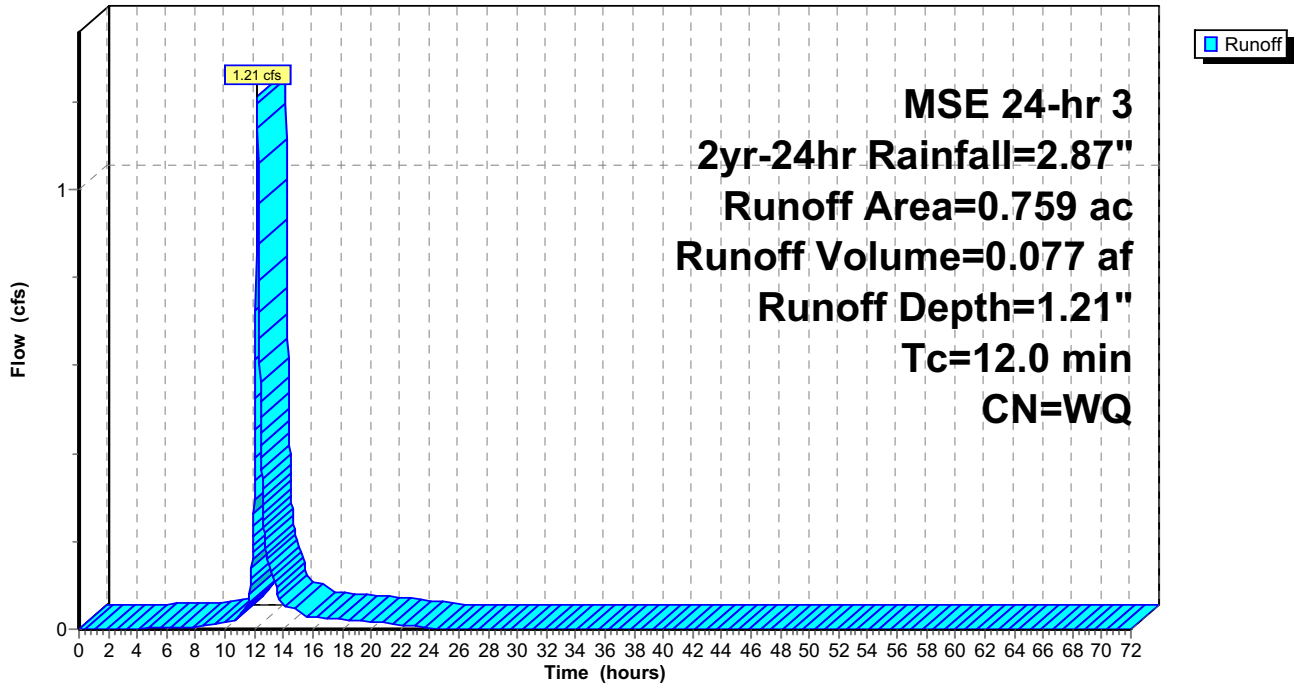
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.161	98	Impervious
0.598	74	>75% Grass cover, Good, HSG C
0.759		Weighted Average
0.598		78.79% Pervious Area
0.161		21.21% Impervious Area

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

Subcatchment L7: L7

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L8: L8

Runoff = 2.23 cfs @ 12.20 hrs, Volume= 0.141 af, Depth= 1.18"

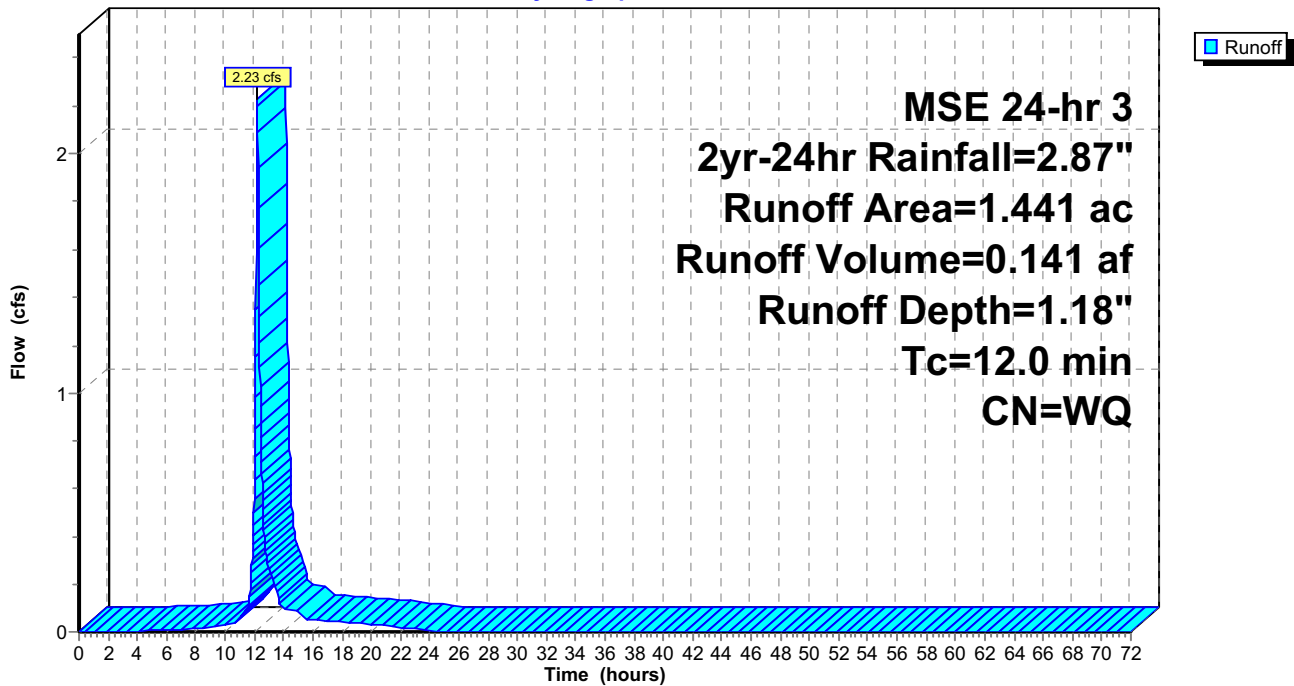
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.318	98	Impervious
0.086	39	>75% Grass cover, Good, HSG A
1.037	74	>75% Grass cover, Good, HSG C
1.441		Weighted Average
1.123		77.93% Pervious Area
0.318		22.07% Impervious Area

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

Subcatchment L8: L8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L9: L9

Runoff = 1.54 cfs @ 12.20 hrs, Volume= 0.098 af, Depth= 1.21"

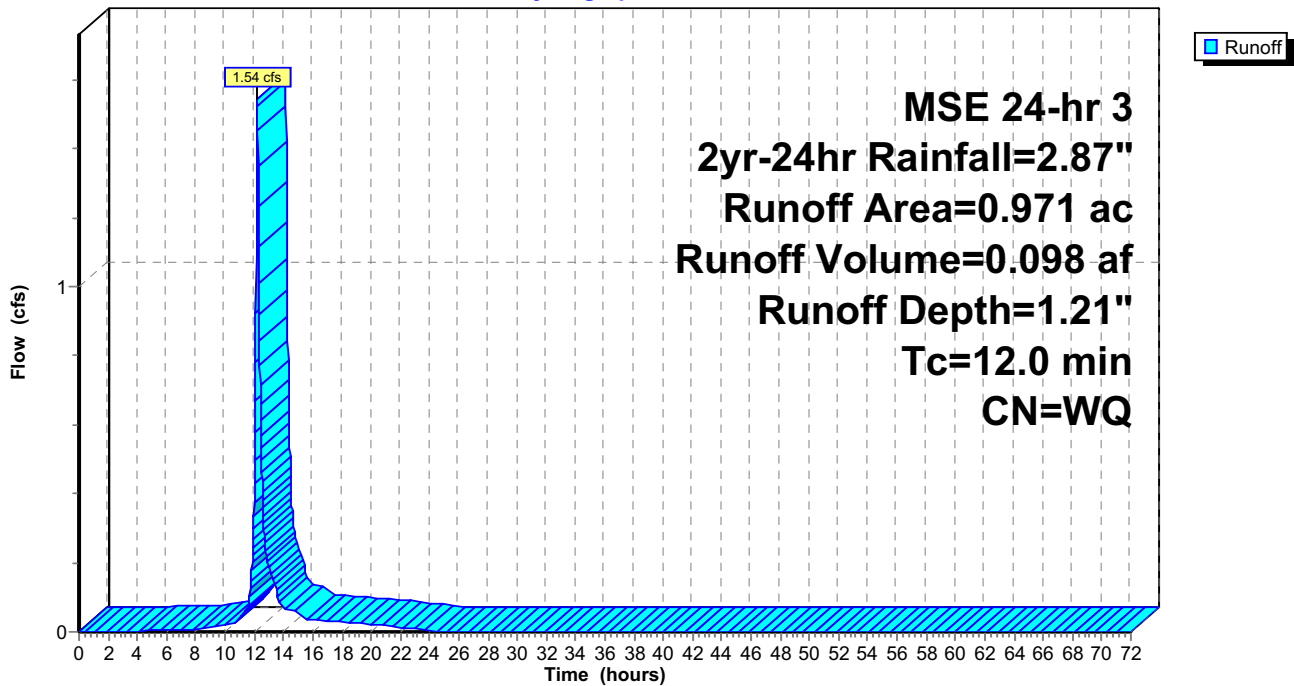
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.205	98	Impervious
0.003	39	>75% Grass cover, Good, HSG A
0.763	74	>75% Grass cover, Good, HSG C
0.971		Weighted Average
0.766		78.89% Pervious Area
0.205		21.11% Impervious Area

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

Subcatchment L9: L9

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment O10: O10

Runoff = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af, Depth= 1.11"

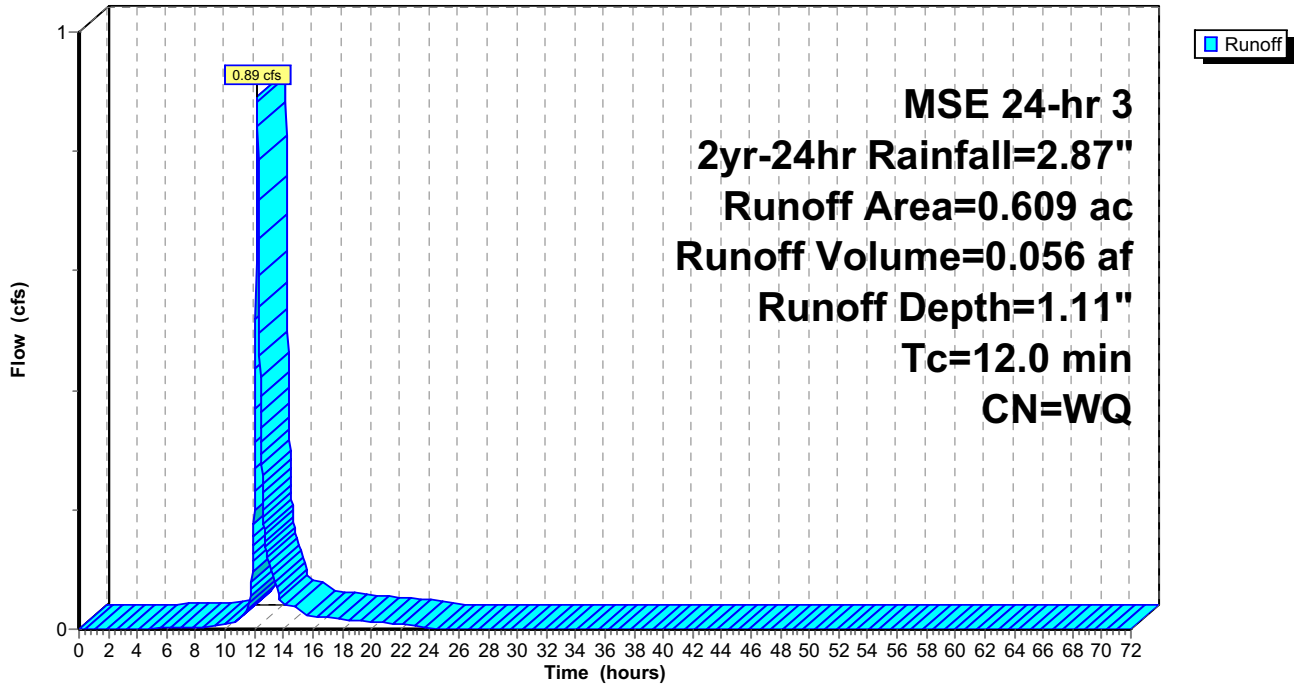
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.094	98	Impervious
0.515	74	>75% Grass cover, Good, HSG C
0.609		Weighted Average
0.515		84.56% Pervious Area
0.094		15.44% Impervious Area

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

Subcatchment O10: O10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment O8: O8

Runoff = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af, Depth= 1.05"

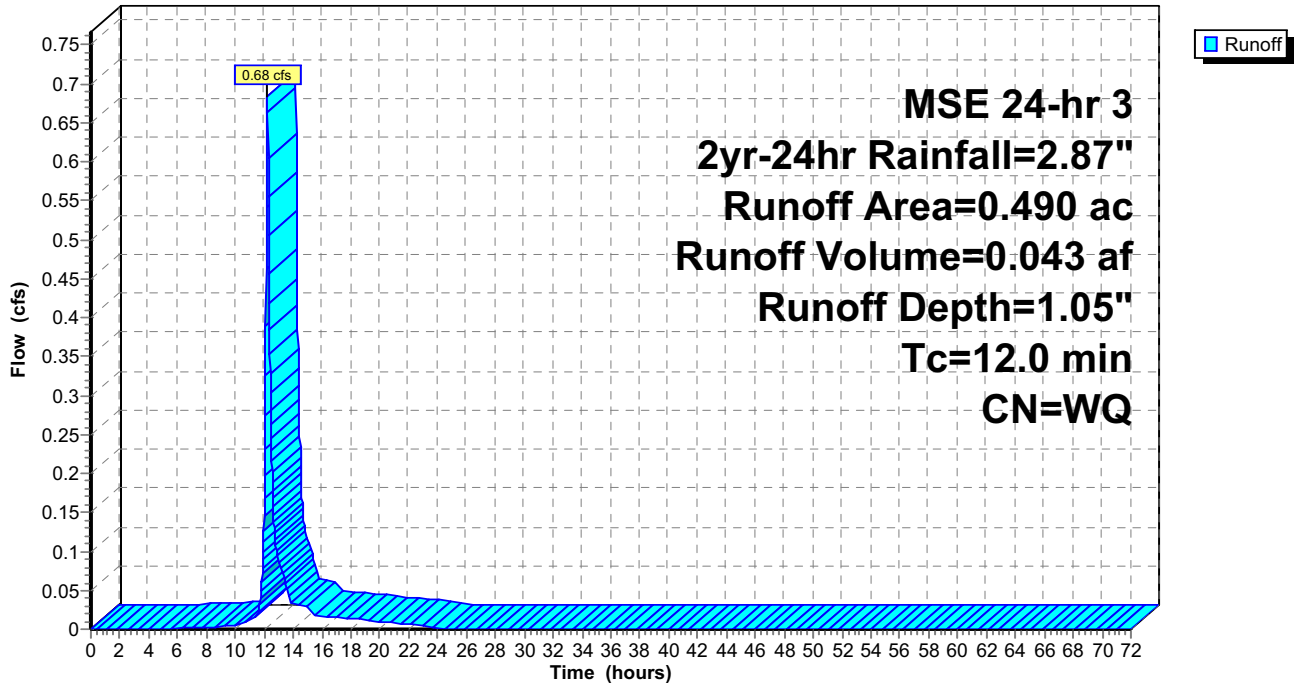
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.060	98	Impervious
0.430	74	>75% Grass cover, Good, HSG C
0.490		Weighted Average
0.430		87.76% Pervious Area
0.060		12.24% Impervious Area

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

Subcatchment O8: O8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment O9: O9

Runoff = 1.79 cfs @ 12.20 hrs, Volume= 0.113 af, Depth= 1.19"

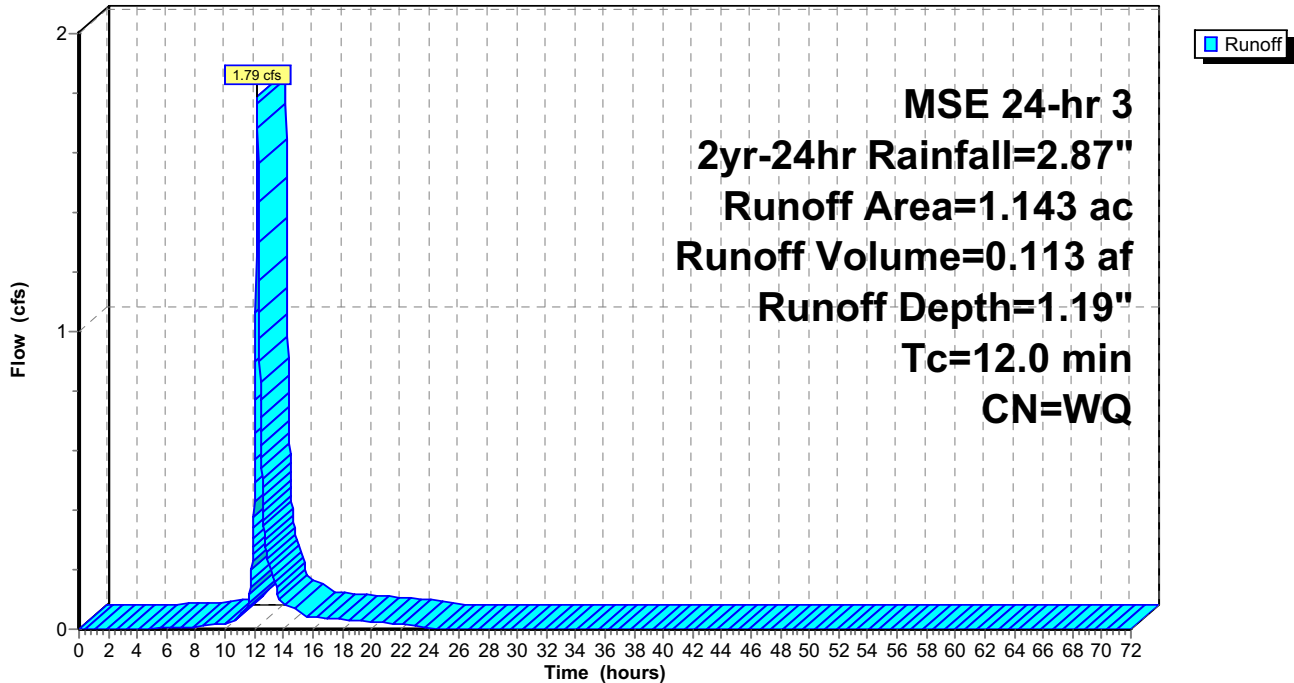
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.227	98	Impervious
0.916	74	>75% Grass cover, Good, HSG C
1.143		Weighted Average
0.916		80.14% Pervious Area
0.227		19.86% Impervious Area

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

Subcatchment O9: O9

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment W6: W6

Runoff = 8.65 cfs @ 12.41 hrs, Volume= 0.828 af, Depth= 0.99"

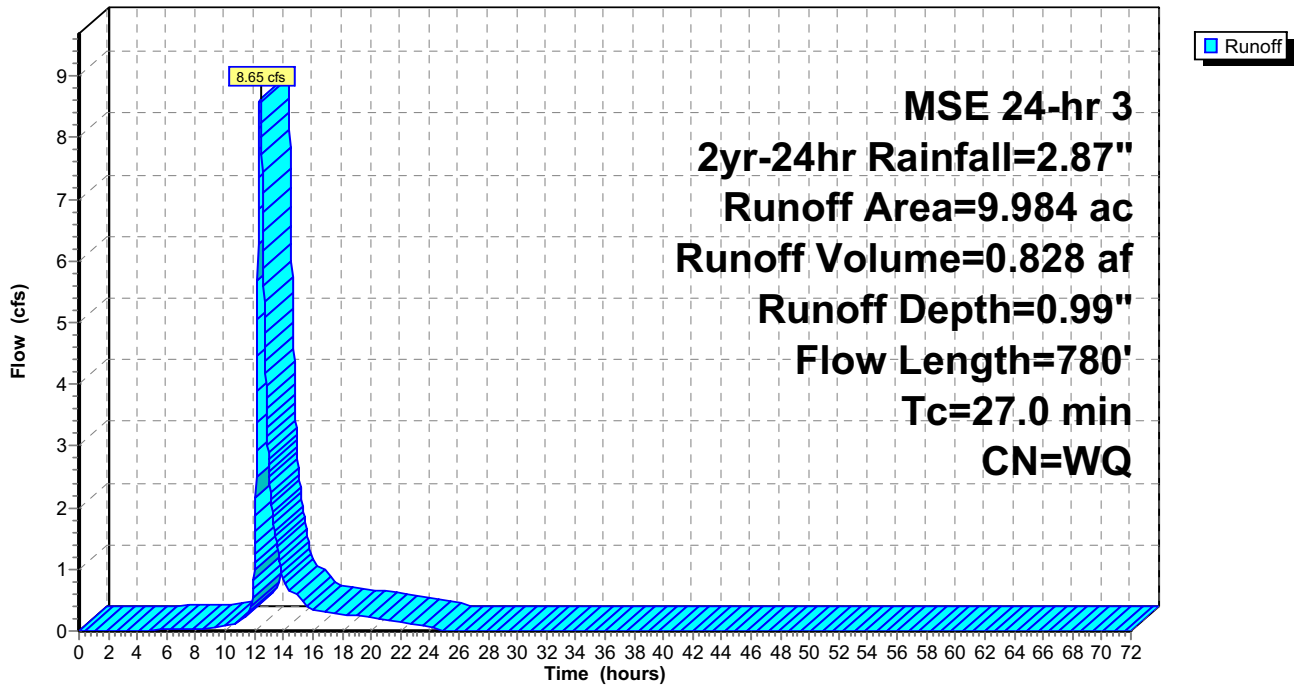
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.983	98	Impervious
6.862	74	>75% Grass cover, Good, HSG C
2.139	73	Woods, Fair, HSG C
9.984		Weighted Average
9.001		90.15% Pervious Area
0.983		9.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	300	0.0330	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
6.6	480	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.0	780	Total			

Subcatchment W6: W6

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Summary for Subcatchment W6_100: W6_100

Runoff = 0.11 cfs @ 12.66 hrs, Volume= 0.014 af, Depth= 0.80"

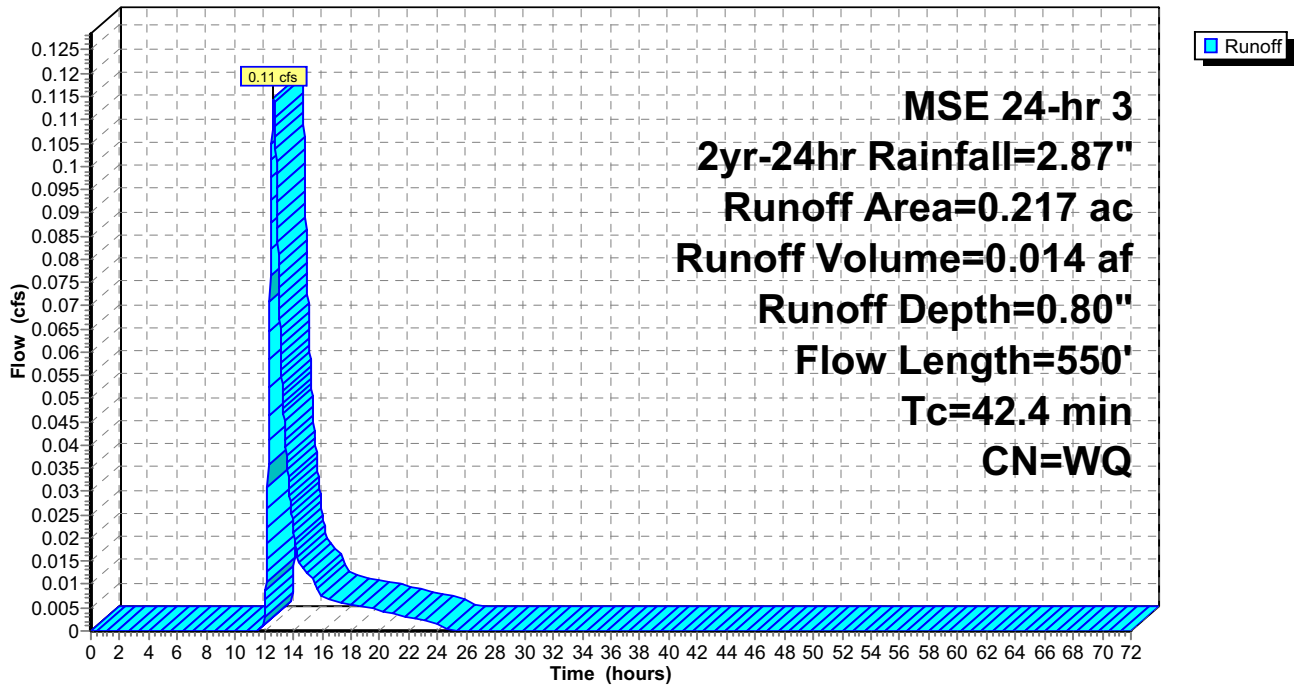
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.094	74	>75% Grass cover, Good, HSG C
0.123	73	Woods, Fair, HSG C
0.217		Weighted Average
0.217		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.8	300	0.0470	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
3.6	250	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
42.4	550	Total			

Subcatchment W6_100: W6_100

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Summary for Subcatchment W6_101: W6_101

Runoff = 2.40 cfs @ 12.29 hrs, Volume= 0.191 af, Depth= 1.06"

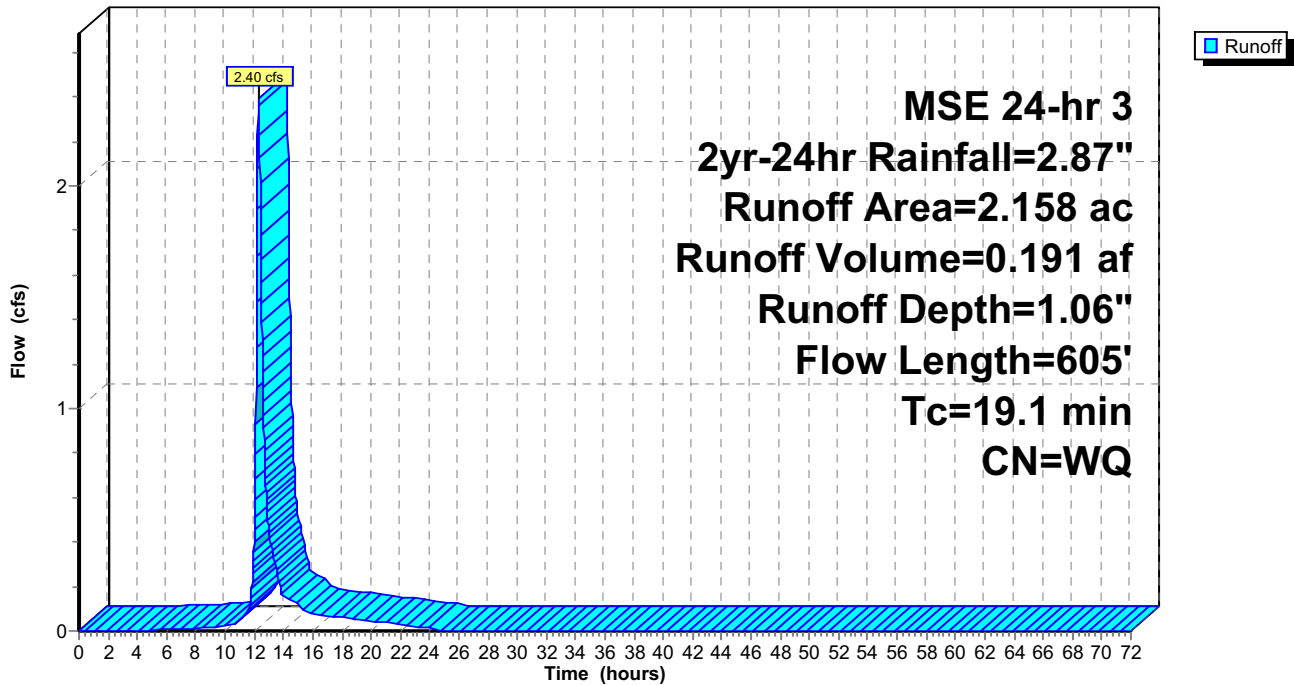
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
1.405	74	>75% Grass cover, Good, HSG C
* 0.290	98	Impervious
0.463	73	Woods, Fair, HSG C
2.158		Weighted Average
1.868		86.56% Pervious Area
0.290		13.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	295	0.0680	0.33		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
4.0	310	0.0340	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
19.1	605	Total			

Subcatchment W6_101: W6_101

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Summary for Subcatchment W6_102: W6_102

Runoff = 0.26 cfs @ 12.26 hrs, Volume= 0.018 af, Depth= 0.83"

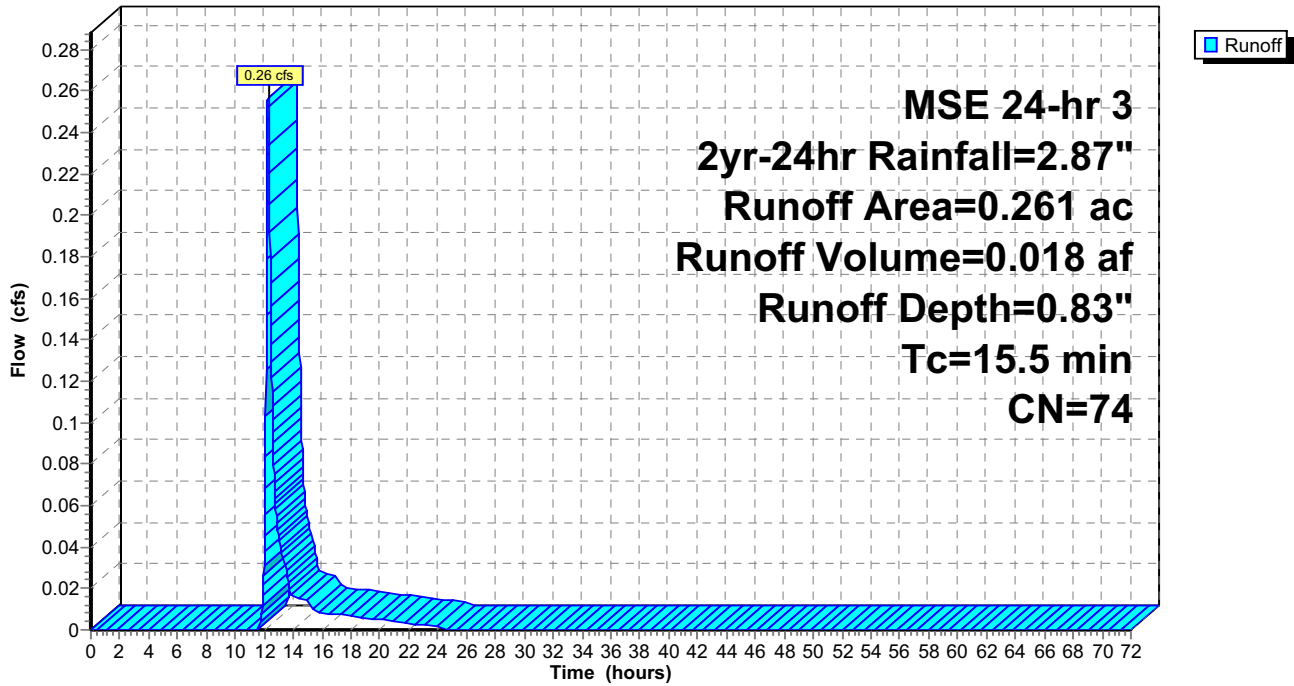
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
0.261		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5					Direct Entry, From Existing Conditions (EX_5)

Subcatchment W6_102: W6_102

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment W9: W9

Runoff = 2.48 cfs @ 12.21 hrs, Volume= 0.155 af, Depth= 1.04"

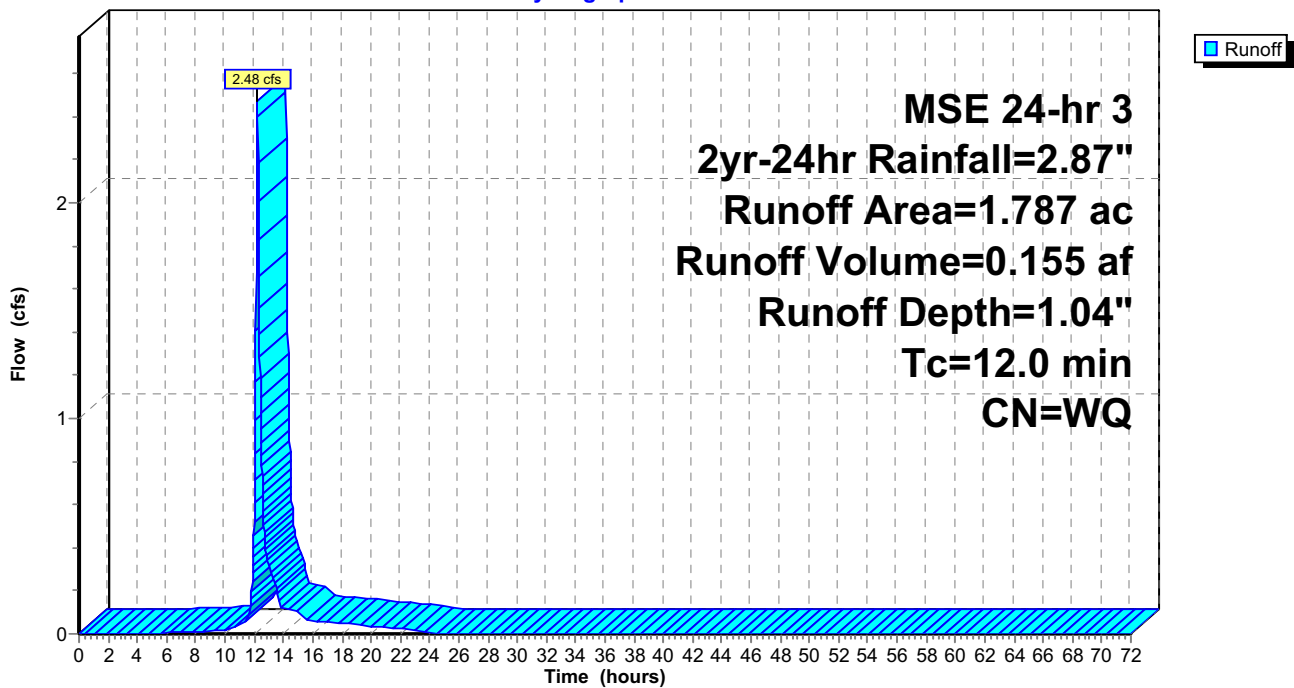
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
1.416	74	>75% Grass cover, Good, HSG C
* 0.217	98	Pond
0.154	73	Woods, Fair, HSG C
1.787		Weighted Average
1.570		87.86% Pervious Area
0.217		12.14% Impervious Area

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

Subcatchment W9: W9

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment W9_100: W9_100

Runoff = 2.33 cfs @ 12.50 hrs, Volume= 0.256 af, Depth= 1.23"

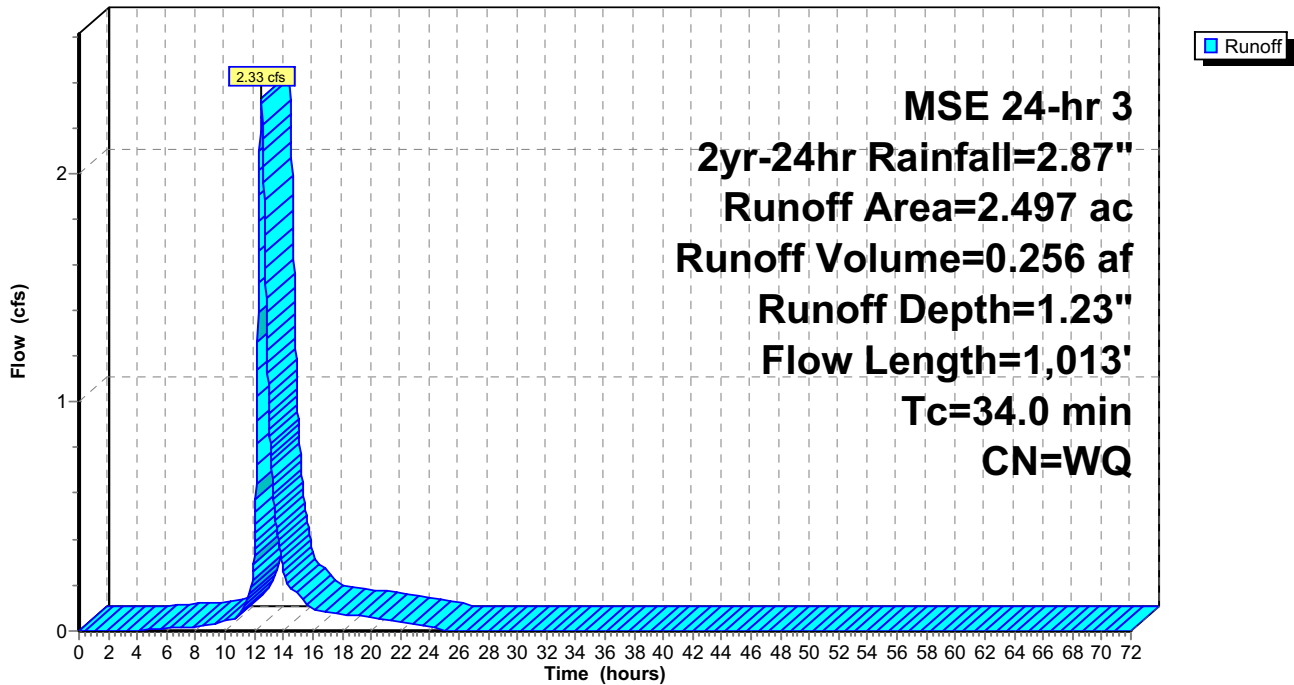
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
1.912	74	>75% Grass cover, Good, HSG C
* 0.557	98	Impervious
0.028	73	Woods, Fair, HSG C
2.497		Weighted Average
1.940		77.69% Pervious Area
0.557		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	223	0.0450	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
19.8	790	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
34.0	1,013	Total			

Subcatchment W9_100: W9_100

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Summary for Subcatchment W9_101: W9_101

Runoff = 1.04 cfs @ 12.25 hrs, Volume= 0.077 af, Depth= 1.72"

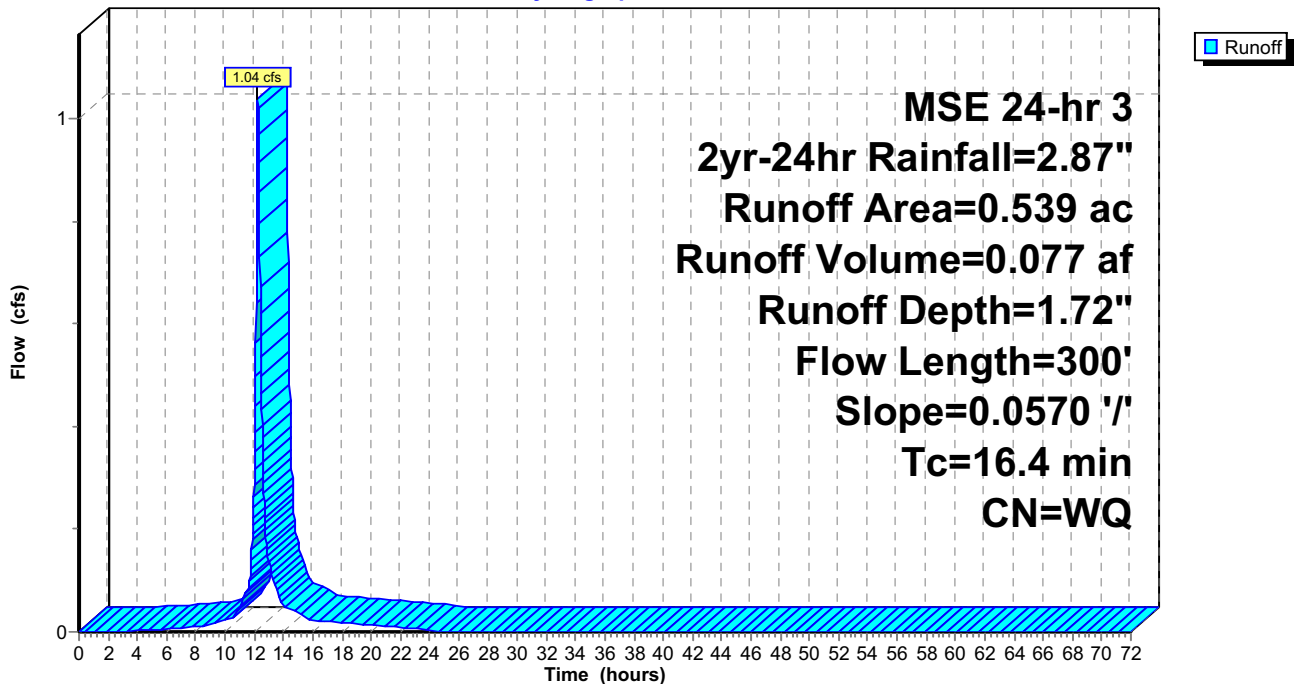
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.274	74	>75% Grass cover, Good, HSG C
* 0.265	98	Impervious
0.539		Weighted Average
0.274		50.83% Pervious Area
0.265		49.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	300	0.0570	0.31		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment W9_101: W9_101

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 1R: Bassett Creek Watershed

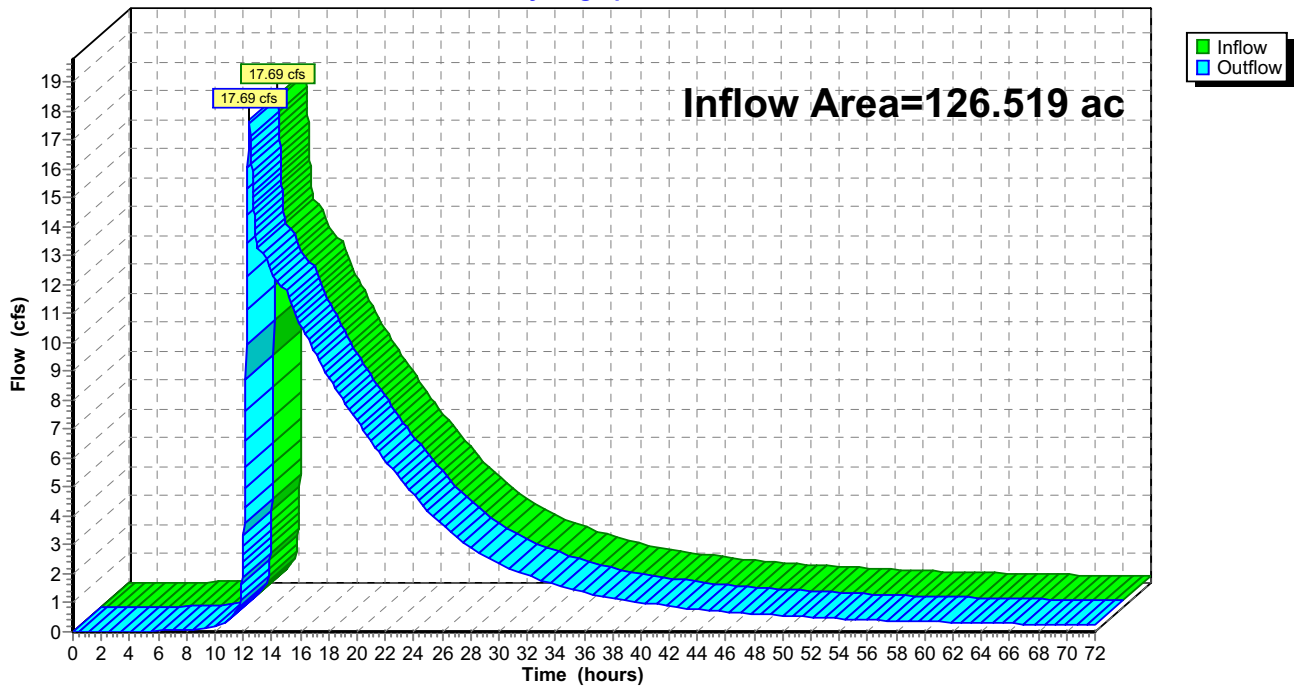
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.519 ac, 32.48% Impervious, Inflow Depth > 1.27" for 2yr-24hr event
Inflow = 17.69 cfs @ 12.44 hrs, Volume= 13.344 af
Outflow = 17.69 cfs @ 12.44 hrs, Volume= 13.344 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 5R: Elm Creek Watershed

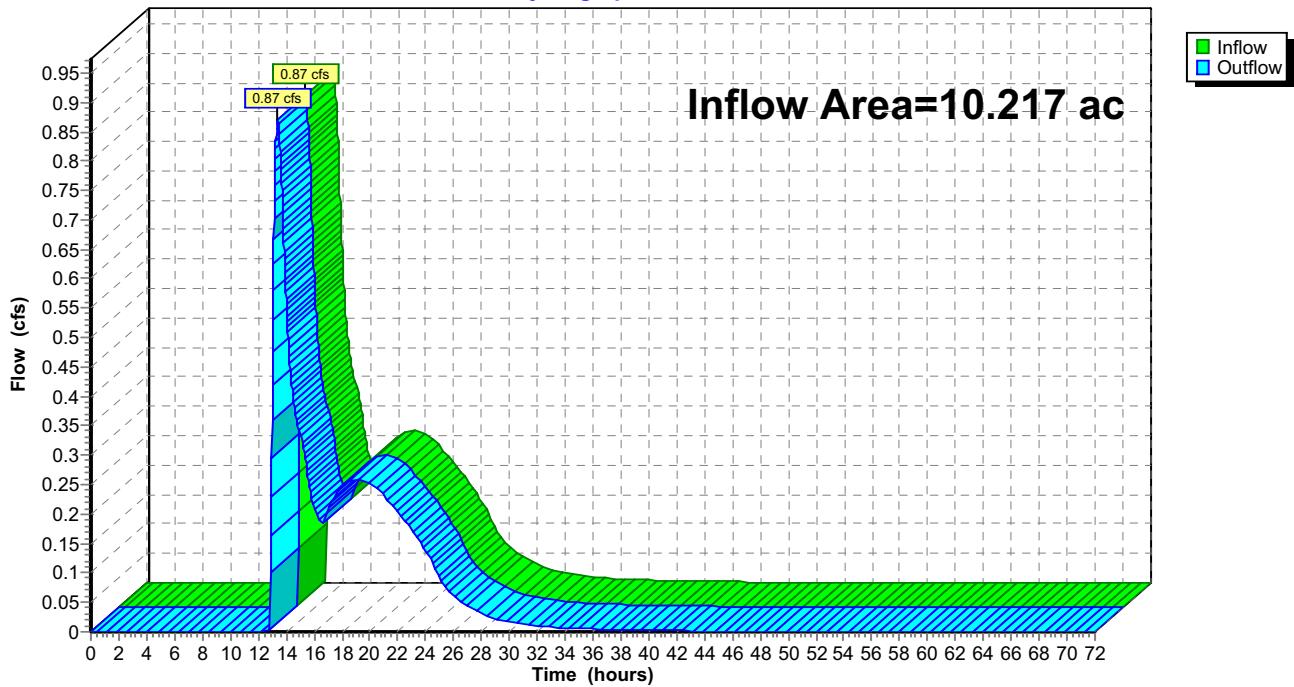
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth > 0.35" for 2yr-24hr event
Inflow = 0.87 cfs @ 13.38 hrs, Volume= 0.297 af
Outflow = 0.87 cfs @ 13.38 hrs, Volume= 0.297 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 5R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 8R: Offsite

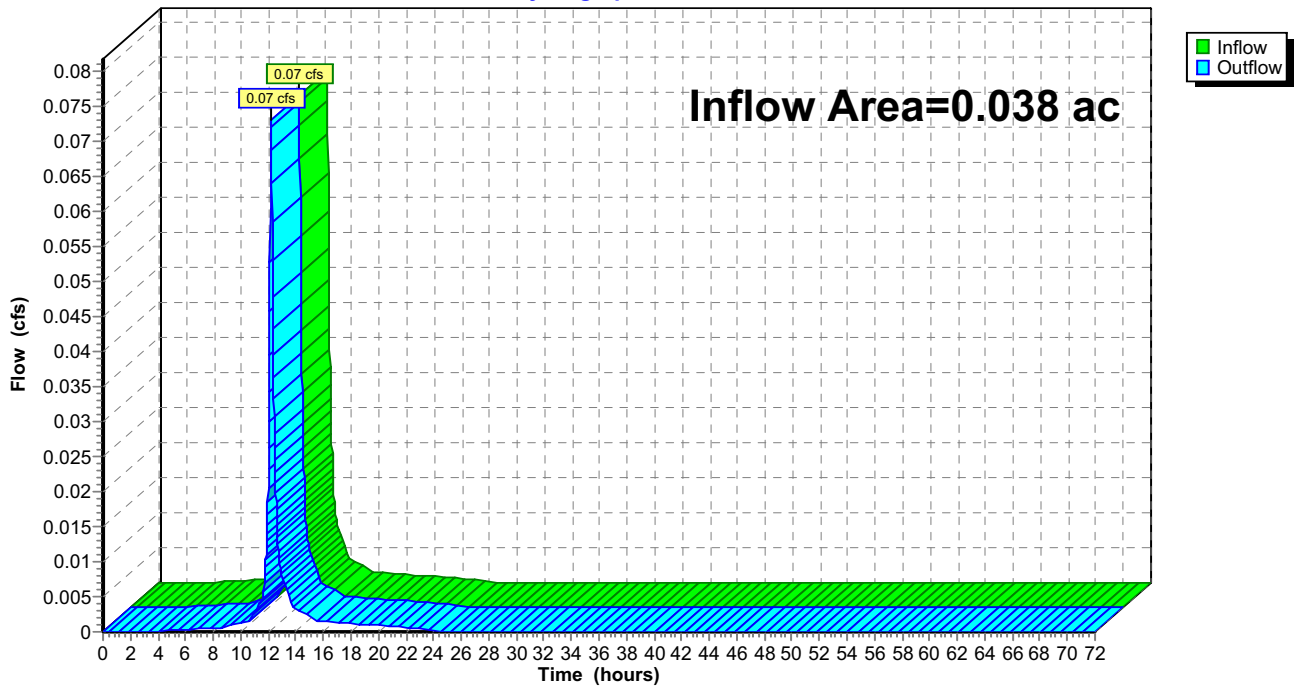
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.038 ac, 36.84% Impervious, Inflow Depth = 1.49" for 2yr-24hr event
Inflow = 0.07 cfs @ 12.20 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.20 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 8R: Offsite

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach Wetland: Wetland 6

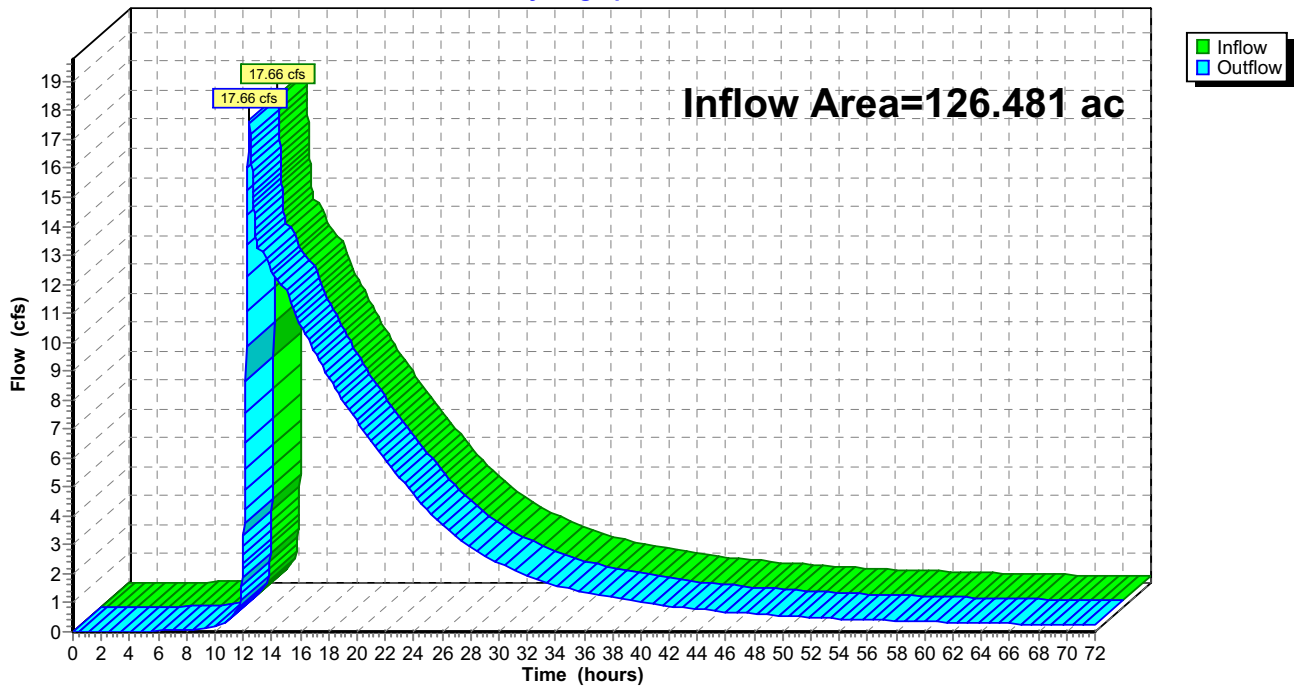
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.481 ac, 32.48% Impervious, Inflow Depth > 1.27" for 2yr-24hr event
Inflow = 17.66 cfs @ 12.44 hrs, Volume= 13.339 af
Outflow = 17.66 cfs @ 12.44 hrs, Volume= 13.339 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach Wetland: Wetland 6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond 4P: CB_22 pipe

[57] Hint: Peaked at 969.87' (Flood elevation advised)

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af
 Outflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Peak Elev= 969.87' @ 12.26 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	969.20'	24.0" Round Structure I2 to I1 L= 40.7' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.20' / 969.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	969.50'	21.0" Round Structure I9 to I2 L= 87.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

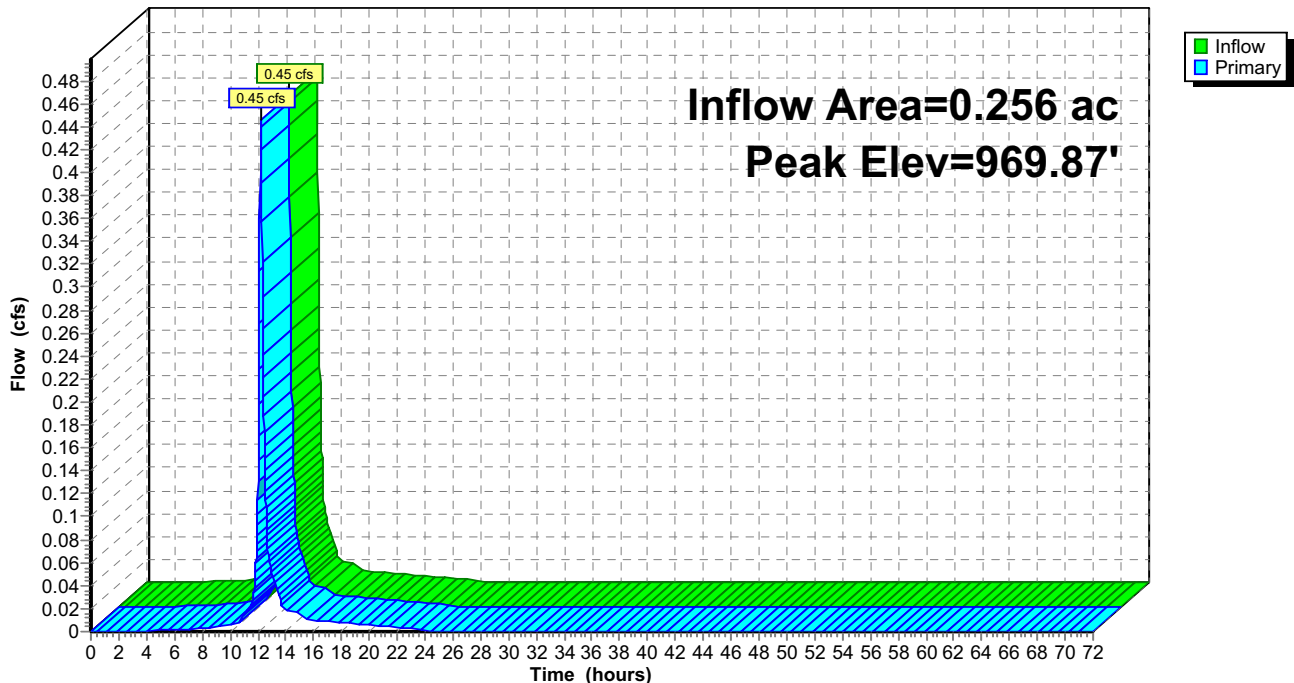
Primary OutFlow Max=0.42 cfs @ 12.20 hrs HW=969.86' TW=969.58' (Dynamic Tailwater)

1=Structure I2 to I1 (Passes 0.42 cfs of 1.72 cfs potential flow)

2=Structure I9 to I2 (Outlet Controls 0.42 cfs @ 1.75 fps)

Pond 4P: CB_22 pipe

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond 4P: CB_22 pipe

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
969.20	0	970.22	0	971.24	0
969.22	0	970.24	0		
969.24	0	970.26	0		
969.26	0	970.28	0		
969.28	0	970.30	0		
969.30	0	970.32	0		
969.32	0	970.34	0		
969.34	0	970.36	0		
969.36	0	970.38	0		
969.38	0	970.40	0		
969.40	0	970.42	0		
969.42	0	970.44	0		
969.44	0	970.46	0		
969.46	0	970.48	0		
969.48	0	970.50	0		
969.50	0	970.52	0		
969.52	0	970.54	0		
969.54	0	970.56	0		
969.56	0	970.58	0		
969.58	0	970.60	0		
969.60	0	970.62	0		
969.62	0	970.64	0		
969.64	0	970.66	0		
969.66	0	970.68	0		
969.68	0	970.70	0		
969.70	0	970.72	0		
969.72	0	970.74	0		
969.74	0	970.76	0		
969.76	0	970.78	0		
969.78	0	970.80	0		
969.80	0	970.82	0		
969.82	0	970.84	0		
969.84	0	970.86	0		
969.86	0	970.88	0		
969.88	0	970.90	0		
969.90	0	970.92	0		
969.92	0	970.94	0		
969.94	0	970.96	0		
969.96	0	970.98	0		
969.98	0	971.00	0		
970.00	0	971.02	0		
970.02	0	971.04	0		
970.04	0	971.06	0		
970.06	0	971.08	0		
970.08	0	971.10	0		
970.10	0	971.12	0		
970.12	0	971.14	0		
970.14	0	971.16	0		
970.16	0	971.18	0		
970.18	0	971.20	0		
970.20	0	971.22	0		

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 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_A10: CB_A10

Inflow Area = 0.552 ac, 11.05% Impervious, Inflow Depth = 1.01" for 2yr-24hr event
 Inflow = 0.74 cfs @ 12.21 hrs, Volume= 0.047 af
 Outflow = 0.74 cfs @ 12.22 hrs, Volume= 0.047 af, Atten= 1%, Lag= 0.6 min
 Primary = 0.74 cfs @ 12.22 hrs, Volume= 0.047 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.10' @ 12.22 hrs Surf.Area= 388 sf Storage= 22 cf

Plug-Flow detention time= 0.5 min calculated for 0.047 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (817.3 - 816.9)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	8,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
999.00	3,400	1,725	1,725
1,001.00	3,400	6,800	8,525

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	999.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.74 cfs @ 12.22 hrs HW=998.10' TW=978.53' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.74 cfs @ 1.04 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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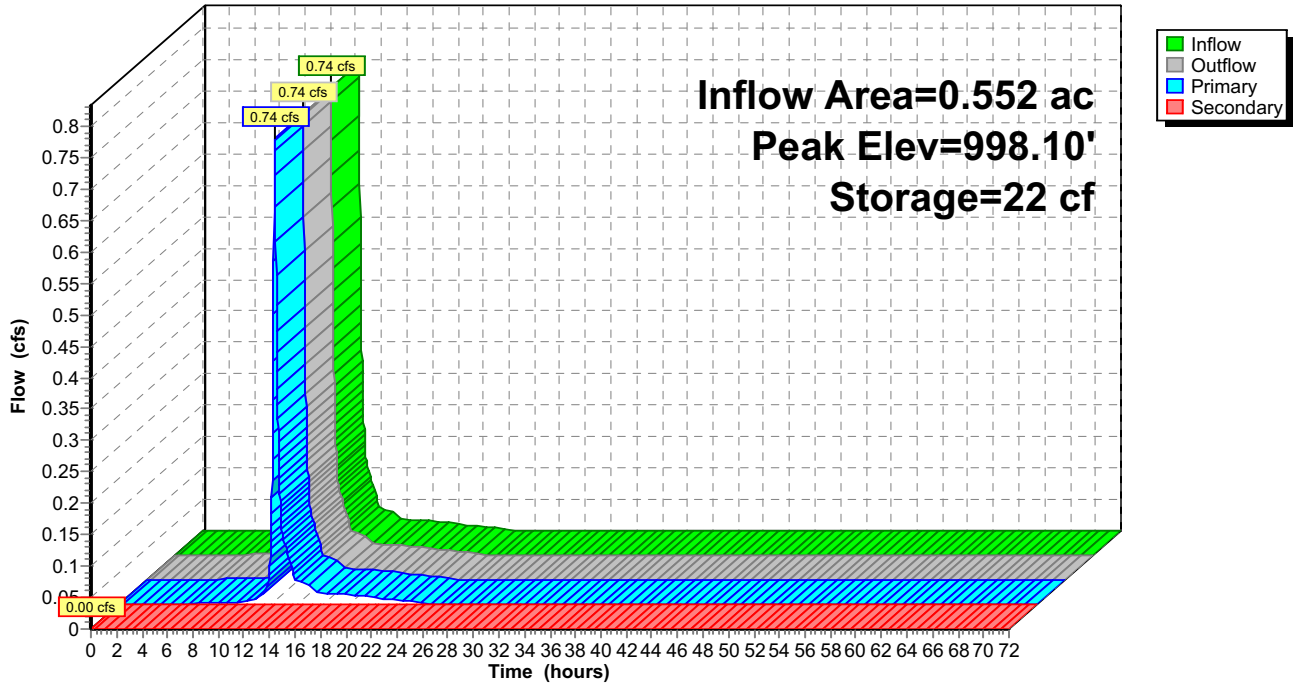
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_A10: CB_A10

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_A10: CB_A10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	3,400	6,995
998.05	217	7	1,000.60	3,400	7,165
998.10	385	22	1,000.65	3,400	7,335
998.15	552	45	1,000.70	3,400	7,505
998.20	720	77	1,000.75	3,400	7,675
998.25	888	117	1,000.80	3,400	7,845
998.30	1,055	166	1,000.85	3,400	8,015
998.35	1,223	223	1,000.90	3,400	8,185
998.40	1,390	288	1,000.95	3,400	8,355
998.45	1,558	362	1,001.00	3,400	8,525
998.50	1,725	444			
998.55	1,892	534			
998.60	2,060	633			
998.65	2,227	740			
998.70	2,395	856			
998.75	2,563	980			
998.80	2,730	1,112			
998.85	2,898	1,253			
998.90	3,065	1,402			
998.95	3,233	1,559			
999.00	3,400	1,725			
999.05	3,400	1,895			
999.10	3,400	2,065			
999.15	3,400	2,235			
999.20	3,400	2,405			
999.25	3,400	2,575			
999.30	3,400	2,745			
999.35	3,400	2,915			
999.40	3,400	3,085			
999.45	3,400	3,255			
999.50	3,400	3,425			
999.55	3,400	3,595			
999.60	3,400	3,765			
999.65	3,400	3,935			
999.70	3,400	4,105			
999.75	3,400	4,275			
999.80	3,400	4,445			
999.85	3,400	4,615			
999.90	3,400	4,785			
999.95	3,400	4,955			
1,000.00	3,400	5,125			
1,000.05	3,400	5,295			
1,000.10	3,400	5,465			
1,000.15	3,400	5,635			
1,000.20	3,400	5,805			
1,000.25	3,400	5,975			
1,000.30	3,400	6,145			
1,000.35	3,400	6,315			
1,000.40	3,400	6,485			
1,000.45	3,400	6,655			
1,000.50	3,400	6,825			

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 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_A11: CB_A11

Inflow Area = 1.508 ac, 12.07% Impervious, Inflow Depth = 1.32" for 2yr-24hr event
 Inflow = 2.63 cfs @ 12.21 hrs, Volume= 0.166 af
 Outflow = 2.60 cfs @ 12.23 hrs, Volume= 0.166 af, Atten= 1%, Lag= 1.0 min
 Primary = 2.60 cfs @ 12.23 hrs, Volume= 0.166 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.23' @ 12.23 hrs Surf.Area= 953 sf Storage= 117 cf

Plug-Flow detention time= 0.6 min calculated for 0.166 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (814.2 - 813.7)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	7,850 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	7,800	7,850	7,850

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.60'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.59 cfs @ 12.23 hrs HW=996.23' TW=978.55' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 2.59 cfs @ 1.58 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=996.00' TW=994.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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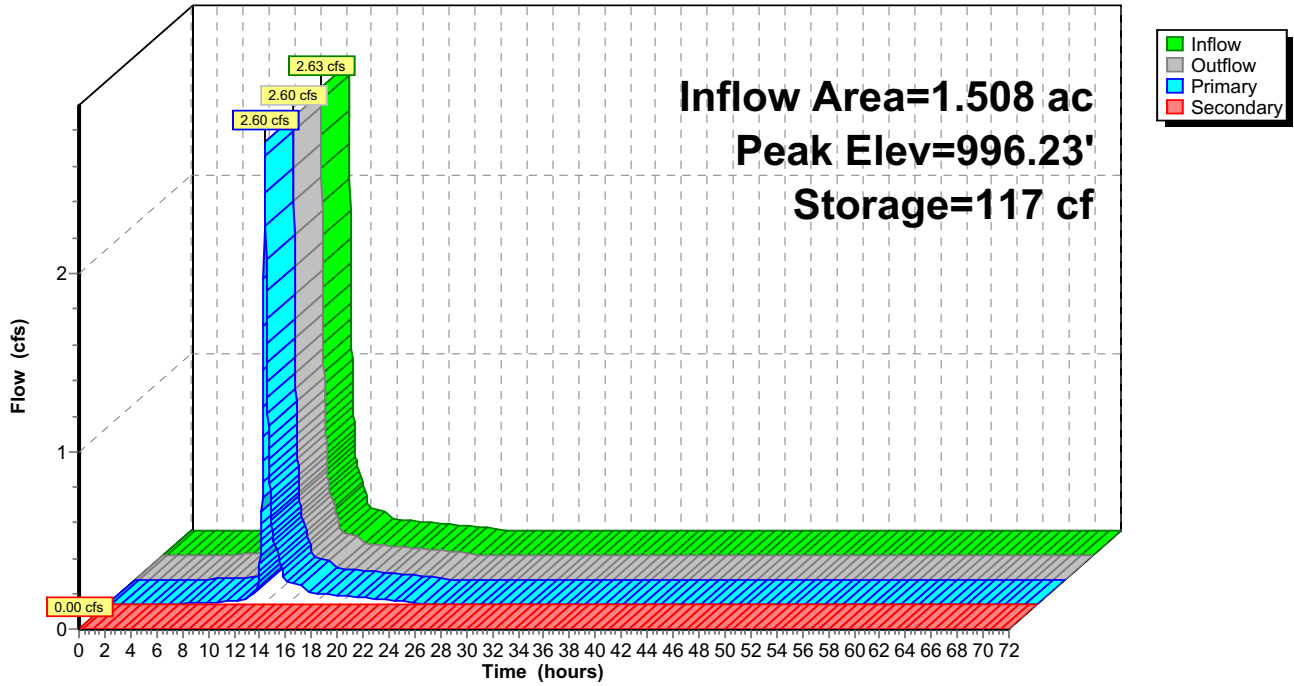
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_A11: CB_A11

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_A11: CB_A11

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
996.00	50	0	997.02	4,002	2,067
996.02	127	2	997.04	4,080	2,148
996.04	205	5	997.06	4,157	2,230
996.06	282	10	997.08	4,235	2,314
996.08	360	16	997.10	4,313	2,399
996.10	438	24	997.12	4,390	2,486
996.12	515	34	997.14	4,467	2,575
996.14	592	45	997.16	4,545	2,665
996.16	670	58	997.18	4,622	2,757
996.18	747	72	997.20	4,700	2,850
996.20	825	88	997.22	4,778	2,945
996.22	903	105	997.24	4,855	3,041
996.24	980	124	997.26	4,932	3,139
996.26	1,057	144	997.28	5,010	3,238
996.28	1,135	166	997.30	5,087	3,339
996.30	1,212	189	997.32	5,165	3,442
996.32	1,290	214	997.34	5,243	3,546
996.34	1,368	241	997.36	5,320	3,652
996.36	1,445	269	997.38	5,397	3,759
996.38	1,522	299	997.40	5,475	3,867
996.40	1,600	330	997.42	5,552	3,978
996.42	1,677	363	997.44	5,630	4,090
996.44	1,755	397	997.46	5,708	4,203
996.46	1,833	433	997.48	5,785	4,318
996.48	1,910	470	997.50	5,863	4,434
996.50	1,988	509	997.52	5,940	4,552
996.52	2,065	550	997.54	6,017	4,672
996.54	2,142	592	997.56	6,095	4,793
996.56	2,220	636	997.58	6,173	4,916
996.58	2,298	681	997.60	6,250	5,040
996.60	2,375	728	997.62	6,328	5,166
996.62	2,453	776	997.64	6,405	5,293
996.64	2,530	826	997.66	6,482	5,422
996.66	2,607	877	997.68	6,560	5,552
996.68	2,685	930	997.70	6,638	5,684
996.70	2,763	984	997.72	6,715	5,818
996.72	2,840	1,040	997.74	6,793	5,953
996.74	2,918	1,098	997.76	6,870	6,090
996.76	2,995	1,157	997.78	6,947	6,228
996.78	3,072	1,218	997.80	7,025	6,367
996.80	3,150	1,280	997.82	7,103	6,509
996.82	3,228	1,344	997.84	7,180	6,652
996.84	3,305	1,409	997.86	7,258	6,796
996.86	3,383	1,476	997.88	7,335	6,942
996.88	3,460	1,544	997.90	7,412	7,089
996.90	3,537	1,614	997.92	7,490	7,238
996.92	3,615	1,686	997.94	7,568	7,389
996.94	3,693	1,759	997.96	7,645	7,541
996.96	3,770	1,834	997.98	7,723	7,695
996.98	3,848	1,910	998.00	7,800	7,850
997.00	3,925	1,988			

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Summary for Pond CB_A12: CB_A12

Inflow Area = 0.993 ac, 19.54% Impervious, Inflow Depth = 1.18" for 2yr-24hr event
 Inflow = 1.55 cfs @ 12.20 hrs, Volume= 0.098 af
 Outflow = 1.52 cfs @ 12.22 hrs, Volume= 0.098 af, Atten= 2%, Lag= 1.1 min
 Primary = 0.98 cfs @ 12.22 hrs, Volume= 0.063 af
 Secondary = 0.54 cfs @ 12.22 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.12' @ 12.22 hrs Surf.Area= 1,240 sf Storage= 157 cf

Plug-Flow detention time= 5.9 min calculated for 0.098 af (100% of inflow)
 Center-of-Mass det. time= 4.6 min (808.9 - 804.4)

Volume	Invert	Avail.Storage	Storage Description
#1	997.99'	1,246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.99	50	0	0
998.00	1,240	6	6
999.00	1,240	1,240	1,246

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	998.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

Primary OutFlow Max=0.98 cfs @ 12.22 hrs HW=998.12' TW=978.54' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.98 cfs @ 1.14 fps)

Secondary OutFlow Max=0.54 cfs @ 12.22 hrs HW=998.12' TW=996.23' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Weir Controls 0.54 cfs @ 0.89 fps)

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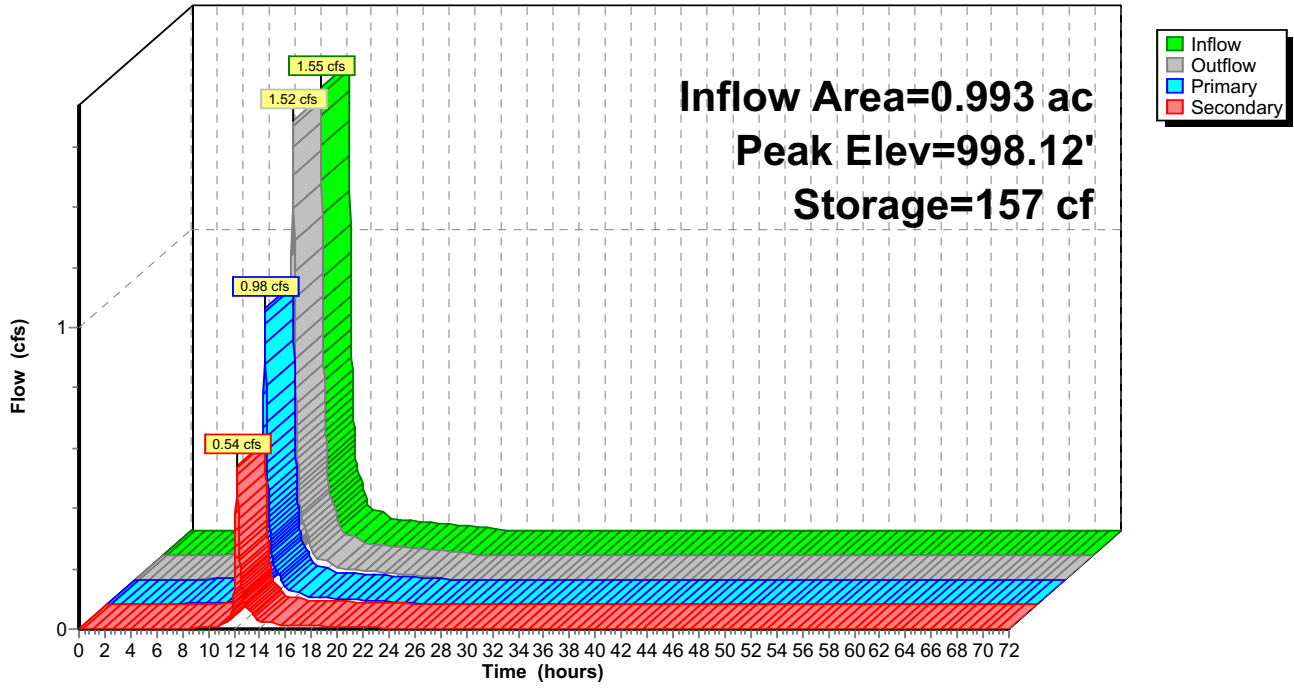
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_A12: CB_A12

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_A12: CB_A12

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
997.99	50	0	998.50	1,240	626
998.00	1,240	6	998.51	1,240	639
998.01	1,240	19	998.52	1,240	651
998.02	1,240	31	998.53	1,240	664
998.03	1,240	44	998.54	1,240	676
998.04	1,240	56	998.55	1,240	688
998.05	1,240	68	998.56	1,240	701
998.06	1,240	81	998.57	1,240	713
998.07	1,240	93	998.58	1,240	726
998.08	1,240	106	998.59	1,240	738
998.09	1,240	118	998.60	1,240	750
998.10	1,240	130	998.61	1,240	763
998.11	1,240	143	998.62	1,240	775
998.12	1,240	155	998.63	1,240	788
998.13	1,240	168	998.64	1,240	800
998.14	1,240	180	998.65	1,240	812
998.15	1,240	192	998.66	1,240	825
998.16	1,240	205	998.67	1,240	837
998.17	1,240	217	998.68	1,240	850
998.18	1,240	230	998.69	1,240	862
998.19	1,240	242	998.70	1,240	874
998.20	1,240	254	998.71	1,240	887
998.21	1,240	267	998.72	1,240	899
998.22	1,240	279	998.73	1,240	912
998.23	1,240	292	998.74	1,240	924
998.24	1,240	304	998.75	1,240	936
998.25	1,240	316	998.76	1,240	949
998.26	1,240	329	998.77	1,240	961
998.27	1,240	341	998.78	1,240	974
998.28	1,240	354	998.79	1,240	986
998.29	1,240	366	998.80	1,240	998
998.30	1,240	378	998.81	1,240	1,011
998.31	1,240	391	998.82	1,240	1,023
998.32	1,240	403	998.83	1,240	1,036
998.33	1,240	416	998.84	1,240	1,048
998.34	1,240	428	998.85	1,240	1,060
998.35	1,240	440	998.86	1,240	1,073
998.36	1,240	453	998.87	1,240	1,085
998.37	1,240	465	998.88	1,240	1,098
998.38	1,240	478	998.89	1,240	1,110
998.39	1,240	490	998.90	1,240	1,122
998.40	1,240	502	998.91	1,240	1,135
998.41	1,240	515	998.92	1,240	1,147
998.42	1,240	527	998.93	1,240	1,160
998.43	1,240	540	998.94	1,240	1,172
998.44	1,240	552	998.95	1,240	1,184
998.45	1,240	564	998.96	1,240	1,197
998.46	1,240	577	998.97	1,240	1,209
998.47	1,240	589	998.98	1,240	1,222
998.48	1,240	602	998.99	1,240	1,234
998.49	1,240	614	999.00	1,240	1,246

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Summary for Pond CB_A20: CB_A20

Inflow Area = 0.766 ac, 20.23% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
Inflow = 1.21 cfs @ 12.20 hrs, Volume= 0.076 af
Outflow = 1.13 cfs @ 12.24 hrs, Volume= 0.076 af, Atten= 6%, Lag= 2.2 min
Primary = 1.13 cfs @ 12.24 hrs, Volume= 0.076 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 1,000.51' @ 12.24 hrs Surf.Area= 580 sf Storage= 198 cf

Plug-Flow detention time= 6.6 min calculated for 0.076 af (100% of inflow)
Center-of-Mass det. time= 6.7 min (810.2 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	30,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	200	0	0
1,002.00	1,700	1,900	1,900
1,004.00	8,920	10,620	12,520
1,006.00	8,920	17,840	30,360

Device	Routing	Invert	Outlet Devices
#1	Primary	996.47'	18.0" Round Culvert L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 996.47' / 996.07' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	1,000.00'	15.0" Round Culvert L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,000.00' / 996.47' S= 0.0954 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#3	Secondary	1,004.00'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=1.13 cfs @ 12.24 hrs HW=1,000.51' TW=978.57' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 1.13 cfs of 12.56 cfs potential flow)

↑ **2=Culvert** (Inlet Controls 1.13 cfs @ 2.42 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=994.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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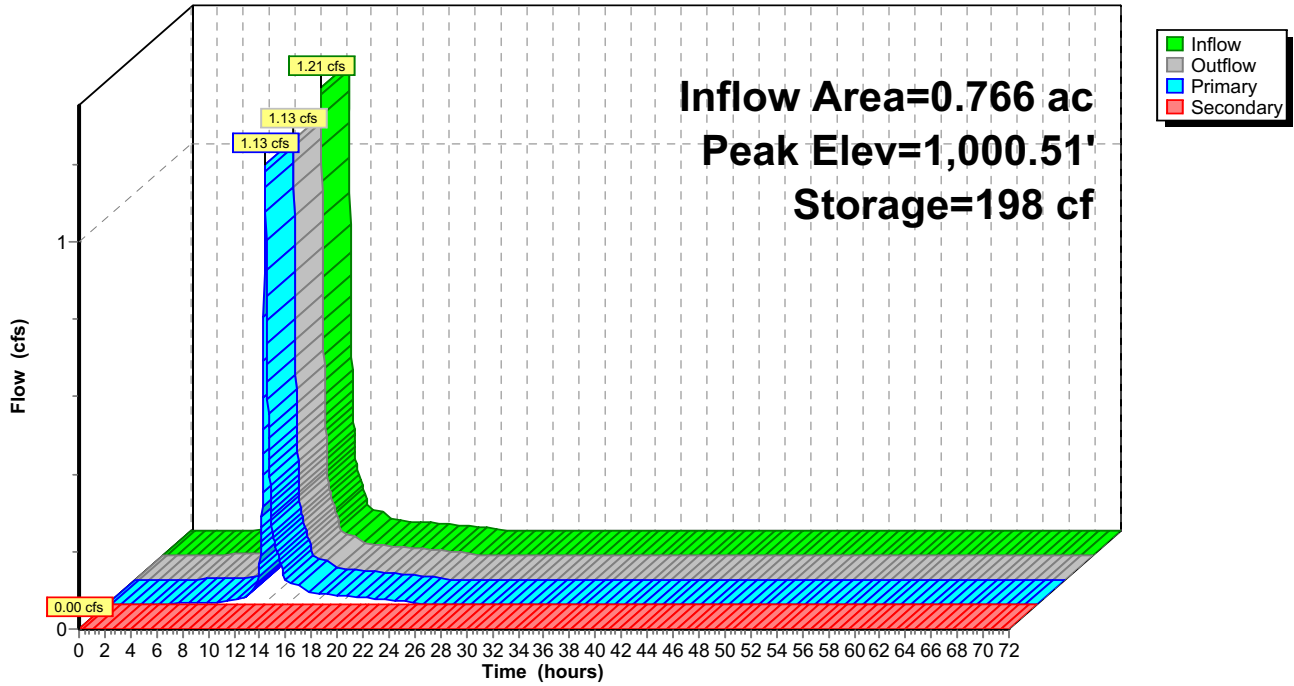
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MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_A20: CB_A20

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_A20: CB_A20

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,000.00	200	0	1,005.10	8,920	22,332
1,000.10	275	24	1,005.20	8,920	23,224
1,000.20	350	55	1,005.30	8,920	24,116
1,000.30	425	94	1,005.40	8,920	25,008
1,000.40	500	140	1,005.50	8,920	25,900
1,000.50	575	194	1,005.60	8,920	26,792
1,000.60	650	255	1,005.70	8,920	27,684
1,000.70	725	324	1,005.80	8,920	28,576
1,000.80	800	400	1,005.90	8,920	29,468
1,000.90	875	484	1,006.00	8,920	30,360
1,001.00	950	575			
1,001.10	1,025	674			
1,001.20	1,100	780			
1,001.30	1,175	894			
1,001.40	1,250	1,015			
1,001.50	1,325	1,144			
1,001.60	1,400	1,280			
1,001.70	1,475	1,424			
1,001.80	1,550	1,575			
1,001.90	1,625	1,734			
1,002.00	1,700	1,900			
1,002.10	2,061	2,088			
1,002.20	2,422	2,312			
1,002.30	2,783	2,572			
1,002.40	3,144	2,869			
1,002.50	3,505	3,201			
1,002.60	3,866	3,570			
1,002.70	4,227	3,974			
1,002.80	4,588	4,415			
1,002.90	4,949	4,892			
1,003.00	5,310	5,405			
1,003.10	5,671	5,954			
1,003.20	6,032	6,539			
1,003.30	6,393	7,160			
1,003.40	6,754	7,818			
1,003.50	7,115	8,511			
1,003.60	7,476	9,241			
1,003.70	7,837	10,006			
1,003.80	8,198	10,808			
1,003.90	8,559	11,646			
1,004.00	8,920	12,520			
1,004.10	8,920	13,412			
1,004.20	8,920	14,304			
1,004.30	8,920	15,196			
1,004.40	8,920	16,088			
1,004.50	8,920	16,980			
1,004.60	8,920	17,872			
1,004.70	8,920	18,764			
1,004.80	8,920	19,656			
1,004.90	8,920	20,548			
1,005.00	8,920	21,440			

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Summary for Pond CB_A7: CB_A7

Inflow Area = 0.696 ac, 28.02% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
Inflow = 1.22 cfs @ 12.20 hrs, Volume= 0.077 af
Outflow = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af, Atten= 1%, Lag= 0.7 min
Primary = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 998.14' @ 12.21 hrs Surf.Area= 552 sf Storage= 42 cf

Plug-Flow detention time= 0.5 min calculated for 0.077 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (795.5 - 795.0)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	29,010 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	7,240	7,290	7,290
1,003.00	7,240	21,720	29,010

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.20 cfs @ 12.21 hrs HW=998.14' TW=978.53' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 1.20 cfs @ 1.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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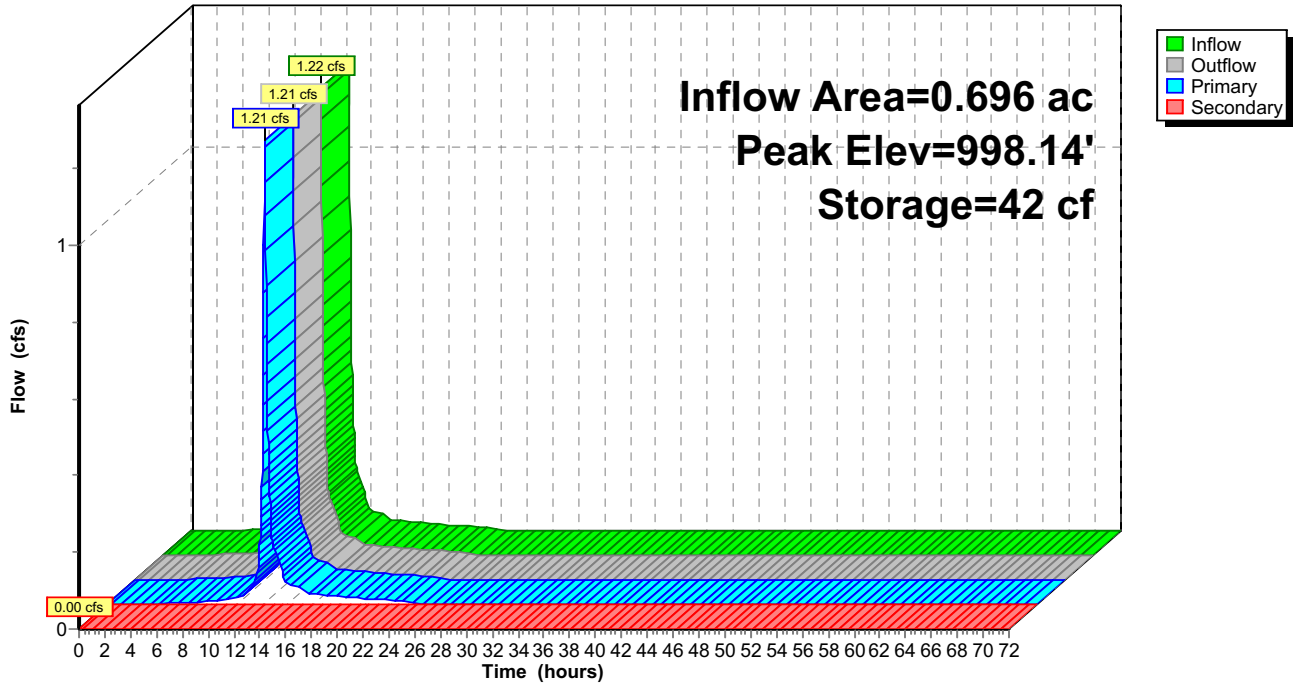
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_A7: CB_A7

Hydrograph



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Stage-Area-Storage for Pond CB_A7: CB_A7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	7,240	11,272
998.05	230	7	1,000.60	7,240	11,634
998.10	410	23	1,000.65	7,240	11,996
998.15	589	48	1,000.70	7,240	12,358
998.20	769	82	1,000.75	7,240	12,720
998.25	949	125	1,000.80	7,240	13,082
998.30	1,128	177	1,000.85	7,240	13,444
998.35	1,308	238	1,000.90	7,240	13,806
998.40	1,488	308	1,000.95	7,240	14,168
998.45	1,668	386	1,001.00	7,240	14,530
998.50	1,848	474	1,001.05	7,240	14,892
998.55	2,027	571	1,001.10	7,240	15,254
998.60	2,207	677	1,001.15	7,240	15,616
998.65	2,387	792	1,001.20	7,240	15,978
998.70	2,567	916	1,001.25	7,240	16,340
998.75	2,746	1,049	1,001.30	7,240	16,702
998.80	2,926	1,190	1,001.35	7,240	17,064
998.85	3,106	1,341	1,001.40	7,240	17,426
998.90	3,285	1,501	1,001.45	7,240	17,788
998.95	3,465	1,670	1,001.50	7,240	18,150
999.00	3,645	1,848	1,001.55	7,240	18,512
999.05	3,825	2,034	1,001.60	7,240	18,874
999.10	4,005	2,230	1,001.65	7,240	19,236
999.15	4,184	2,435	1,001.70	7,240	19,598
999.20	4,364	2,648	1,001.75	7,240	19,960
999.25	4,544	2,871	1,001.80	7,240	20,322
999.30	4,723	3,103	1,001.85	7,240	20,684
999.35	4,903	3,343	1,001.90	7,240	21,046
999.40	5,083	3,593	1,001.95	7,240	21,408
999.45	5,263	3,852	1,002.00	7,240	21,770
999.50	5,443	4,119	1,002.05	7,240	22,132
999.55	5,622	4,396	1,002.10	7,240	22,494
999.60	5,802	4,682	1,002.15	7,240	22,856
999.65	5,982	4,976	1,002.20	7,240	23,218
999.70	6,162	5,280	1,002.25	7,240	23,580
999.75	6,341	5,592	1,002.30	7,240	23,942
999.80	6,521	5,914	1,002.35	7,240	24,304
999.85	6,701	6,244	1,002.40	7,240	24,666
999.90	6,880	6,584	1,002.45	7,240	25,028
999.95	7,060	6,932	1,002.50	7,240	25,390
1,000.00	7,240	7,290	1,002.55	7,240	25,752
1,000.05	7,240	7,652	1,002.60	7,240	26,114
1,000.10	7,240	8,014	1,002.65	7,240	26,476
1,000.15	7,240	8,376	1,002.70	7,240	26,838
1,000.20	7,240	8,738	1,002.75	7,240	27,200
1,000.25	7,240	9,100	1,002.80	7,240	27,562
1,000.30	7,240	9,462	1,002.85	7,240	27,924
1,000.35	7,240	9,824	1,002.90	7,240	28,286
1,000.40	7,240	10,186	1,002.95	7,240	28,648
1,000.45	7,240	10,548	1,003.00	7,240	29,010
1,000.50	7,240	10,910			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_A8: CB_A8

Inflow Area = 0.864 ac, 35.88% Impervious, Inflow Depth = 1.48" for 2yr-24hr event
Inflow = 1.66 cfs @ 12.20 hrs, Volume= 0.106 af
Outflow = 1.66 cfs @ 12.20 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.2 min
Primary = 1.66 cfs @ 12.20 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 996.17' @ 12.20 hrs Surf.Area= 193 sf Storage= 21 cf

Plug-Flow detention time= 0.3 min calculated for 0.106 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (788.3 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	29,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	1,700	1,750	1,750
1,000.00	8,600	10,300	12,050
1,002.00	8,600	17,200	29,250

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.66 cfs @ 12.20 hrs HW=996.17' TW=978.51' (Dynamic Tailwater)
↑**1=Grate** (Weir Controls 1.66 cfs @ 1.36 fps)

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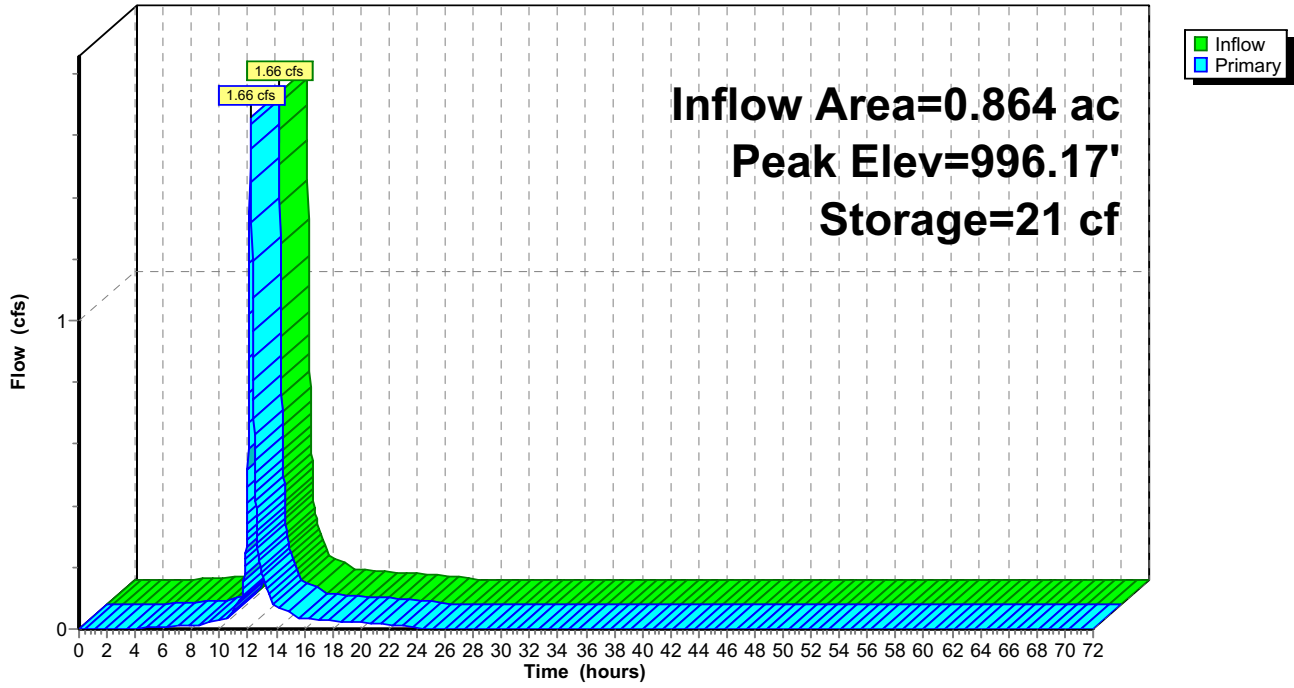
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_A8: CB_A8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_A8: CB_A8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
996.00	50	0	1,001.10	8,600	21,510
996.10	133	9	1,001.20	8,600	22,370
996.20	215	27	1,001.30	8,600	23,230
996.30	297	52	1,001.40	8,600	24,090
996.40	380	86	1,001.50	8,600	24,950
996.50	463	128	1,001.60	8,600	25,810
996.60	545	179	1,001.70	8,600	26,670
996.70	628	237	1,001.80	8,600	27,530
996.80	710	304	1,001.90	8,600	28,390
996.90	792	379	1,002.00	8,600	29,250
997.00	875	463			
997.10	958	554			
997.20	1,040	654			
997.30	1,122	762			
997.40	1,205	878			
997.50	1,288	1,003			
997.60	1,370	1,136			
997.70	1,453	1,277			
997.80	1,535	1,426			
997.90	1,617	1,584			
998.00	1,700	1,750			
998.10	2,045	1,937			
998.20	2,390	2,159			
998.30	2,735	2,415			
998.40	3,080	2,706			
998.50	3,425	3,031			
998.60	3,770	3,391			
998.70	4,115	3,785			
998.80	4,460	4,214			
998.90	4,805	4,677			
999.00	5,150	5,175			
999.10	5,495	5,707			
999.20	5,840	6,274			
999.30	6,185	6,875			
999.40	6,530	7,511			
999.50	6,875	8,181			
999.60	7,220	8,886			
999.70	7,565	9,625			
999.80	7,910	10,399			
999.90	8,255	11,207			
1,000.00	8,600	12,050			
1,000.10	8,600	12,910			
1,000.20	8,600	13,770			
1,000.30	8,600	14,630			
1,000.40	8,600	15,490			
1,000.50	8,600	16,350			
1,000.60	8,600	17,210			
1,000.70	8,600	18,070			
1,000.80	8,600	18,930			
1,000.90	8,600	19,790			
1,001.00	8,600	20,650			

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 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_A9: CB_A9

Inflow Area = 1.140 ac, 8.86% Impervious, Inflow Depth = 0.98" for 2yr-24hr event
 Inflow = 1.49 cfs @ 12.21 hrs, Volume= 0.093 af
 Outflow = 1.49 cfs @ 12.21 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.49 cfs @ 12.21 hrs, Volume= 0.093 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.16' @ 12.21 hrs Surf.Area= 223 sf Storage= 22 cf

Plug-Flow detention time= 0.3 min calculated for 0.093 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (820.8 - 820.5)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	4,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	2,200	2,250	2,250
1,001.00	2,200	2,200	4,450

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.49 cfs @ 12.21 hrs HW=998.16' TW=978.52' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.49 cfs @ 1.31 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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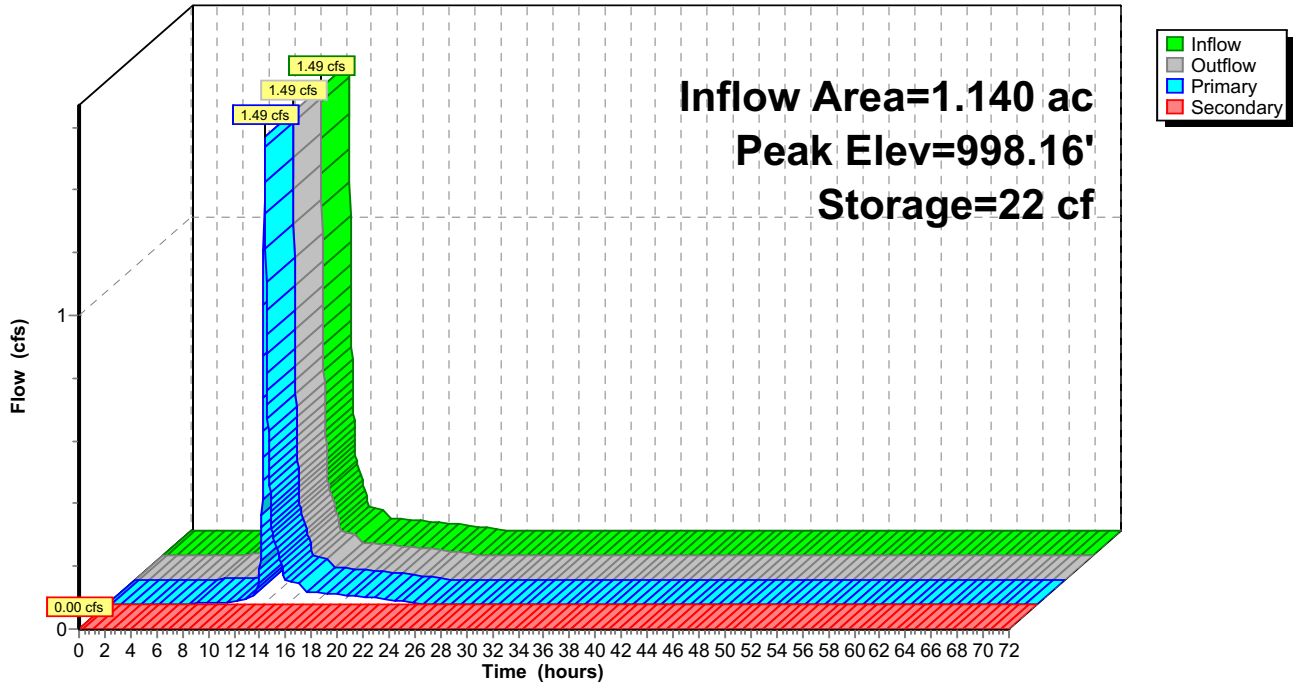
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_A9: CB_A9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_A9: CB_A9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	2,200	3,460
998.05	104	4	1,000.60	2,200	3,570
998.10	158	10	1,000.65	2,200	3,680
998.15	211	20	1,000.70	2,200	3,790
998.20	265	32	1,000.75	2,200	3,900
998.25	319	46	1,000.80	2,200	4,010
998.30	372	63	1,000.85	2,200	4,120
998.35	426	83	1,000.90	2,200	4,230
998.40	480	106	1,000.95	2,200	4,340
998.45	534	131	1,001.00	2,200	4,450
998.50	588	159			
998.55	641	190			
998.60	695	224			
998.65	749	260			
998.70	803	298			
998.75	856	340			
998.80	910	384			
998.85	964	431			
998.90	1,017	480			
998.95	1,071	533			
999.00	1,125	588			
999.05	1,179	645			
999.10	1,233	705			
999.15	1,286	768			
999.20	1,340	834			
999.25	1,394	902			
999.30	1,447	973			
999.35	1,501	1,047			
999.40	1,555	1,123			
999.45	1,609	1,203			
999.50	1,663	1,284			
999.55	1,716	1,369			
999.60	1,770	1,456			
999.65	1,824	1,546			
999.70	1,878	1,638			
999.75	1,931	1,734			
999.80	1,985	1,831			
999.85	2,039	1,932			
999.90	2,092	2,035			
999.95	2,146	2,141			
1,000.00	2,200	2,250			
1,000.05	2,200	2,360			
1,000.10	2,200	2,470			
1,000.15	2,200	2,580			
1,000.20	2,200	2,690			
1,000.25	2,200	2,800			
1,000.30	2,200	2,910			
1,000.35	2,200	3,020			
1,000.40	2,200	3,130			
1,000.45	2,200	3,240			
1,000.50	2,200	3,350			

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Summary for Pond CB_C10: CB_C10

Inflow Area = 2.067 ac, 23.66% Impervious, Inflow Depth = 1.26" for 2yr-24hr event
 Inflow = 3.41 cfs @ 12.20 hrs, Volume= 0.216 af
 Outflow = 3.37 cfs @ 12.22 hrs, Volume= 0.216 af, Atten= 1%, Lag= 1.0 min
 Primary = 3.37 cfs @ 12.22 hrs, Volume= 0.216 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.28' @ 12.22 hrs Surf.Area= 1,081 sf Storage= 157 cf

Plug-Flow detention time= 0.6 min calculated for 0.216 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (800.1 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	22,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	7,500	7,550	7,550
997.00	7,500	7,500	15,050
998.00	7,500	7,500	22,550

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	996.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.36 cfs @ 12.22 hrs HW=994.28' TW=978.54' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 3.36 cfs @ 1.72 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=992.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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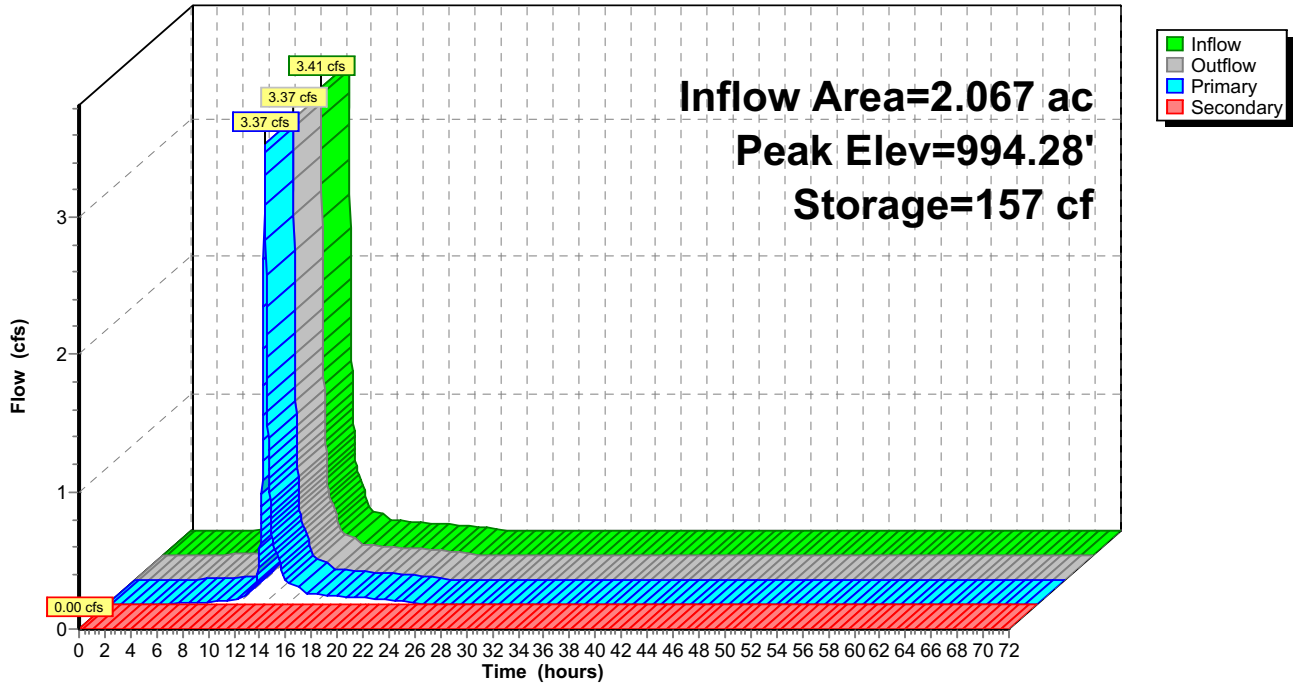
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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_C10: CB_C10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_C10: CB_C10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
994.00	50	0	996.55	7,500	11,675
994.05	236	7	996.60	7,500	12,050
994.10	423	24	996.65	7,500	12,425
994.15	609	49	996.70	7,500	12,800
994.20	795	85	996.75	7,500	13,175
994.25	981	129	996.80	7,500	13,550
994.30	1,167	183	996.85	7,500	13,925
994.35	1,354	246	996.90	7,500	14,300
994.40	1,540	318	996.95	7,500	14,675
994.45	1,726	400	997.00	7,500	15,050
994.50	1,913	491	997.05	7,500	15,425
994.55	2,099	591	997.10	7,500	15,800
994.60	2,285	701	997.15	7,500	16,175
994.65	2,471	819	997.20	7,500	16,550
994.70	2,658	948	997.25	7,500	16,925
994.75	2,844	1,085	997.30	7,500	17,300
994.80	3,030	1,232	997.35	7,500	17,675
994.85	3,216	1,388	997.40	7,500	18,050
994.90	3,402	1,554	997.45	7,500	18,425
994.95	3,589	1,728	997.50	7,500	18,800
995.00	3,775	1,913	997.55	7,500	19,175
995.05	3,961	2,106	997.60	7,500	19,550
995.10	4,148	2,309	997.65	7,500	19,925
995.15	4,334	2,521	997.70	7,500	20,300
995.20	4,520	2,742	997.75	7,500	20,675
995.25	4,706	2,973	997.80	7,500	21,050
995.30	4,892	3,213	997.85	7,500	21,425
995.35	5,079	3,462	997.90	7,500	21,800
995.40	5,265	3,720	997.95	7,500	22,175
995.45	5,451	3,988	998.00	7,500	22,550
995.50	5,638	4,266			
995.55	5,824	4,552			
995.60	6,010	4,848			
995.65	6,196	5,153			
995.70	6,383	5,468			
995.75	6,569	5,791			
995.80	6,755	6,124			
995.85	6,941	6,467			
995.90	7,127	6,819			
995.95	7,314	7,180			
996.00	7,500	7,550			
996.05	7,500	7,925			
996.10	7,500	8,300			
996.15	7,500	8,675			
996.20	7,500	9,050			
996.25	7,500	9,425			
996.30	7,500	9,800			
996.35	7,500	10,175			
996.40	7,500	10,550			
996.45	7,500	10,925			
996.50	7,500	11,300			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_C7: CB_C7

Inflow Area = 1.708 ac, 21.25% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
 Inflow = 2.69 cfs @ 12.21 hrs, Volume= 0.173 af
 Outflow = 2.67 cfs @ 12.22 hrs, Volume= 0.173 af, Atten= 1%, Lag= 0.8 min
 Primary = 2.67 cfs @ 12.22 hrs, Volume= 0.173 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.74' @ 12.22 hrs Surf.Area= 747 sf Storage= 94 cf

Plug-Flow detention time= 0.5 min calculated for 0.172 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (803.2 - 802.7)

Volume	Invert	Avail.Storage	Storage Description
#1	992.50'	12,303 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.50	50	0	0
994.00	4,460	3,383	3,383
996.00	4,460	8,920	12,303

Device	Routing	Invert	Outlet Devices
#1	Primary	992.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	994.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.67 cfs @ 12.22 hrs HW=992.74' TW=978.54' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 2.67 cfs @ 1.59 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.50' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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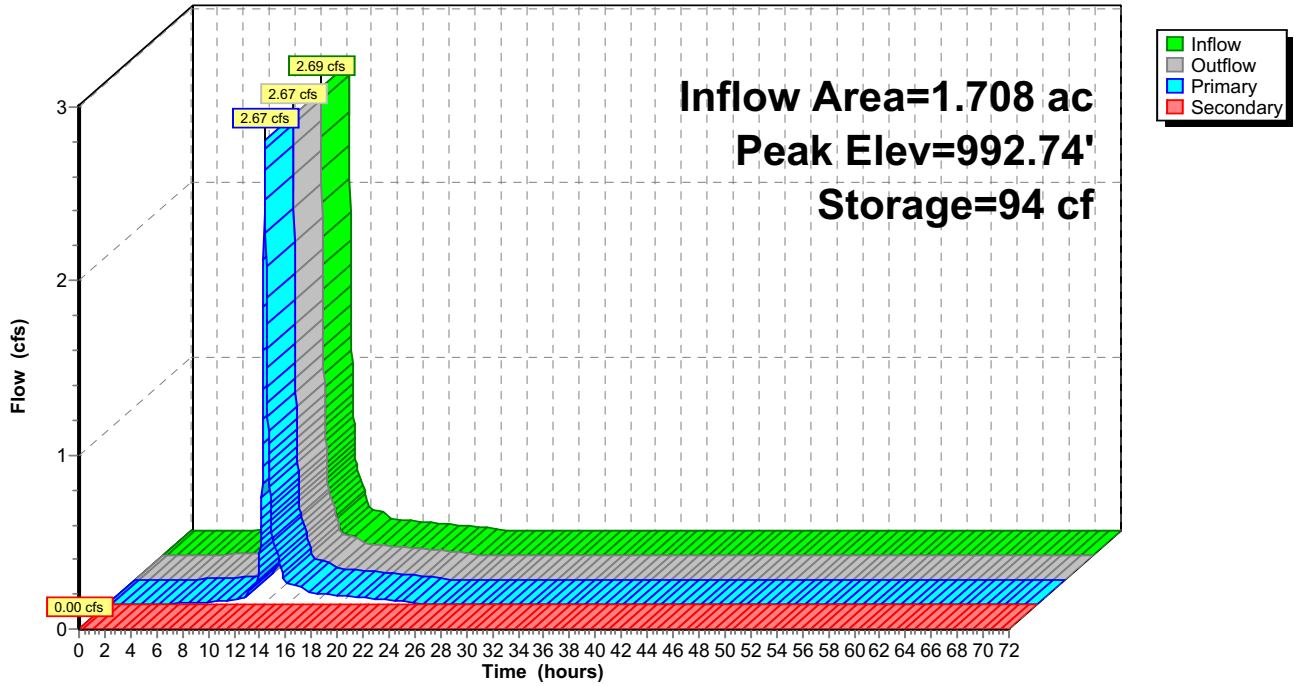
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_C7: CB_C7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_C7: CB_C7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.50	50	0	995.05	4,460	8,065
992.55	197	6	995.10	4,460	8,289
992.60	344	20	995.15	4,460	8,511
992.65	491	41	995.20	4,460	8,735
992.70	638	69	995.25	4,460	8,958
992.75	785	104	995.30	4,460	9,180
992.80	932	147	995.35	4,460	9,404
992.85	1,079	198	995.40	4,460	9,626
992.90	1,226	255	995.45	4,460	9,850
992.95	1,373	320	995.50	4,460	10,073
993.00	1,520	393	995.55	4,460	10,295
993.05	1,667	472	995.60	4,460	10,519
993.10	1,814	559	995.65	4,460	10,741
993.15	1,961	654	995.70	4,460	10,965
993.20	2,108	755	995.75	4,460	11,188
993.25	2,255	864	995.80	4,460	11,410
993.30	2,402	981	995.85	4,460	11,634
993.35	2,549	1,105	995.90	4,460	11,856
993.40	2,696	1,236	995.95	4,460	12,080
993.45	2,843	1,374	996.00	4,460	12,303
993.50	2,990	1,520			
993.55	3,137	1,673			
993.60	3,284	1,834			
993.65	3,431	2,002			
993.70	3,578	2,177			
993.75	3,725	2,359			
993.80	3,872	2,549			
993.85	4,019	2,747			
993.90	4,166	2,951			
993.95	4,313	3,163			
994.00	4,460	3,383			
994.05	4,460	3,605			
994.10	4,460	3,829			
994.15	4,460	4,051			
994.20	4,460	4,275			
994.25	4,460	4,498			
994.30	4,460	4,720			
994.35	4,460	4,944			
994.40	4,460	5,166			
994.45	4,460	5,390			
994.50	4,460	5,613			
994.55	4,460	5,835			
994.60	4,460	6,059			
994.65	4,460	6,281			
994.70	4,460	6,505			
994.75	4,460	6,728			
994.80	4,460	6,950			
994.85	4,460	7,174			
994.90	4,460	7,396			
994.95	4,460	7,620			
995.00	4,460	7,843			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_C8: CB_C8

Inflow Area = 1.927 ac, 25.17% Impervious, Inflow Depth = 1.28" for 2yr-24hr event
Inflow = 3.17 cfs @ 12.21 hrs, Volume= 0.206 af
Outflow = 3.17 cfs @ 12.21 hrs, Volume= 0.206 af, Atten= 0%, Lag= 0.2 min
Primary = 3.17 cfs @ 12.21 hrs, Volume= 0.206 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 991.27' @ 12.21 hrs Surf.Area= 253 sf Storage= 40 cf

Plug-Flow detention time= 0.2 min calculated for 0.206 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (798.7 - 798.5)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	6,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	812	431	431
994.00	5,500	6,312	6,743

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.16 cfs @ 12.21 hrs HW=991.27' TW=978.53' (Dynamic Tailwater)
↑**1=Orifice/Grate** (Weir Controls 3.16 cfs @ 1.68 fps)

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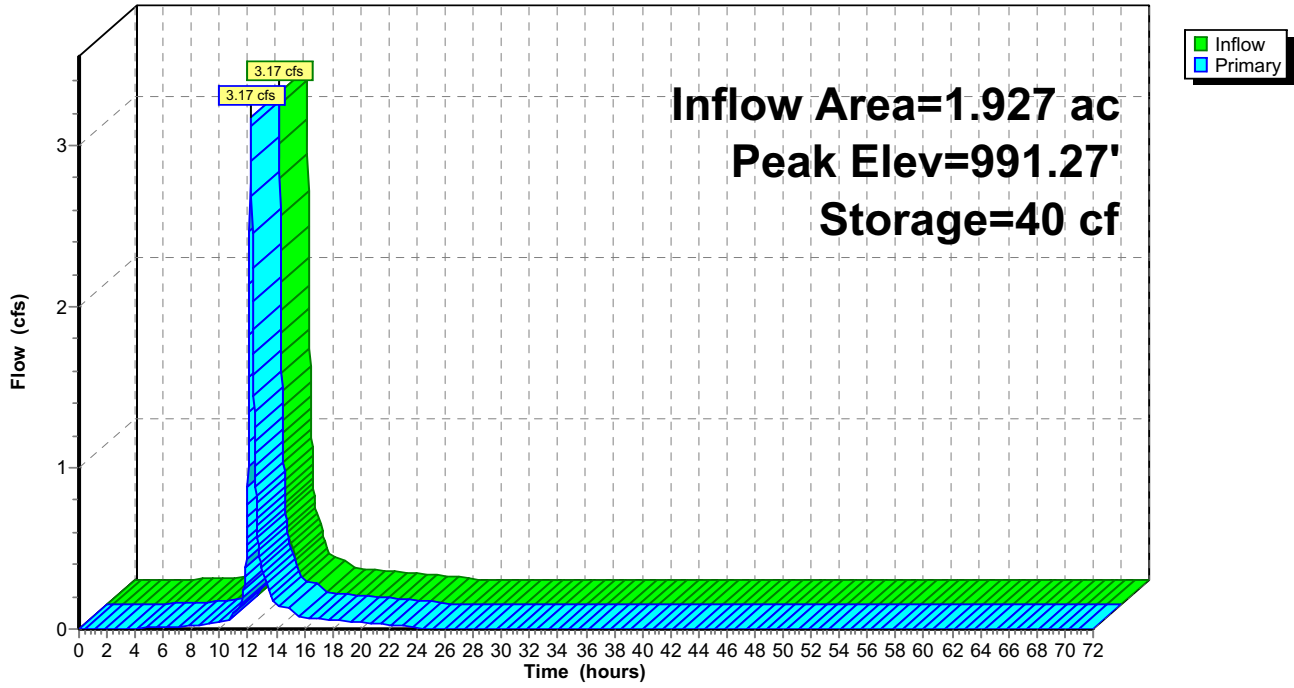
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_C8: CB_C8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_C8: CB_C8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
991.00	50	0	993.55	4,445	4,505
991.05	88	3	993.60	4,562	4,731
991.10	126	9	993.65	4,680	4,962
991.15	164	16	993.70	4,797	5,198
991.20	202	25	993.75	4,914	5,441
991.25	241	36	993.80	5,031	5,690
991.30	279	49	993.85	5,148	5,944
991.35	317	64	993.90	5,266	6,205
991.40	355	81	993.95	5,383	6,471
991.45	393	100	994.00	5,500	6,743
991.50	431	120			
991.55	469	143			
991.60	507	167			
991.65	545	193			
991.70	583	222			
991.75	622	252			
991.80	660	284			
991.85	698	318			
991.90	736	354			
991.95	774	391			
992.00	812	431			
992.05	929	475			
992.10	1,046	524			
992.15	1,164	579			
992.20	1,281	640			
992.25	1,398	707			
992.30	1,515	780			
992.35	1,632	859			
992.40	1,750	943			
992.45	1,867	1,034			
992.50	1,984	1,130			
992.55	2,101	1,232			
992.60	2,218	1,340			
992.65	2,336	1,454			
992.70	2,453	1,574			
992.75	2,570	1,699			
992.80	2,687	1,831			
992.85	2,804	1,968			
992.90	2,922	2,111			
992.95	3,039	2,260			
993.00	3,156	2,415			
993.05	3,273	2,576			
993.10	3,390	2,742			
993.15	3,508	2,915			
993.20	3,625	3,093			
993.25	3,742	3,277			
993.30	3,859	3,467			
993.35	3,976	3,663			
993.40	4,094	3,865			
993.45	4,211	4,073			
993.50	4,328	4,286			

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Summary for Pond CB_C9: CB_C9

Inflow Area = 2.063 ac, 18.86% Impervious, Inflow Depth = 1.17" for 2yr-24hr event
Inflow = 3.18 cfs @ 12.20 hrs, Volume= 0.201 af
Outflow = 3.17 cfs @ 12.21 hrs, Volume= 0.201 af, Atten= 1%, Lag= 0.6 min
Primary = 3.17 cfs @ 12.21 hrs, Volume= 0.201 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 992.27' @ 12.21 hrs Surf.Area= 631 sf Storage= 90 cf

Plug-Flow detention time= 0.4 min calculated for 0.201 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (805.6 - 805.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	4,470 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	4,420	4,470	4,470

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	993.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.16 cfs @ 12.21 hrs HW=992.27' TW=978.53' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 3.16 cfs @ 1.68 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.00' TW=991.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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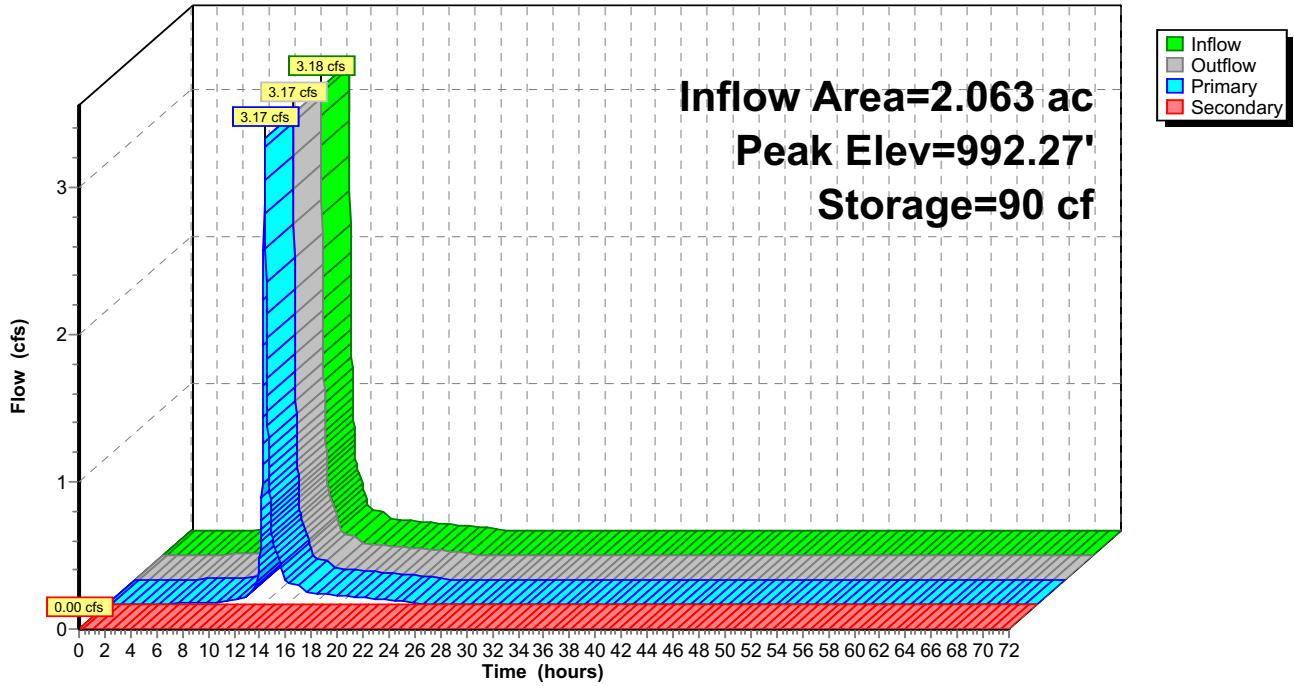
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_C9: CB_C9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_C9: CB_C9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.00	50	0	993.02	2,279	1,188
992.02	94	1	993.04	2,322	1,234
992.04	137	4	993.06	2,366	1,281
992.06	181	7	993.08	2,410	1,328
992.08	225	11	993.10	2,454	1,377
992.10	269	16	993.12	2,497	1,426
992.12	312	22	993.14	2,541	1,477
992.14	356	28	993.16	2,585	1,528
992.16	400	36	993.18	2,628	1,580
992.18	443	44	993.20	2,672	1,633
992.20	487	54	993.22	2,716	1,687
992.22	531	64	993.24	2,759	1,742
992.24	574	75	993.26	2,803	1,797
992.26	618	87	993.28	2,847	1,854
992.28	662	100	993.30	2,890	1,911
992.30	705	113	993.32	2,934	1,970
992.32	749	128	993.34	2,978	2,029
992.34	793	143	993.36	3,022	2,089
992.36	837	160	993.38	3,065	2,150
992.38	880	177	993.40	3,109	2,211
992.40	924	195	993.42	3,153	2,274
992.42	968	214	993.44	3,196	2,337
992.44	1,011	234	993.46	3,240	2,402
992.46	1,055	254	993.48	3,284	2,467
992.48	1,099	276	993.50	3,328	2,533
992.50	1,143	298	993.52	3,371	2,600
992.52	1,186	321	993.54	3,415	2,668
992.54	1,230	346	993.56	3,459	2,737
992.56	1,274	371	993.58	3,502	2,806
992.58	1,317	397	993.60	3,546	2,877
992.60	1,361	423	993.62	3,590	2,948
992.62	1,405	451	993.64	3,633	3,020
992.64	1,448	479	993.66	3,677	3,093
992.66	1,492	509	993.68	3,721	3,167
992.68	1,536	539	993.70	3,765	3,242
992.70	1,580	570	993.72	3,808	3,318
992.72	1,623	602	993.74	3,852	3,395
992.74	1,667	635	993.76	3,896	3,472
992.76	1,711	669	993.78	3,939	3,550
992.78	1,754	704	993.80	3,983	3,630
992.80	1,798	739	993.82	4,027	3,710
992.82	1,842	776	993.84	4,070	3,791
992.84	1,885	813	993.86	4,114	3,873
992.86	1,929	851	993.88	4,158	3,955
992.88	1,973	890	993.90	4,201	4,039
992.90	2,016	930	993.92	4,245	4,123
992.92	2,060	971	993.94	4,289	4,209
992.94	2,104	1,012	993.96	4,333	4,295
992.96	2,148	1,055	993.98	4,376	4,382
992.98	2,191	1,098	994.00	4,420	4,470
993.00	2,235	1,143			

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Summary for Pond CB_E13: CB_E13

Inflow Area = 0.605 ac, 27.77% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af
 Outflow = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,009.63' @ 12.20 hrs Surf.Area= 122 sf Storage= 11 cf

Plug-Flow detention time= 0.3 min calculated for 0.067 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (795.5 - 795.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,009.50'	2,113 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,009.50	50	0	0
1,011.00	900	713	713
1,012.00	1,900	1,400	2,113

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,010.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.05 cfs @ 12.20 hrs HW=1,009.63' TW=978.51' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.05 cfs @ 1.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,002.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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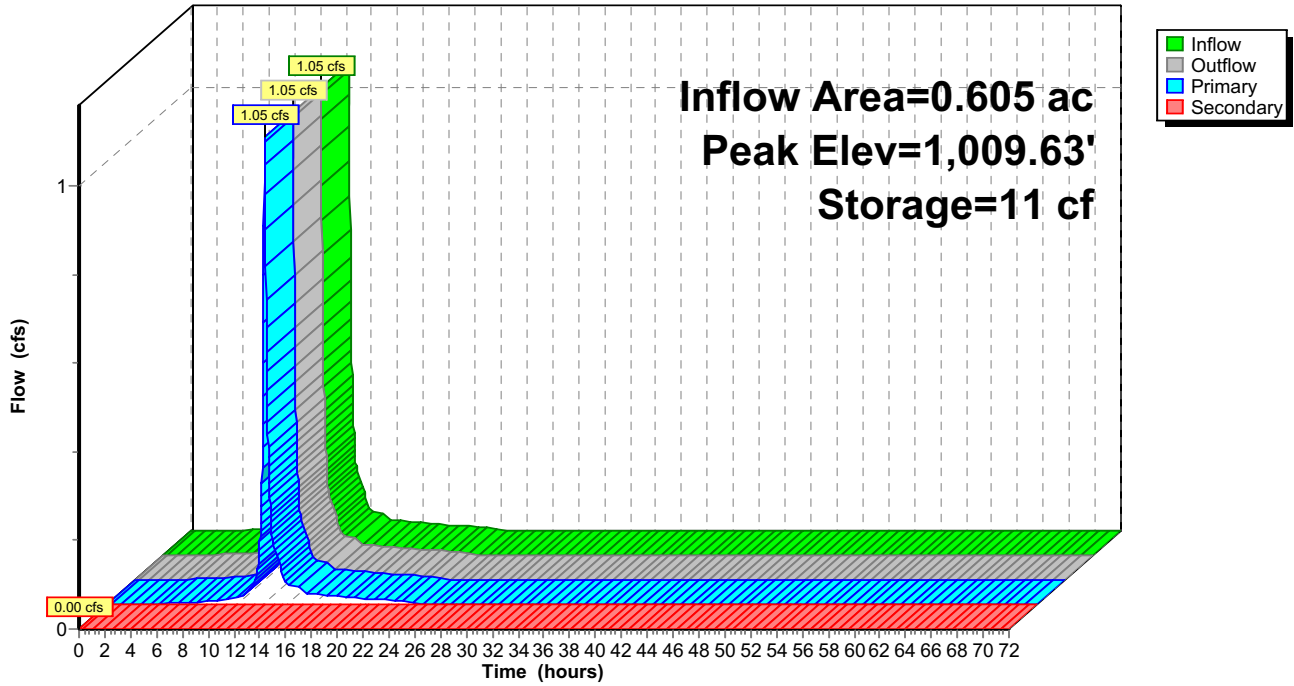
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_E13: CB_E13

Hydrograph



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Stage-Area-Storage for Pond CB_E13: CB_E13

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,009.50	50	0
1,009.55	78	3
1,009.60	107	8
1,009.65	135	14
1,009.70	163	21
1,009.75	192	30
1,009.80	220	40
1,009.85	248	52
1,009.90	277	65
1,009.95	305	80
1,010.00	333	96
1,010.05	362	113
1,010.10	390	132
1,010.15	418	152
1,010.20	447	174
1,010.25	475	197
1,010.30	503	221
1,010.35	532	247
1,010.40	560	274
1,010.45	588	303
1,010.50	617	333
1,010.55	645	365
1,010.60	673	398
1,010.65	702	432
1,010.70	730	468
1,010.75	758	505
1,010.80	787	544
1,010.85	815	584
1,010.90	843	625
1,010.95	872	668
1,011.00	900	713
1,011.05	950	759
1,011.10	1,000	808
1,011.15	1,050	859
1,011.20	1,100	913
1,011.25	1,150	969
1,011.30	1,200	1,027
1,011.35	1,250	1,089
1,011.40	1,300	1,152
1,011.45	1,350	1,219
1,011.50	1,400	1,288
1,011.55	1,450	1,359
1,011.60	1,500	1,433
1,011.65	1,550	1,509
1,011.70	1,600	1,588
1,011.75	1,650	1,669
1,011.80	1,700	1,752
1,011.85	1,750	1,839
1,011.90	1,800	1,927
1,011.95	1,850	2,019
1,012.00	1,900	2,113

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_E15: CB_E15

Inflow Area = 1.926 ac, 26.90% Impervious, Inflow Depth = 1.31" for 2yr-24hr event
Inflow = 3.32 cfs @ 12.20 hrs, Volume= 0.211 af
Outflow = 3.31 cfs @ 12.21 hrs, Volume= 0.211 af, Atten= 0%, Lag= 0.3 min
Primary = 3.31 cfs @ 12.21 hrs, Volume= 0.211 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 992.27' @ 12.21 hrs Surf.Area= 356 sf Storage= 56 cf

Plug-Flow detention time= 0.3 min calculated for 0.211 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (796.4 - 796.1)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	6,896 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	2,282	2,332	2,332
996.00	2,282	4,564	6,896

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.30 cfs @ 12.21 hrs HW=992.27' TW=978.52' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 3.30 cfs @ 1.71 fps)

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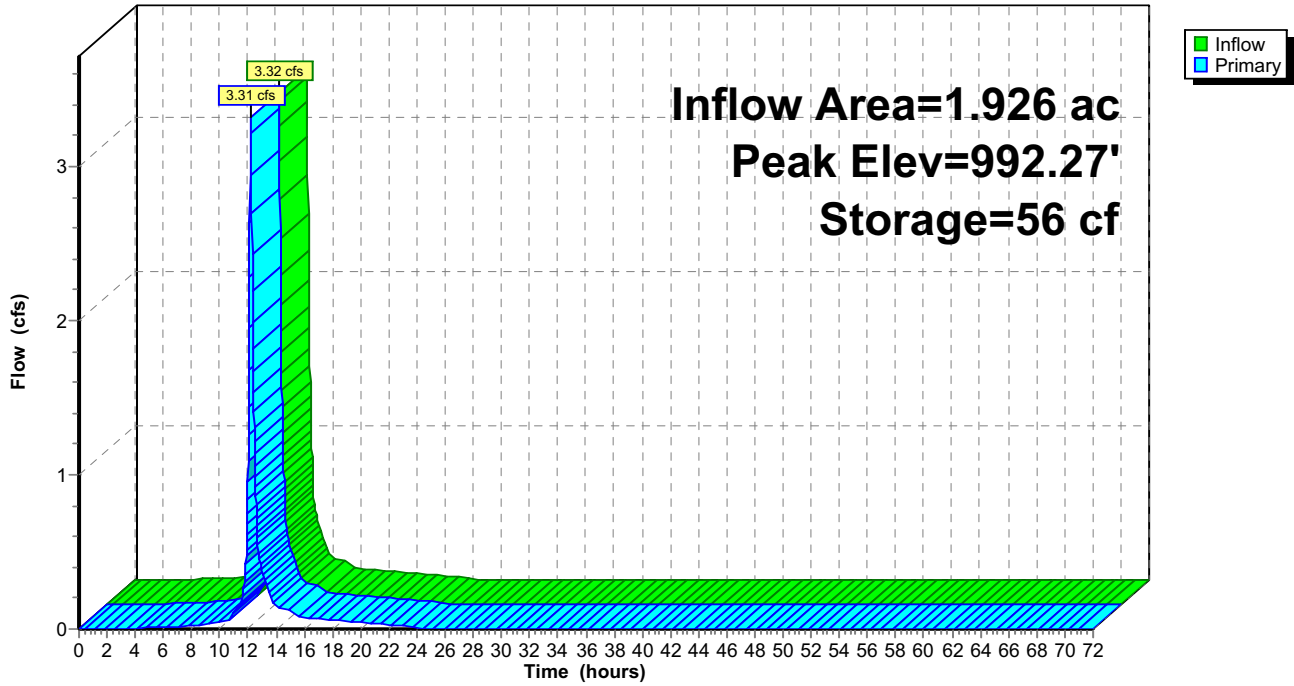
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_E15: CB_E15

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_E15: CB_E15

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.00	50	0	994.55	2,282	3,587
992.05	106	4	994.60	2,282	3,701
992.10	162	11	994.65	2,282	3,815
992.15	217	20	994.70	2,282	3,929
992.20	273	32	994.75	2,282	4,044
992.25	329	47	994.80	2,282	4,158
992.30	385	65	994.85	2,282	4,272
992.35	441	86	994.90	2,282	4,386
992.40	496	109	994.95	2,282	4,500
992.45	552	135	995.00	2,282	4,614
992.50	608	165	995.05	2,282	4,728
992.55	664	196	995.10	2,282	4,842
992.60	720	231	995.15	2,282	4,956
992.65	775	268	995.20	2,282	5,070
992.70	831	308	995.25	2,282	5,185
992.75	887	351	995.30	2,282	5,299
992.80	943	397	995.35	2,282	5,413
992.85	999	446	995.40	2,282	5,527
992.90	1,054	497	995.45	2,282	5,641
992.95	1,110	551	995.50	2,282	5,755
993.00	1,166	608	995.55	2,282	5,869
993.05	1,222	668	995.60	2,282	5,983
993.10	1,278	730	995.65	2,282	6,097
993.15	1,333	795	995.70	2,282	6,211
993.20	1,389	864	995.75	2,282	6,326
993.25	1,445	934	995.80	2,282	6,440
993.30	1,501	1,008	995.85	2,282	6,554
993.35	1,557	1,084	995.90	2,282	6,668
993.40	1,612	1,164	995.95	2,282	6,782
993.45	1,668	1,246	996.00	2,282	6,896
993.50	1,724	1,331			
993.55	1,780	1,418			
993.60	1,836	1,508			
993.65	1,891	1,602			
993.70	1,947	1,698			
993.75	2,003	1,796			
993.80	2,059	1,898			
993.85	2,115	2,002			
993.90	2,170	2,109			
993.95	2,226	2,219			
994.00	2,282	2,332			
994.05	2,282	2,446			
994.10	2,282	2,560			
994.15	2,282	2,674			
994.20	2,282	2,788			
994.25	2,282	2,903			
994.30	2,282	3,017			
994.35	2,282	3,131			
994.40	2,282	3,245			
994.45	2,282	3,359			
994.50	2,282	3,473			

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Summary for Pond CB_E16: CB_E16

Inflow Area = 4.099 ac, 17.78% Impervious, Inflow Depth = 1.15" for 2yr-24hr event
 Inflow = 5.91 cfs @ 12.21 hrs, Volume= 0.393 af
 Outflow = 5.44 cfs @ 12.26 hrs, Volume= 0.393 af, Atten= 8%, Lag= 2.8 min
 Primary = 5.44 cfs @ 12.26 hrs, Volume= 0.393 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.47' @ 12.26 hrs Surf.Area= 898 sf Storage= 532 cf

Plug-Flow detention time= 2.2 min calculated for 0.393 af (100% of inflow)
 Center-of-Mass det. time= 1.8 min (809.5 - 807.6)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	8,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	366	233	233
998.00	2,614	2,980	3,213
1,000.00	2,614	5,228	8,441

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	15.0" Round Culvert L= 227.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 987.40' S= 0.0335 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.44 cfs @ 12.26 hrs HW=996.47' TW=978.61' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 5.44 cfs @ 4.43 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=995.00' TW=992.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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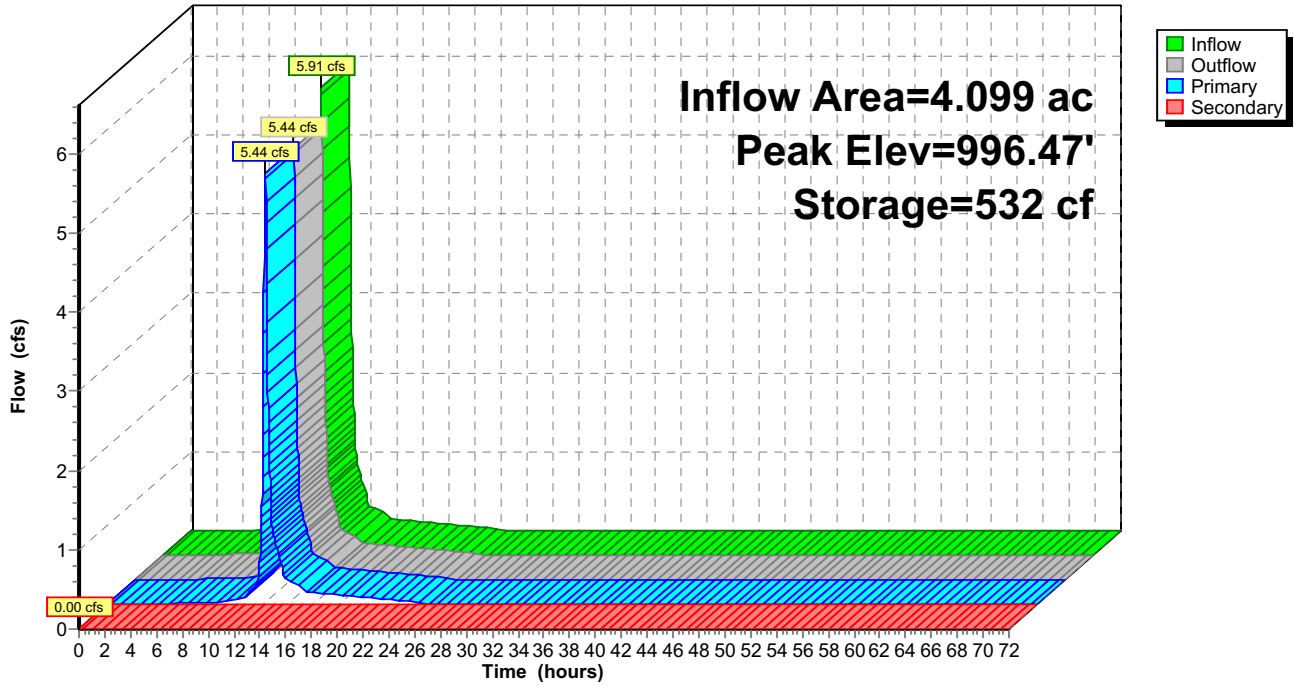
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MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_E16: CB_E16

Hydrograph



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Stage-Area-Storage for Pond CB_E16: CB_E16

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
995.00	100	0	997.55	2,108	2,151
995.05	113	5	997.60	2,164	2,257
995.10	127	11	997.65	2,221	2,367
995.15	140	18	997.70	2,277	2,479
995.20	153	25	997.75	2,333	2,595
995.25	167	33	997.80	2,389	2,713
995.30	180	42	997.85	2,445	2,834
995.35	193	51	997.90	2,502	2,957
995.40	206	61	997.95	2,558	3,084
995.45	220	72	998.00	2,614	3,213
995.50	233	83	998.05	2,614	3,344
995.55	246	95	998.10	2,614	3,474
995.60	260	108	998.15	2,614	3,605
995.65	273	121	998.20	2,614	3,736
995.70	286	135	998.25	2,614	3,867
995.75	300	150	998.30	2,614	3,997
995.80	313	165	998.35	2,614	4,128
995.85	326	181	998.40	2,614	4,259
995.90	339	198	998.45	2,614	4,389
995.95	353	215	998.50	2,614	4,520
996.00	366	233	998.55	2,614	4,651
996.05	422	253	998.60	2,614	4,781
996.10	478	275	998.65	2,614	4,912
996.15	535	301	998.70	2,614	5,043
996.20	591	329	998.75	2,614	5,174
996.25	647	360	998.80	2,614	5,304
996.30	703	393	998.85	2,614	5,435
996.35	759	430	998.90	2,614	5,566
996.40	816	469	998.95	2,614	5,696
996.45	872	512	999.00	2,614	5,827
996.50	928	557	999.05	2,614	5,958
996.55	984	604	999.10	2,614	6,088
996.60	1,040	655	999.15	2,614	6,219
996.65	1,097	708	999.20	2,614	6,350
996.70	1,153	765	999.25	2,614	6,481
996.75	1,209	824	999.30	2,614	6,611
996.80	1,265	885	999.35	2,614	6,742
996.85	1,321	950	999.40	2,614	6,873
996.90	1,378	1,018	999.45	2,614	7,003
996.95	1,434	1,088	999.50	2,614	7,134
997.00	1,490	1,161	999.55	2,614	7,265
997.05	1,546	1,237	999.60	2,614	7,395
997.10	1,602	1,316	999.65	2,614	7,526
997.15	1,659	1,397	999.70	2,614	7,657
997.20	1,715	1,481	999.75	2,614	7,788
997.25	1,771	1,569	999.80	2,614	7,918
997.30	1,827	1,659	999.85	2,614	8,049
997.35	1,883	1,751	999.90	2,614	8,180
997.40	1,940	1,847	999.95	2,614	8,310
997.45	1,996	1,945	1,000.00	2,614	8,441
997.50	2,052	2,047			

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Summary for Pond CB_E21: CB_E21

Inflow Area = 0.376 ac, 3.46% Impervious, Inflow Depth = 0.89" for 2yr-24hr event
 Inflow = 0.45 cfs @ 12.21 hrs, Volume= 0.028 af
 Outflow = 0.45 cfs @ 12.22 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.6 min
 Primary = 0.45 cfs @ 12.22 hrs, Volume= 0.028 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.07' @ 12.22 hrs Surf.Area= 308 sf Storage= 13 cf

Plug-Flow detention time= 0.5 min calculated for 0.028 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (831.6 - 831.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	5,448 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	50	0	0
1,001.00	3,615	1,833	1,833
1,002.00	3,615	3,615	5,448

Device	Routing	Invert	Outlet Devices
#1	Primary	1,000.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,001.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=0.45 cfs @ 12.22 hrs HW=1,000.07' TW=978.54' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.45 cfs @ 0.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=995.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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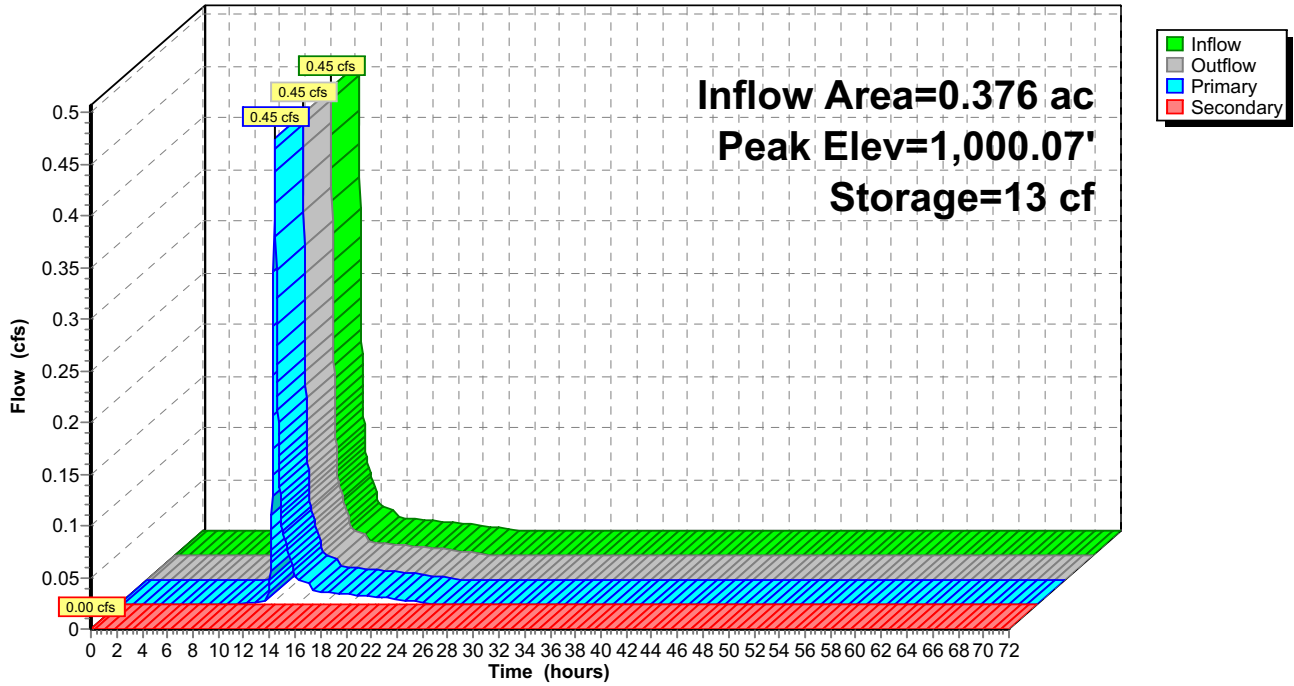
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_E21: CB_E21

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_E21: CB_E21

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,000.00	50	0	1,001.02	3,615	1,905
1,000.02	121	2	1,001.04	3,615	1,977
1,000.04	193	5	1,001.06	3,615	2,049
1,000.06	264	9	1,001.08	3,615	2,122
1,000.08	335	15	1,001.10	3,615	2,194
1,000.10	407	23	1,001.12	3,615	2,266
1,000.12	478	32	1,001.14	3,615	2,339
1,000.14	549	42	1,001.16	3,615	2,411
1,000.16	620	54	1,001.18	3,615	2,483
1,000.18	692	67	1,001.20	3,615	2,556
1,000.20	763	81	1,001.22	3,615	2,628
1,000.22	834	97	1,001.24	3,615	2,700
1,000.24	906	115	1,001.26	3,615	2,772
1,000.26	977	133	1,001.28	3,615	2,845
1,000.28	1,048	154	1,001.30	3,615	2,917
1,000.30	1,119	175	1,001.32	3,615	2,989
1,000.32	1,191	199	1,001.34	3,615	3,062
1,000.34	1,262	223	1,001.36	3,615	3,134
1,000.36	1,333	249	1,001.38	3,615	3,206
1,000.38	1,405	276	1,001.40	3,615	3,278
1,000.40	1,476	305	1,001.42	3,615	3,351
1,000.42	1,547	335	1,001.44	3,615	3,423
1,000.44	1,619	367	1,001.46	3,615	3,495
1,000.46	1,690	400	1,001.48	3,615	3,568
1,000.48	1,761	435	1,001.50	3,615	3,640
1,000.50	1,833	471	1,001.52	3,615	3,712
1,000.52	1,904	508	1,001.54	3,615	3,785
1,000.54	1,975	547	1,001.56	3,615	3,857
1,000.56	2,046	587	1,001.58	3,615	3,929
1,000.58	2,118	629	1,001.60	3,615	4,002
1,000.60	2,189	672	1,001.62	3,615	4,074
1,000.62	2,260	716	1,001.64	3,615	4,146
1,000.64	2,332	762	1,001.66	3,615	4,218
1,000.66	2,403	809	1,001.68	3,615	4,291
1,000.68	2,474	858	1,001.70	3,615	4,363
1,000.70	2,546	908	1,001.72	3,615	4,435
1,000.72	2,617	960	1,001.74	3,615	4,508
1,000.74	2,688	1,013	1,001.76	3,615	4,580
1,000.76	2,759	1,068	1,001.78	3,615	4,652
1,000.78	2,831	1,123	1,001.80	3,615	4,724
1,000.80	2,902	1,181	1,001.82	3,615	4,797
1,000.82	2,973	1,240	1,001.84	3,615	4,869
1,000.84	3,045	1,300	1,001.86	3,615	4,941
1,000.86	3,116	1,361	1,001.88	3,615	5,014
1,000.88	3,187	1,424	1,001.90	3,615	5,086
1,000.90	3,258	1,489	1,001.92	3,615	5,158
1,000.92	3,330	1,555	1,001.94	3,615	5,231
1,000.94	3,401	1,622	1,001.96	3,615	5,303
1,000.96	3,472	1,691	1,001.98	3,615	5,375
1,000.98	3,544	1,761	1,002.00	3,615	5,448
1,001.00	3,615	1,833			

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Hollydale - Proposed Conditions - 07.07.21
 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_E22: CB_E22

Inflow Area = 0.586 ac, 17.58% Impervious, Inflow Depth = 1.15" for 2yr-24hr event
 Inflow = 0.89 cfs @ 12.20 hrs, Volume= 0.056 af
 Outflow = 0.88 cfs @ 12.21 hrs, Volume= 0.056 af, Atten= 1%, Lag= 0.6 min
 Primary = 0.88 cfs @ 12.21 hrs, Volume= 0.056 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.11' @ 12.21 hrs Surf.Area= 402 sf Storage= 26 cf

Plug-Flow detention time= 0.5 min calculated for 0.056 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (807.4 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	4,750 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.00	3,150	1,600	1,600
1,004.00	3,150	3,150	4,750

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.88 cfs @ 12.21 hrs HW=1,002.11' TW=978.53' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 0.88 cfs @ 1.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,000.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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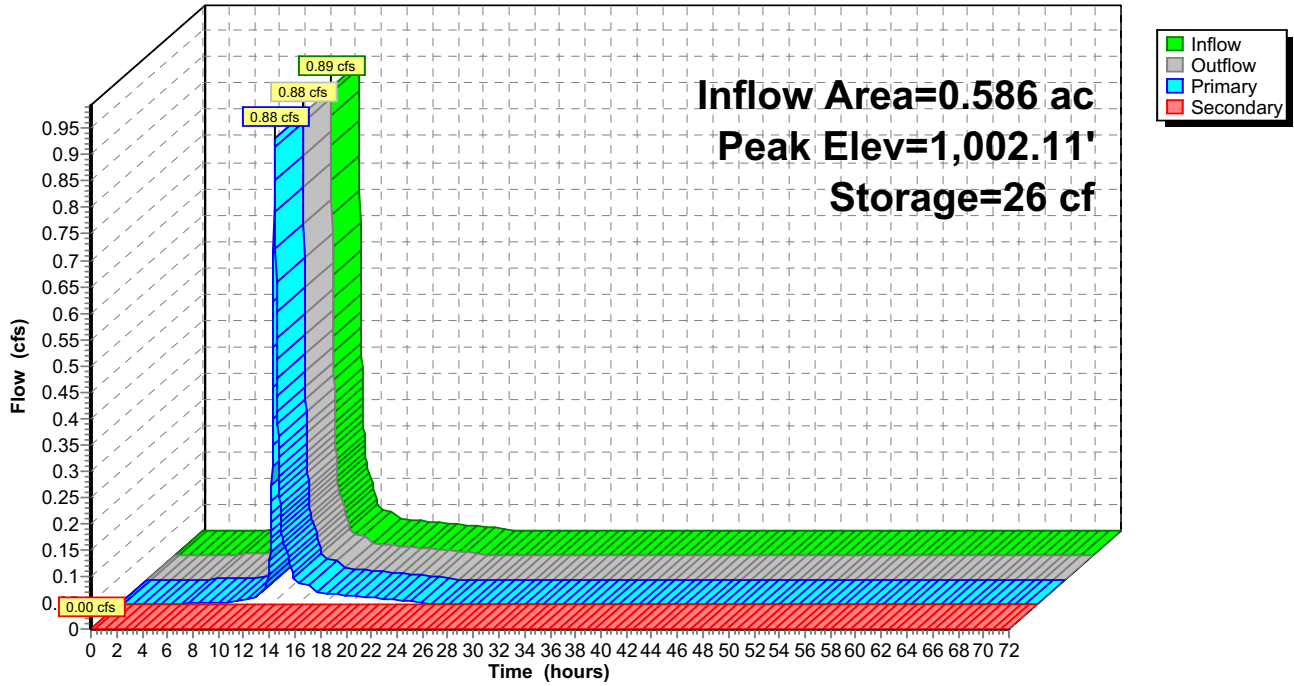
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Pond CB_E22: CB_E22

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_E22: CB_E22

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,002.00	50	0	1,003.02	3,150	1,663
1,002.02	112	2	1,003.04	3,150	1,726
1,002.04	174	4	1,003.06	3,150	1,789
1,002.06	236	9	1,003.08	3,150	1,852
1,002.08	298	14	1,003.10	3,150	1,915
1,002.10	360	21	1,003.12	3,150	1,978
1,002.12	422	28	1,003.14	3,150	2,041
1,002.14	484	37	1,003.16	3,150	2,104
1,002.16	546	48	1,003.18	3,150	2,167
1,002.18	608	59	1,003.20	3,150	2,230
1,002.20	670	72	1,003.22	3,150	2,293
1,002.22	732	86	1,003.24	3,150	2,356
1,002.24	794	101	1,003.26	3,150	2,419
1,002.26	856	118	1,003.28	3,150	2,482
1,002.28	918	136	1,003.30	3,150	2,545
1,002.30	980	154	1,003.32	3,150	2,608
1,002.32	1,042	175	1,003.34	3,150	2,671
1,002.34	1,104	196	1,003.36	3,150	2,734
1,002.36	1,166	219	1,003.38	3,150	2,797
1,002.38	1,228	243	1,003.40	3,150	2,860
1,002.40	1,290	268	1,003.42	3,150	2,923
1,002.42	1,352	294	1,003.44	3,150	2,986
1,002.44	1,414	322	1,003.46	3,150	3,049
1,002.46	1,476	351	1,003.48	3,150	3,112
1,002.48	1,538	381	1,003.50	3,150	3,175
1,002.50	1,600	413	1,003.52	3,150	3,238
1,002.52	1,662	445	1,003.54	3,150	3,301
1,002.54	1,724	479	1,003.56	3,150	3,364
1,002.56	1,786	514	1,003.58	3,150	3,427
1,002.58	1,848	550	1,003.60	3,150	3,490
1,002.60	1,910	588	1,003.62	3,150	3,553
1,002.62	1,972	627	1,003.64	3,150	3,616
1,002.64	2,034	667	1,003.66	3,150	3,679
1,002.66	2,096	708	1,003.68	3,150	3,742
1,002.68	2,158	751	1,003.70	3,150	3,805
1,002.70	2,220	795	1,003.72	3,150	3,868
1,002.72	2,282	840	1,003.74	3,150	3,931
1,002.74	2,344	886	1,003.76	3,150	3,994
1,002.76	2,406	933	1,003.78	3,150	4,057
1,002.78	2,468	982	1,003.80	3,150	4,120
1,002.80	2,530	1,032	1,003.82	3,150	4,183
1,002.82	2,592	1,083	1,003.84	3,150	4,246
1,002.84	2,654	1,136	1,003.86	3,150	4,309
1,002.86	2,716	1,189	1,003.88	3,150	4,372
1,002.88	2,778	1,244	1,003.90	3,150	4,435
1,002.90	2,840	1,300	1,003.92	3,150	4,498
1,002.92	2,902	1,358	1,003.94	3,150	4,561
1,002.94	2,964	1,417	1,003.96	3,150	4,624
1,002.96	3,026	1,476	1,003.98	3,150	4,687
1,002.98	3,088	1,538	1,004.00	3,150	4,750
1,003.00	3,150	1,600			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_E23: CB_E23

Inflow Area = 1.215 ac, 7.98% Impervious, Inflow Depth = 0.97" for 2yr-24hr event
Inflow = 1.58 cfs @ 12.21 hrs, Volume= 0.098 af
Outflow = 1.57 cfs @ 12.22 hrs, Volume= 0.098 af, Atten= 1%, Lag= 0.8 min
Primary = 1.57 cfs @ 12.22 hrs, Volume= 0.098 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 1,002.17' @ 12.22 hrs Surf.Area= 695 sf Storage= 62 cf

Plug-Flow detention time= 0.5 min calculated for 0.098 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (822.5 - 822.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	13,245 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.50	5,870	4,440	4,440
1,005.00	5,870	8,805	13,245

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.57 cfs @ 12.22 hrs HW=1,002.17' TW=978.54' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 1.57 cfs @ 1.33 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,002.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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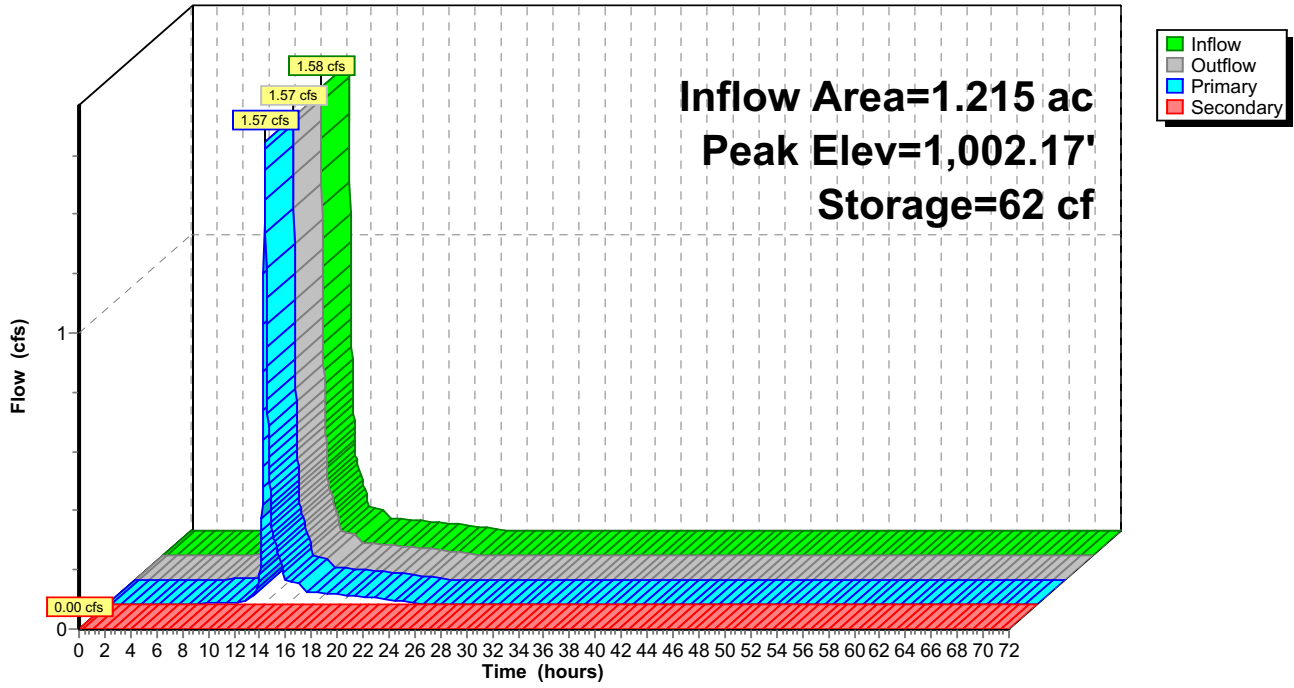
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Pond CB_E23: CB_E23

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Stage-Area-Storage for Pond CB_E23: CB_E23

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,002.00	50	0	1,004.55	5,870	10,603
1,002.05	244	7	1,004.60	5,870	10,897
1,002.10	438	24	1,004.65	5,870	11,190
1,002.15	632	51	1,004.70	5,870	11,484
1,002.20	826	88	1,004.75	5,870	11,778
1,002.25	1,020	134	1,004.80	5,870	12,071
1,002.30	1,214	190	1,004.85	5,870	12,365
1,002.35	1,408	255	1,004.90	5,870	12,658
1,002.40	1,602	330	1,004.95	5,870	12,952
1,002.45	1,796	415	1,005.00	5,870	13,245
1,002.50	1,990	510			
1,002.55	2,184	614			
1,002.60	2,378	728			
1,002.65	2,572	852			
1,002.70	2,766	986			
1,002.75	2,960	1,129			
1,002.80	3,154	1,282			
1,002.85	3,348	1,444			
1,002.90	3,542	1,616			
1,002.95	3,736	1,798			
1,003.00	3,930	1,990			
1,003.05	4,124	2,191			
1,003.10	4,318	2,402			
1,003.15	4,512	2,623			
1,003.20	4,706	2,854			
1,003.25	4,900	3,094			
1,003.30	5,094	3,344			
1,003.35	5,288	3,603			
1,003.40	5,482	3,872			
1,003.45	5,676	4,151			
1,003.50	5,870	4,440			
1,003.55	5,870	4,733			
1,003.60	5,870	5,027			
1,003.65	5,870	5,320			
1,003.70	5,870	5,614			
1,003.75	5,870	5,908			
1,003.80	5,870	6,201			
1,003.85	5,870	6,495			
1,003.90	5,870	6,788			
1,003.95	5,870	7,082			
1,004.00	5,870	7,375			
1,004.05	5,870	7,668			
1,004.10	5,870	7,962			
1,004.15	5,870	8,255			
1,004.20	5,870	8,549			
1,004.25	5,870	8,843			
1,004.30	5,870	9,136			
1,004.35	5,870	9,430			
1,004.40	5,870	9,723			
1,004.45	5,870	10,017			
1,004.50	5,870	10,310			

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Summary for Pond CB_E29: CB_E29

Inflow Area = 1.254 ac, 16.11% Impervious, Inflow Depth = 1.12" for 2yr-24hr event
 Inflow = 1.86 cfs @ 12.20 hrs, Volume= 0.117 af
 Outflow = 1.75 cfs @ 12.24 hrs, Volume= 0.117 af, Atten= 6%, Lag= 2.2 min
 Primary = 1.75 cfs @ 12.24 hrs, Volume= 0.117 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 995.67' @ 12.24 hrs Surf.Area= 632 sf Storage= 244 cf

Plug-Flow detention time= 4.1 min calculated for 0.117 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (812.6 - 808.9)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	124,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	900	500	500
998.00	9,500	10,400	10,900
1,010.00	9,500	114,000	124,900

Device	Routing	Invert	Outlet Devices
#1	Primary	999.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	995.00'	15.0" Round Culvert L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 994.59' S= 0.0114 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.75 cfs @ 12.24 hrs HW=995.67' TW=978.57' (Dynamic Tailwater)

- 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 2=Culvert (Barrel Controls 1.75 cfs @ 3.83 fps)

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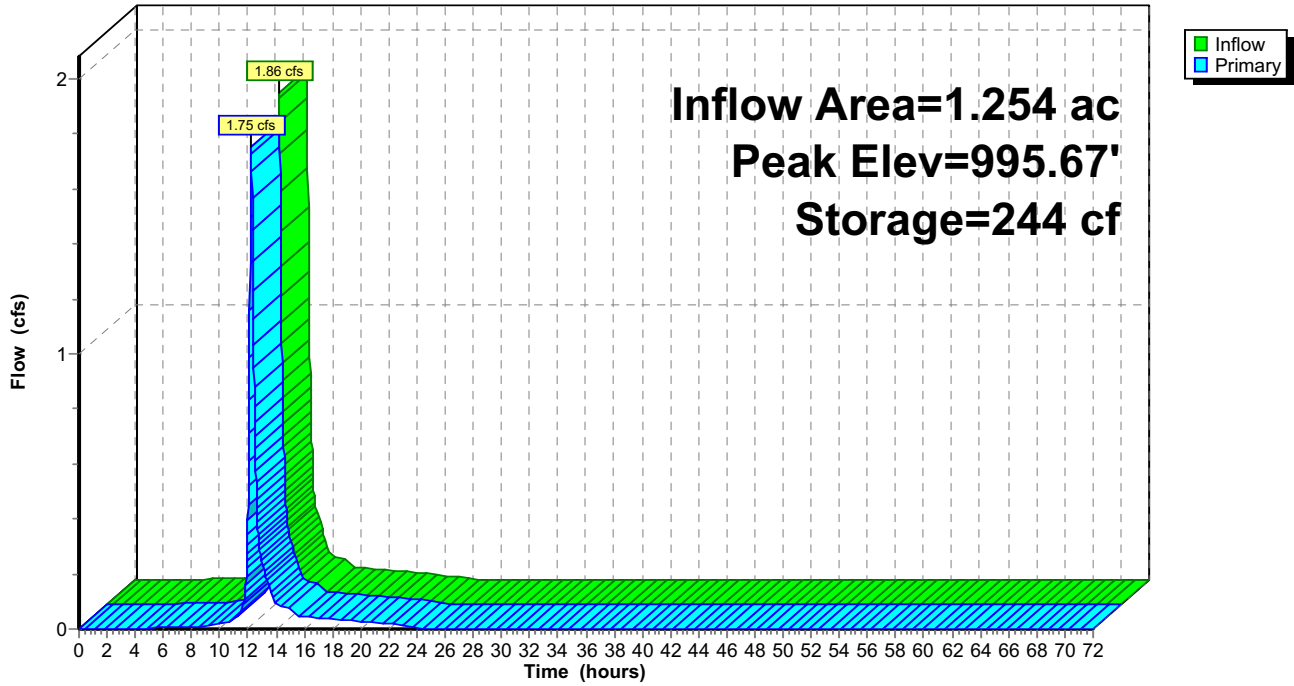
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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_E29: CB_E29

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_E29: CB_E29

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
995.00	100	0	1,002.65	9,500	55,075
995.15	220	24	1,002.80	9,500	56,500
995.30	340	66	1,002.95	9,500	57,925
995.45	460	126	1,003.10	9,500	59,350
995.60	580	204	1,003.25	9,500	60,775
995.75	700	300	1,003.40	9,500	62,200
995.90	820	414	1,003.55	9,500	63,625
996.05	1,115	550	1,003.70	9,500	65,050
996.20	1,760	766	1,003.85	9,500	66,475
996.35	2,405	1,078	1,004.00	9,500	67,900
996.50	3,050	1,488	1,004.15	9,500	69,325
996.65	3,695	1,993	1,004.30	9,500	70,750
996.80	4,340	2,596	1,004.45	9,500	72,175
996.95	4,985	3,295	1,004.60	9,500	73,600
997.10	5,630	4,092	1,004.75	9,500	75,025
997.25	6,275	4,984	1,004.90	9,500	76,450
997.40	6,920	5,974	1,005.05	9,500	77,875
997.55	7,565	7,060	1,005.20	9,500	79,300
997.70	8,210	8,244	1,005.35	9,500	80,725
997.85	8,855	9,523	1,005.50	9,500	82,150
998.00	9,500	10,900	1,005.65	9,500	83,575
998.15	9,500	12,325	1,005.80	9,500	85,000
998.30	9,500	13,750	1,005.95	9,500	86,425
998.45	9,500	15,175	1,006.10	9,500	87,850
998.60	9,500	16,600	1,006.25	9,500	89,275
998.75	9,500	18,025	1,006.40	9,500	90,700
998.90	9,500	19,450	1,006.55	9,500	92,125
999.05	9,500	20,875	1,006.70	9,500	93,550
999.20	9,500	22,300	1,006.85	9,500	94,975
999.35	9,500	23,725	1,007.00	9,500	96,400
999.50	9,500	25,150	1,007.15	9,500	97,825
999.65	9,500	26,575	1,007.30	9,500	99,250
999.80	9,500	28,000	1,007.45	9,500	100,675
999.95	9,500	29,425	1,007.60	9,500	102,100
1,000.10	9,500	30,850	1,007.75	9,500	103,525
1,000.25	9,500	32,275	1,007.90	9,500	104,950
1,000.40	9,500	33,700	1,008.05	9,500	106,375
1,000.55	9,500	35,125	1,008.20	9,500	107,800
1,000.70	9,500	36,550	1,008.35	9,500	109,225
1,000.85	9,500	37,975	1,008.50	9,500	110,650
1,001.00	9,500	39,400	1,008.65	9,500	112,075
1,001.15	9,500	40,825	1,008.80	9,500	113,500
1,001.30	9,500	42,250	1,008.95	9,500	114,925
1,001.45	9,500	43,675	1,009.10	9,500	116,350
1,001.60	9,500	45,100	1,009.25	9,500	117,775
1,001.75	9,500	46,525	1,009.40	9,500	119,200
1,001.90	9,500	47,950	1,009.55	9,500	120,625
1,002.05	9,500	49,375	1,009.70	9,500	122,050
1,002.20	9,500	50,800	1,009.85	9,500	123,475
1,002.35	9,500	52,225	1,010.00	9,500	124,900
1,002.50	9,500	53,650			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_F5: CB_F5

Inflow Area = 1.224 ac, 21.24% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
Inflow = 1.95 cfs @ 12.20 hrs, Volume= 0.124 af
Outflow = 1.94 cfs @ 12.21 hrs, Volume= 0.124 af, Atten= 0%, Lag= 0.6 min
Primary = 1.94 cfs @ 12.21 hrs, Volume= 0.124 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 983.19' @ 12.21 hrs Surf.Area= 501 sf Storage= 53 cf

Plug-Flow detention time= 0.4 min calculated for 0.124 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (802.7 - 802.3)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	13,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	50	0	0
984.00	2,400	1,225	1,225
986.00	9,900	12,300	13,525

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.94 cfs @ 12.21 hrs HW=983.19' TW=968.57' (Dynamic Tailwater)

↑ **1=Grate** (Weir Controls 1.94 cfs @ 1.43 fps)

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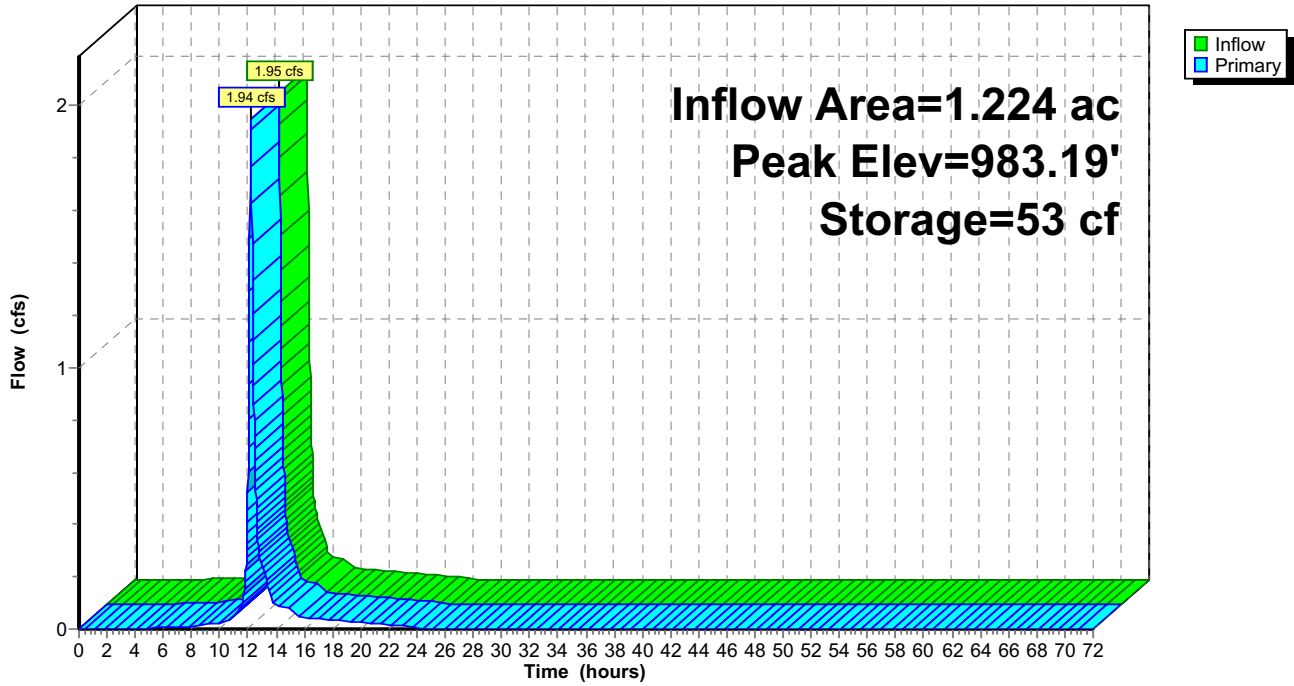
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_F5: CB_F5

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_F5: CB_F5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
983.00	50	0	985.55	8,212	9,450
983.05	167	5	985.60	8,400	9,865
983.10	285	17	985.65	8,587	10,290
983.15	402	34	985.70	8,775	10,724
983.20	520	57	985.75	8,963	11,167
983.25	638	86	985.80	9,150	11,620
983.30	755	121	985.85	9,338	12,082
983.35	873	161	985.90	9,525	12,554
983.40	990	208	985.95	9,713	13,035
983.45	1,108	260	986.00	9,900	13,525
983.50	1,225	319			
983.55	1,342	383			
983.60	1,460	453			
983.65	1,577	529			
983.70	1,695	611			
983.75	1,813	698			
983.80	1,930	792			
983.85	2,048	891			
983.90	2,165	997			
983.95	2,283	1,108			
984.00	2,400	1,225			
984.05	2,587	1,350			
984.10	2,775	1,484			
984.15	2,962	1,627			
984.20	3,150	1,780			
984.25	3,338	1,942			
984.30	3,525	2,114			
984.35	3,713	2,295			
984.40	3,900	2,485			
984.45	4,088	2,685			
984.50	4,275	2,894			
984.55	4,462	3,112			
984.60	4,650	3,340			
984.65	4,837	3,577			
984.70	5,025	3,824			
984.75	5,213	4,080			
984.80	5,400	4,345			
984.85	5,588	4,620			
984.90	5,775	4,904			
984.95	5,963	5,197			
985.00	6,150	5,500			
985.05	6,337	5,812			
985.10	6,525	6,134			
985.15	6,712	6,465			
985.20	6,900	6,805			
985.25	7,088	7,155			
985.30	7,275	7,514			
985.35	7,463	7,882			
985.40	7,650	8,260			
985.45	7,838	8,647			
985.50	8,025	9,044			

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Summary for Pond CB_F6: CB_F6

Inflow Area = 0.921 ac, 21.06% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
Inflow = 1.47 cfs @ 12.20 hrs, Volume= 0.093 af
Outflow = 1.46 cfs @ 12.21 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.3 min
Primary = 1.46 cfs @ 12.21 hrs, Volume= 0.093 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 985.16' @ 12.21 hrs Surf.Area= 282 sf Storage= 30 cf

Plug-Flow detention time= 0.5 min calculated for 0.093 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (803.0 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	5,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
988.00	3,527	5,441	5,441

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	987.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.46 cfs @ 12.21 hrs HW=985.16' TW=968.56' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 1.46 cfs @ 1.30 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=983.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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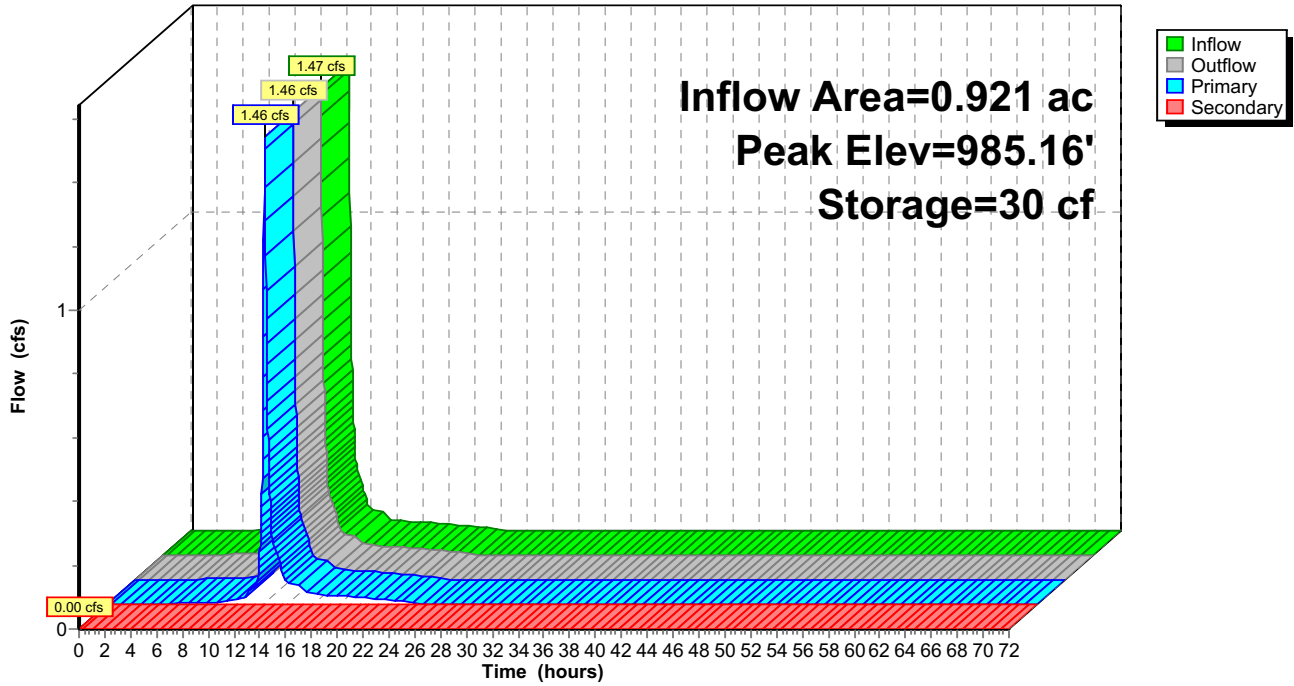
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_F6: CB_F6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_F6: CB_F6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
985.00	100	0	987.55	3,013	3,969
985.05	157	6	987.60	3,070	4,121
985.10	214	16	987.65	3,127	4,276
985.15	271	28	987.70	3,184	4,434
985.20	328	43	987.75	3,241	4,594
985.25	386	61	987.80	3,299	4,758
985.30	443	81	987.85	3,356	4,924
985.35	500	105	987.90	3,413	5,094
985.40	557	131	987.95	3,470	5,266
985.45	614	161	988.00	3,527	5,441
985.50	671	193			
985.55	728	228			
985.60	785	266			
985.65	843	306			
985.70	900	350			
985.75	957	396			
985.80	1,014	446			
985.85	1,071	498			
985.90	1,128	553			
985.95	1,185	610			
986.00	1,242	671			
986.05	1,299	735			
986.10	1,357	801			
986.15	1,414	870			
986.20	1,471	942			
986.25	1,528	1,017			
986.30	1,585	1,095			
986.35	1,642	1,176			
986.40	1,699	1,259			
986.45	1,756	1,346			
986.50	1,814	1,435			
986.55	1,871	1,527			
986.60	1,928	1,622			
986.65	1,985	1,720			
986.70	2,042	1,821			
986.75	2,099	1,924			
986.80	2,156	2,031			
986.85	2,213	2,140			
986.90	2,270	2,252			
986.95	2,328	2,367			
987.00	2,385	2,485			
987.05	2,442	2,605			
987.10	2,499	2,729			
987.15	2,556	2,855			
987.20	2,613	2,984			
987.25	2,670	3,117			
987.30	2,727	3,251			
987.35	2,784	3,389			
987.40	2,842	3,530			
987.45	2,899	3,673			
987.50	2,956	3,820			

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Summary for Pond CB_F7: CB_F7

Inflow Area = 2.573 ac, 14.89% Impervious, Inflow Depth = 1.10" for 2yr-24hr event
 Inflow = 3.44 cfs @ 12.23 hrs, Volume= 0.235 af
 Outflow = 3.01 cfs @ 12.30 hrs, Volume= 0.235 af, Atten= 12%, Lag= 4.1 min
 Primary = 3.01 cfs @ 12.30 hrs, Volume= 0.235 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 983.89' @ 12.30 hrs Surf.Area= 1,599 sf Storage= 758 cf

Plug-Flow detention time= 4.7 min calculated for 0.235 af (100% of inflow)
 Center-of-Mass det. time= 4.7 min (817.4 - 812.7)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	21,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	100	0	0
988.00	8,500	21,500	21,500

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	15.0" Round Culvert L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 983.00' / 980.71' S= 0.0458 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	985.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.01 cfs @ 12.30 hrs HW=983.89' TW=968.83' (Dynamic Tailwater)
 ↑**1=Culvert** (Inlet Controls 3.01 cfs @ 3.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=983.00' TW=985.00' (Dynamic Tailwater)
 ↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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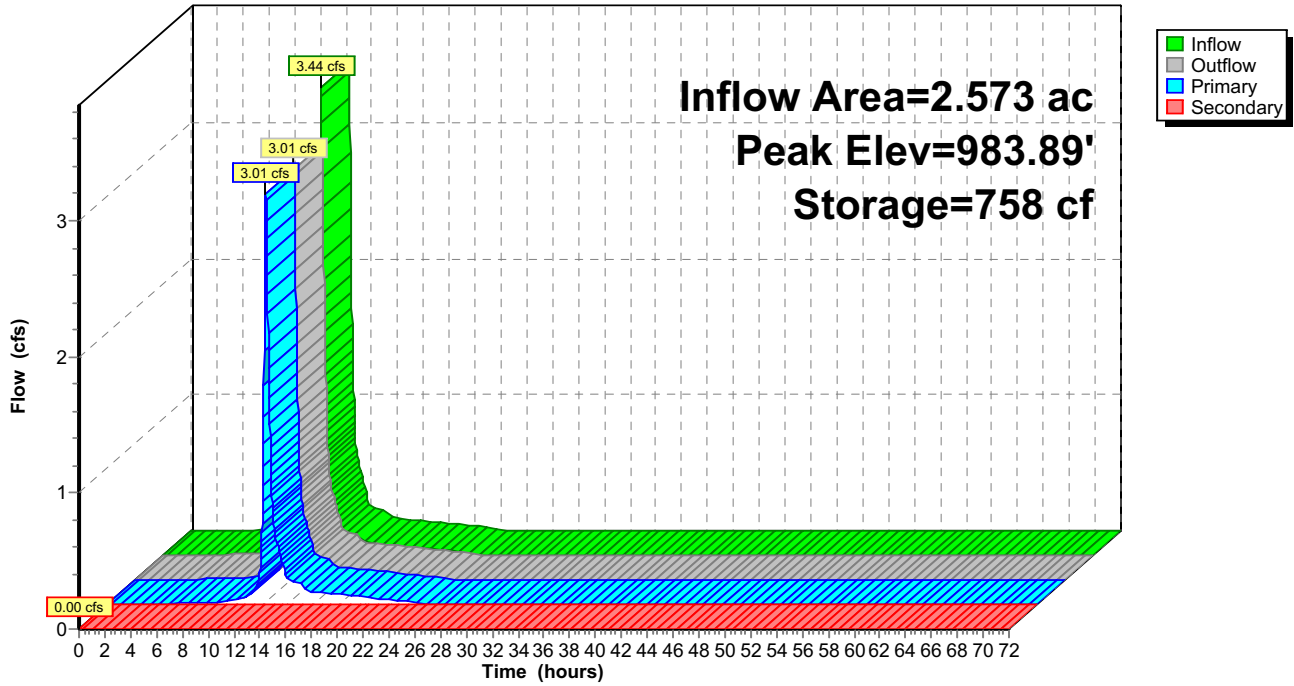
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_F7: CB_F7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_F7: CB_F7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
983.00	100	0	985.55	4,384	5,717
983.05	184	7	985.60	4,468	5,938
983.10	268	18	985.65	4,552	6,164
983.15	352	34	985.70	4,636	6,394
983.20	436	54	985.75	4,720	6,628
983.25	520	78	985.80	4,804	6,866
983.30	604	106	985.85	4,888	7,108
983.35	688	138	985.90	4,972	7,354
983.40	772	174	985.95	5,056	7,605
983.45	856	215	986.00	5,140	7,860
983.50	940	260	986.05	5,224	8,119
983.55	1,024	309	986.10	5,308	8,382
983.60	1,108	362	986.15	5,392	8,650
983.65	1,192	420	986.20	5,476	8,922
983.70	1,276	482	986.25	5,560	9,198
983.75	1,360	548	986.30	5,644	9,478
983.80	1,444	618	986.35	5,728	9,762
983.85	1,528	692	986.40	5,812	10,050
983.90	1,612	770	986.45	5,896	10,343
983.95	1,696	853	986.50	5,980	10,640
984.00	1,780	940	986.55	6,064	10,941
984.05	1,864	1,031	986.60	6,148	11,246
984.10	1,948	1,126	986.65	6,232	11,556
984.15	2,032	1,226	986.70	6,316	11,870
984.20	2,116	1,330	986.75	6,400	12,188
984.25	2,200	1,438	986.80	6,484	12,510
984.30	2,284	1,550	986.85	6,568	12,836
984.35	2,368	1,666	986.90	6,652	13,166
984.40	2,452	1,786	986.95	6,736	13,501
984.45	2,536	1,911	987.00	6,820	13,840
984.50	2,620	2,040	987.05	6,904	14,183
984.55	2,704	2,173	987.10	6,988	14,530
984.60	2,788	2,310	987.15	7,072	14,882
984.65	2,872	2,452	987.20	7,156	15,238
984.70	2,956	2,598	987.25	7,240	15,598
984.75	3,040	2,748	987.30	7,324	15,962
984.80	3,124	2,902	987.35	7,408	16,330
984.85	3,208	3,060	987.40	7,492	16,702
984.90	3,292	3,222	987.45	7,576	17,079
984.95	3,376	3,389	987.50	7,660	17,460
985.00	3,460	3,560	987.55	7,744	17,845
985.05	3,544	3,735	987.60	7,828	18,234
985.10	3,628	3,914	987.65	7,912	18,628
985.15	3,712	4,098	987.70	7,996	19,026
985.20	3,796	4,286	987.75	8,080	19,428
985.25	3,880	4,478	987.80	8,164	19,834
985.30	3,964	4,674	987.85	8,248	20,244
985.35	4,048	4,874	987.90	8,332	20,658
985.40	4,132	5,078	987.95	8,416	21,077
985.45	4,216	5,287	988.00	8,500	21,500
985.50	4,300	5,500			

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Summary for Pond CB_H5: CB_H5

Inflow Area = 2.168 ac, 27.21% Impervious, Inflow Depth = 1.20" for 2yr-24hr event
Inflow = 3.28 cfs @ 12.20 hrs, Volume= 0.216 af
Outflow = 3.26 cfs @ 12.21 hrs, Volume= 0.216 af, Atten= 1%, Lag= 0.6 min
Primary = 3.26 cfs @ 12.21 hrs, Volume= 0.216 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 972.27' @ 12.21 hrs Surf.Area= 677 sf Storage= 99 cf

Plug-Flow detention time= 0.4 min calculated for 0.216 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (794.7 - 794.3)

Volume	Invert	Avail.Storage	Storage Description
#1	972.00'	30,964 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
972.00	50	0	0
974.00	4,677	4,727	4,727
976.00	21,560	26,237	30,964

Device	Routing	Invert	Outlet Devices
#1	Primary	972.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.25 cfs @ 12.21 hrs HW=972.27' TW=967.54' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 3.25 cfs @ 1.70 fps)

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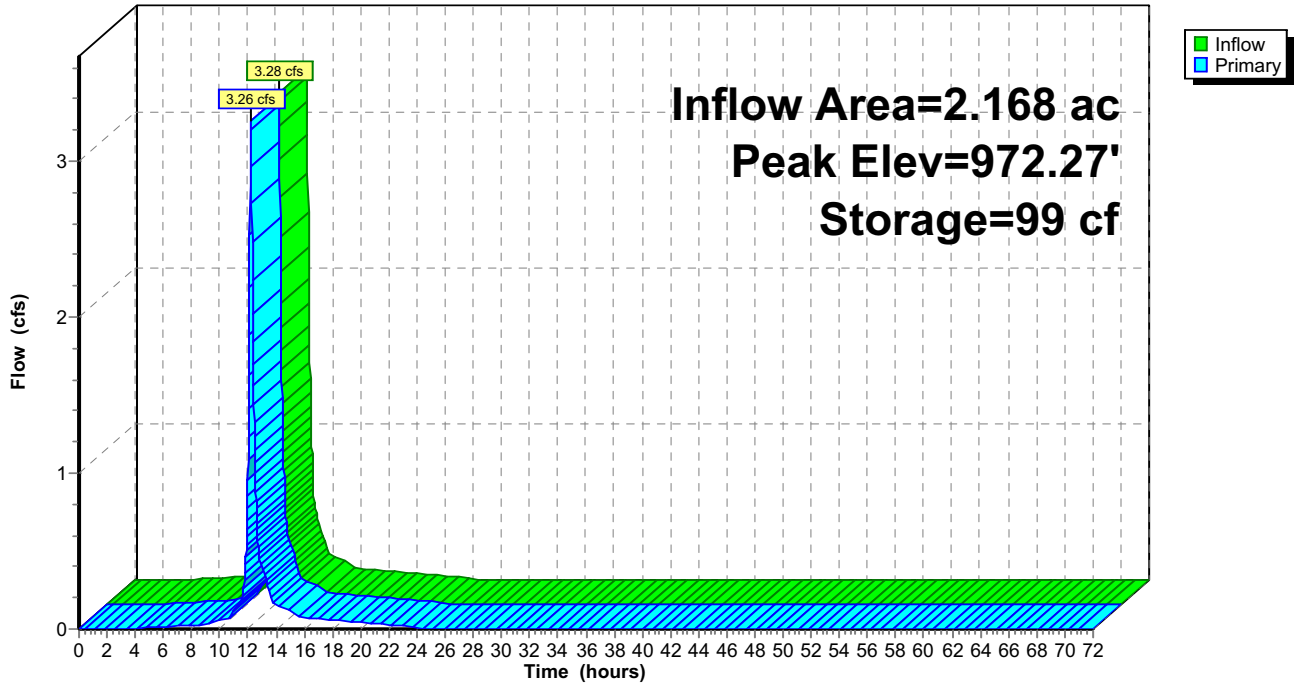
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_H5: CB_H5

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_H5: CB_H5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
972.00	50	0	974.55	9,320	8,576
972.05	166	5	974.60	9,742	9,053
972.10	281	17	974.65	10,164	9,550
972.15	397	34	974.70	10,586	10,069
972.20	513	56	974.75	11,008	10,609
972.25	628	85	974.80	11,430	11,170
972.30	744	119	974.85	11,852	11,752
972.35	860	159	974.90	12,274	12,355
972.40	975	205	974.95	12,696	12,979
972.45	1,091	257	975.00	13,119	13,625
972.50	1,207	314	975.05	13,541	14,291
972.55	1,322	377	975.10	13,963	14,979
972.60	1,438	446	975.15	14,385	15,687
972.65	1,554	521	975.20	14,807	16,417
972.70	1,669	602	975.25	15,229	17,168
972.75	1,785	688	975.30	15,651	17,940
972.80	1,901	780	975.35	16,073	18,733
972.85	2,016	878	975.40	16,495	19,547
972.90	2,132	982	975.45	16,917	20,383
972.95	2,248	1,091	975.50	17,339	21,239
973.00	2,364	1,207	975.55	17,761	22,117
973.05	2,479	1,328	975.60	18,183	23,015
973.10	2,595	1,455	975.65	18,605	23,935
973.15	2,711	1,587	975.70	19,028	24,876
973.20	2,826	1,726	975.75	19,450	25,838
973.25	2,942	1,870	975.80	19,872	26,821
973.30	3,058	2,020	975.85	20,294	27,825
973.35	3,173	2,176	975.90	20,716	28,850
973.40	3,289	2,337	975.95	21,138	29,897
973.45	3,405	2,505	976.00	21,560	30,964
973.50	3,520	2,678			
973.55	3,636	2,857			
973.60	3,752	3,041			
973.65	3,867	3,232			
973.70	3,983	3,428			
973.75	4,099	3,630			
973.80	4,214	3,838			
973.85	4,330	4,051			
973.90	4,446	4,271			
973.95	4,561	4,496			
974.00	4,677	4,727			
974.05	5,099	4,971			
974.10	5,521	5,237			
974.15	5,943	5,524			
974.20	6,365	5,831			
974.25	6,787	6,160			
974.30	7,209	6,510			
974.35	7,632	6,881			
974.40	8,054	7,273			
974.45	8,476	7,686			
974.50	8,898	8,121			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_H6: CB_H6

Inflow Area = 1.008 ac, 19.54% Impervious, Inflow Depth = 0.86" for 2yr-24hr event
Inflow = 1.00 cfs @ 12.21 hrs, Volume= 0.072 af
Outflow = 0.99 cfs @ 12.22 hrs, Volume= 0.072 af, Atten= 1%, Lag= 0.9 min
Primary = 0.99 cfs @ 12.22 hrs, Volume= 0.072 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 973.12' @ 12.22 hrs Surf.Area= 669 sf Storage= 44 cf

Plug-Flow detention time= 0.6 min calculated for 0.072 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (802.8 - 802.2)

Volume	Invert	Avail.Storage	Storage Description
#1	973.00'	35,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.00	50	0	0
974.00	5,100	2,575	2,575
975.00	20,000	12,550	15,125
976.00	20,000	20,000	35,125

Device	Routing	Invert	Outlet Devices
#1	Primary	973.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.99 cfs @ 12.22 hrs HW=973.12' TW=967.55' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 0.99 cfs @ 1.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=967.50' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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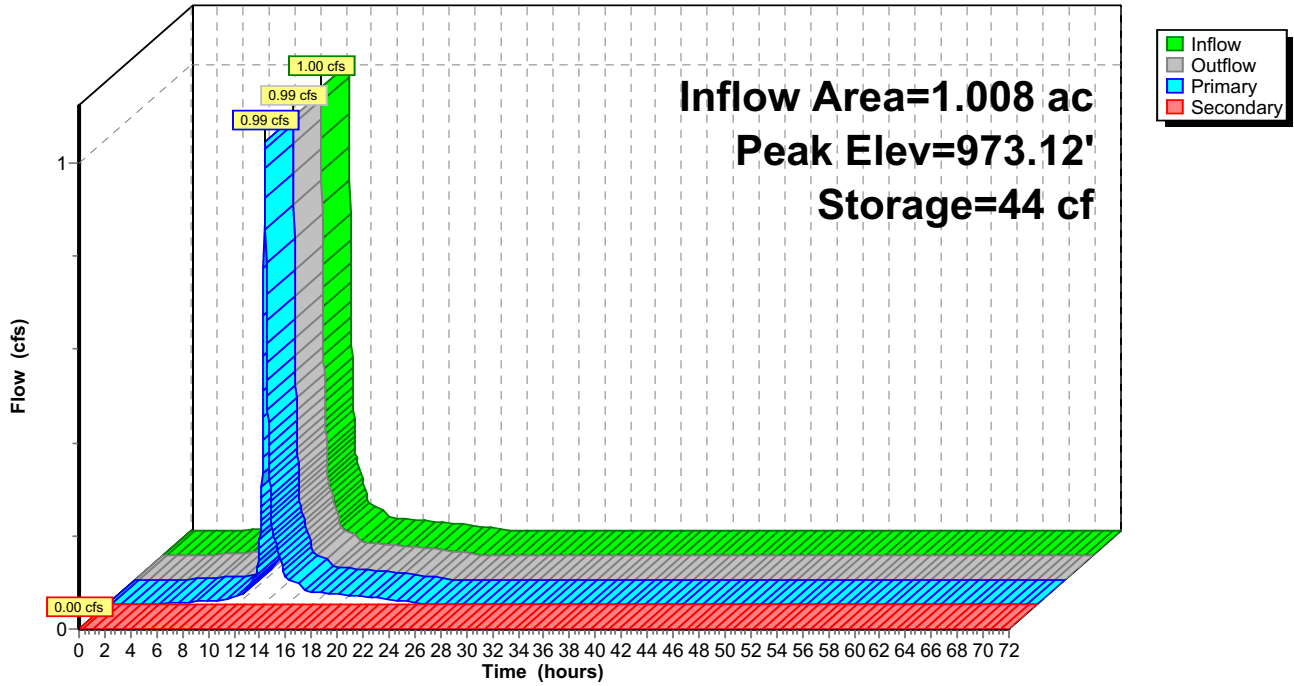
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_H6: CB_H6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_H6: CB_H6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
973.00	50	0	975.55	20,000	26,125
973.05	302	9	975.60	20,000	27,125
973.10	555	30	975.65	20,000	28,125
973.15	807	64	975.70	20,000	29,125
973.20	1,060	111	975.75	20,000	30,125
973.25	1,313	170	975.80	20,000	31,125
973.30	1,565	242	975.85	20,000	32,125
973.35	1,818	327	975.90	20,000	33,125
973.40	2,070	424	975.95	20,000	34,125
973.45	2,323	534	976.00	20,000	35,125
973.50	2,575	656			
973.55	2,827	791			
973.60	3,080	939			
973.65	3,332	1,099			
973.70	3,585	1,272			
973.75	3,838	1,458			
973.80	4,090	1,656			
973.85	4,343	1,867			
973.90	4,595	2,090			
973.95	4,848	2,326			
974.00	5,100	2,575			
974.05	5,845	2,849			
974.10	6,590	3,160			
974.15	7,335	3,508			
974.20	8,080	3,893			
974.25	8,825	4,316			
974.30	9,570	4,775			
974.35	10,315	5,273			
974.40	11,060	5,807			
974.45	11,805	6,379			
974.50	12,550	6,988			
974.55	13,295	7,634			
974.60	14,040	8,317			
974.65	14,785	9,038			
974.70	15,530	9,796			
974.75	16,275	10,591			
974.80	17,020	11,423			
974.85	17,765	12,293			
974.90	18,510	13,199			
974.95	19,255	14,144			
975.00	20,000	15,125			
975.05	20,000	16,125			
975.10	20,000	17,125			
975.15	20,000	18,125			
975.20	20,000	19,125			
975.25	20,000	20,125			
975.30	20,000	21,125			
975.35	20,000	22,125			
975.40	20,000	23,125			
975.45	20,000	24,125			
975.50	20,000	25,125			

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Summary for Pond CB_H7: CB_H7

Inflow Area = 1.176 ac, 19.64% Impervious, Inflow Depth = 0.93" for 2yr-24hr event
Inflow = 1.31 cfs @ 12.21 hrs, Volume= 0.091 af
Outflow = 1.18 cfs @ 12.26 hrs, Volume= 0.091 af, Atten= 10%, Lag= 3.0 min
Primary = 1.18 cfs @ 12.26 hrs, Volume= 0.091 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 974.14' @ 12.26 hrs Surf.Area= 2,430 sf Storage= 347 cf

Plug-Flow detention time= 14.3 min calculated for 0.091 af (100% of inflow)
Center-of-Mass det. time= 12.0 min (814.6 - 802.6)

Volume	Invert	Avail.Storage	Storage Description
#1	973.99'	4,872 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.99	50	0	0
974.00	2,430	12	12
976.00	2,430	4,860	4,872

Device	Routing	Invert	Outlet Devices
#1	Primary	974.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.18 cfs @ 12.26 hrs HW=974.14' TW=967.61' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 1.18 cfs @ 1.21 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.99' TW=973.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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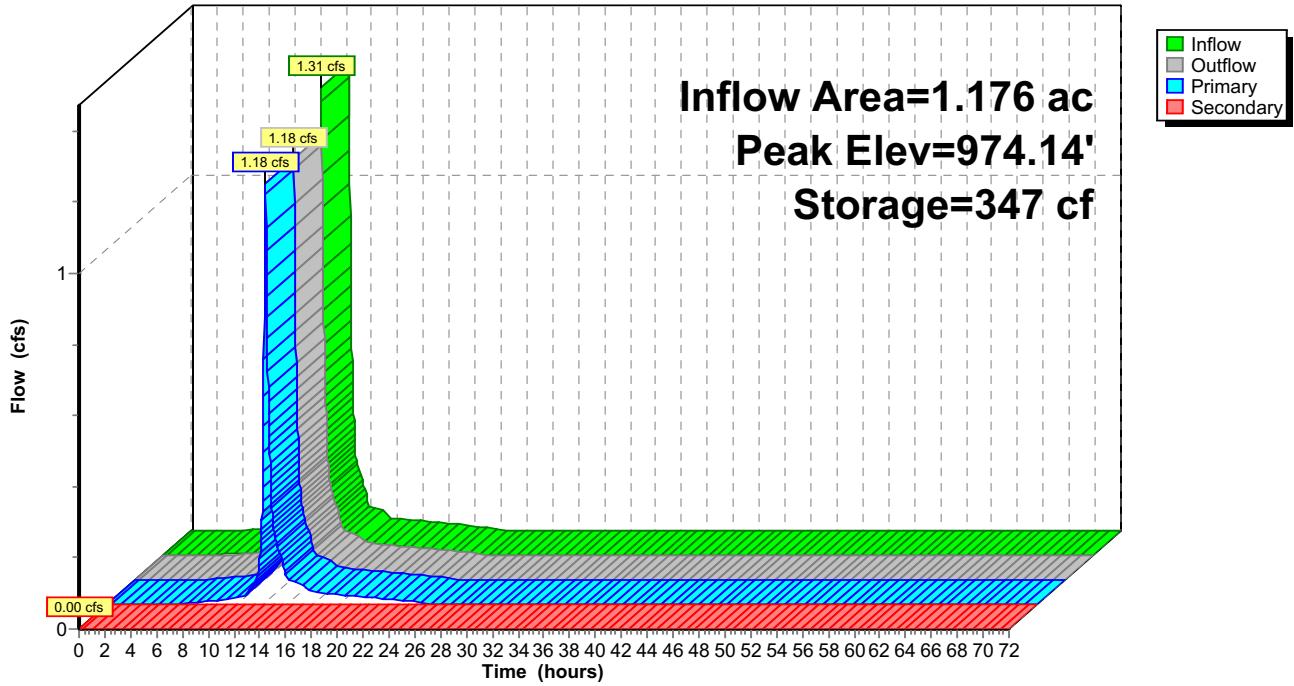
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_H7: CB_H7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_H7: CB_H7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
973.99	50	0	975.01	2,430	2,467
974.01	2,430	37	975.03	2,430	2,515
974.03	2,430	85	975.05	2,430	2,564
974.05	2,430	134	975.07	2,430	2,613
974.07	2,430	183	975.09	2,430	2,661
974.09	2,430	231	975.11	2,430	2,710
974.11	2,430	280	975.13	2,430	2,758
974.13	2,430	328	975.15	2,430	2,807
974.15	2,430	377	975.17	2,430	2,855
974.17	2,430	425	975.19	2,430	2,904
974.19	2,430	474	975.21	2,430	2,953
974.21	2,430	523	975.23	2,430	3,001
974.23	2,430	571	975.25	2,430	3,050
974.25	2,430	620	975.27	2,430	3,098
974.27	2,430	668	975.29	2,430	3,147
974.29	2,430	717	975.31	2,430	3,196
974.31	2,430	766	975.33	2,430	3,244
974.33	2,430	814	975.35	2,430	3,293
974.35	2,430	863	975.37	2,430	3,342
974.37	2,430	911	975.39	2,430	3,390
974.39	2,430	960	975.41	2,430	3,439
974.41	2,430	1,009	975.43	2,430	3,487
974.43	2,430	1,057	975.45	2,430	3,536
974.45	2,430	1,106	975.47	2,430	3,585
974.47	2,430	1,155	975.49	2,430	3,633
974.49	2,430	1,203	975.51	2,430	3,682
974.51	2,430	1,252	975.53	2,430	3,730
974.53	2,430	1,300	975.55	2,430	3,779
974.55	2,430	1,349	975.57	2,430	3,828
974.57	2,430	1,398	975.59	2,430	3,876
974.59	2,430	1,446	975.61	2,430	3,925
974.61	2,430	1,495	975.63	2,430	3,973
974.63	2,430	1,543	975.65	2,430	4,022
974.65	2,430	1,592	975.67	2,430	4,070
974.67	2,430	1,640	975.69	2,430	4,119
974.69	2,430	1,689	975.71	2,430	4,168
974.71	2,430	1,738	975.73	2,430	4,216
974.73	2,430	1,786	975.75	2,430	4,265
974.75	2,430	1,835	975.77	2,430	4,313
974.77	2,430	1,883	975.79	2,430	4,362
974.79	2,430	1,932	975.81	2,430	4,411
974.81	2,430	1,981	975.83	2,430	4,459
974.83	2,430	2,029	975.85	2,430	4,508
974.85	2,430	2,078	975.87	2,430	4,557
974.87	2,430	2,127	975.89	2,430	4,605
974.89	2,430	2,175	975.91	2,430	4,654
974.91	2,430	2,224	975.93	2,430	4,702
974.93	2,430	2,272	975.95	2,430	4,751
974.95	2,430	2,321	975.97	2,430	4,800
974.97	2,430	2,370	975.99	2,430	4,848
974.99	2,430	2,418			

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Summary for Pond CB_I14: CB_I14

Inflow Area = 0.648 ac, 15.59% Impervious, Inflow Depth = 1.11" for 2yr-24hr event
Inflow = 0.95 cfs @ 12.21 hrs, Volume= 0.060 af
Outflow = 0.92 cfs @ 12.23 hrs, Volume= 0.060 af, Atten= 3%, Lag= 1.5 min
Primary = 0.92 cfs @ 12.23 hrs, Volume= 0.060 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 985.45' @ 12.23 hrs Surf.Area= 345 sf Storage= 101 cf

Plug-Flow detention time= 3.9 min calculated for 0.060 af (100% of inflow)
Center-of-Mass det. time= 3.9 min (813.5 - 809.6)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	7,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
986.00	640	370	370
988.00	6,500	7,140	7,510

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	15.0" Round FES_I14 L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 985.00' / 981.70' S= 0.0236 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	987.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.92 cfs @ 12.23 hrs HW=985.45' TW=969.63' (Dynamic Tailwater)
↑1=FES_I14 (Inlet Controls 0.92 cfs @ 2.29 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=0.00' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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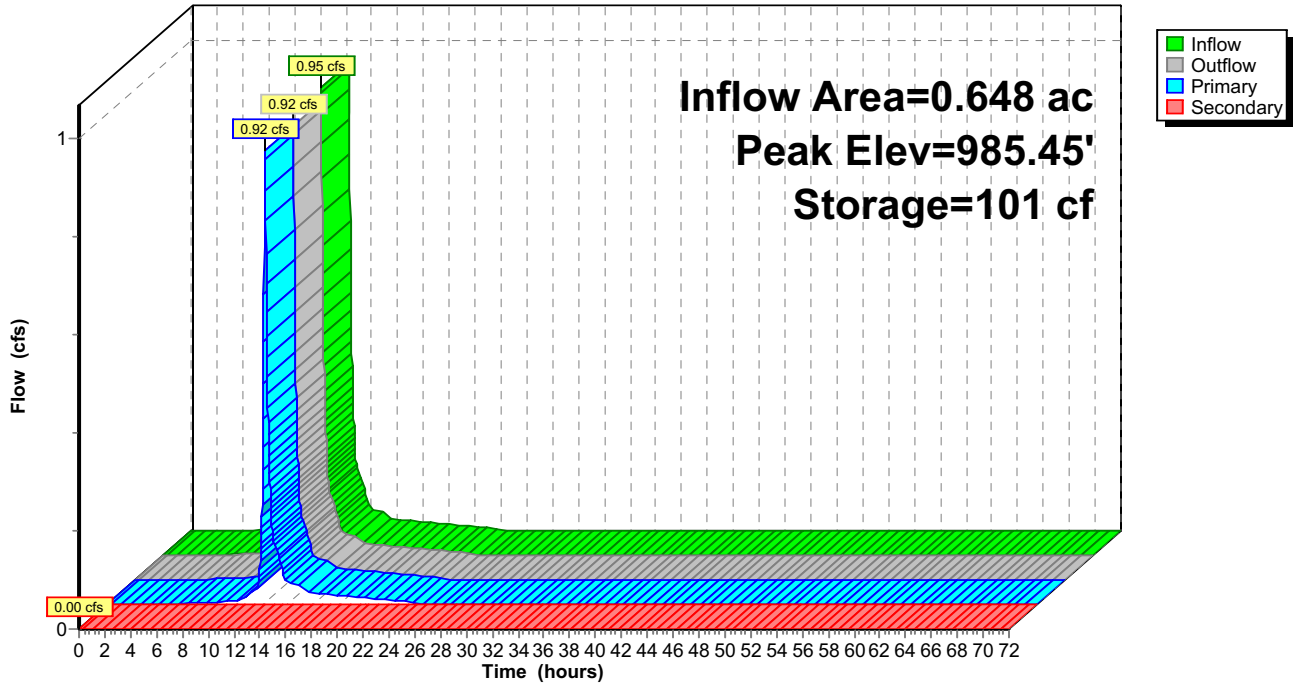
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_I14: CB_I14

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Stage-Area-Storage for Pond CB_I14: CB_I14

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
985.00	100	0	987.55	5,181	4,882
985.05	127	6	987.60	5,328	5,144
985.10	154	13	987.65	5,474	5,414
985.15	181	21	987.70	5,621	5,692
985.20	208	31	987.75	5,768	5,977
985.25	235	42	987.80	5,914	6,269
985.30	262	54	987.85	6,061	6,568
985.35	289	68	987.90	6,207	6,875
985.40	316	83	987.95	6,354	7,189
985.45	343	100	988.00	6,500	7,510
985.50	370	118			
985.55	397	137			
985.60	424	157			
985.65	451	179			
985.70	478	202			
985.75	505	227			
985.80	532	253			
985.85	559	280			
985.90	586	309			
985.95	613	339			
986.00	640	370			
986.05	786	406			
986.10	933	449			
986.15	1,079	499			
986.20	1,226	557			
986.25	1,373	622			
986.30	1,519	694			
986.35	1,666	773			
986.40	1,812	860			
986.45	1,959	955			
986.50	2,105	1,056			
986.55	2,251	1,165			
986.60	2,398	1,281			
986.65	2,544	1,405			
986.70	2,691	1,536			
986.75	2,838	1,674			
986.80	2,984	1,820			
986.85	3,131	1,972			
986.90	3,277	2,133			
986.95	3,424	2,300			
987.00	3,570	2,475			
987.05	3,716	2,657			
987.10	3,863	2,847			
987.15	4,009	3,043			
987.20	4,156	3,248			
987.25	4,303	3,459			
987.30	4,449	3,678			
987.35	4,596	3,904			
987.40	4,742	4,137			
987.45	4,889	4,378			
987.50	5,035	4,626			

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Summary for Pond CB_I7: CB_I7

Inflow Area = 0.815 ac, 18.77% Impervious, Inflow Depth = 1.17" for 2yr-24hr event
Inflow = 1.26 cfs @ 12.20 hrs, Volume= 0.079 af
Outflow = 1.25 cfs @ 12.22 hrs, Volume= 0.079 af, Atten= 1%, Lag= 0.8 min
Primary = 1.25 cfs @ 12.22 hrs, Volume= 0.079 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 986.14' @ 12.22 hrs Surf.Area= 592 sf Storage= 49 cf

Plug-Flow detention time= 0.7 min calculated for 0.079 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (806.0 - 805.3)

Volume	Invert	Avail.Storage	Storage Description
#1	986.00'	21,100 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
986.00	100	0	0
988.00	7,000	7,100	7,100
990.00	7,000	14,000	21,100

Device	Routing	Invert	Outlet Devices
#1	Primary	986.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.24 cfs @ 12.22 hrs HW=986.14' TW=969.61' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 1.24 cfs @ 1.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=986.00' TW=985.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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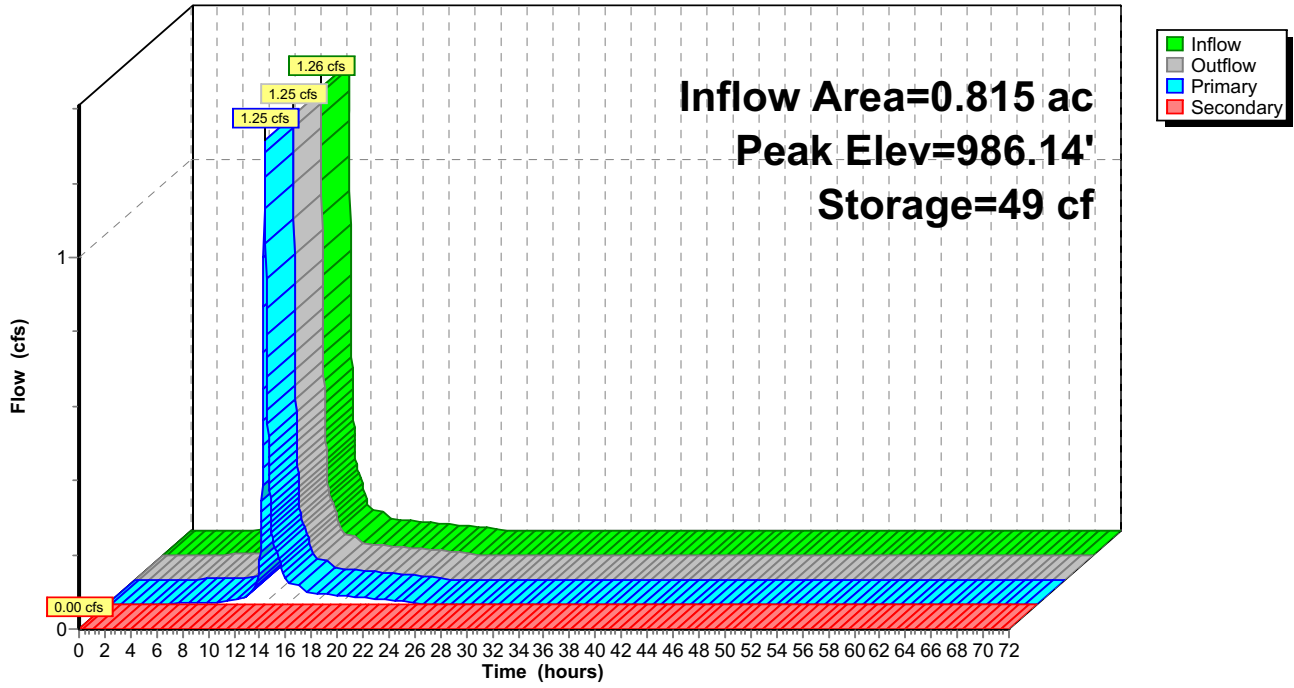
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I7: CB_I7

Hydrograph



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Stage-Area-Storage for Pond CB_I7: CB_I7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
986.00	100	0	988.55	7,000	10,950
986.05	272	9	988.60	7,000	11,300
986.10	445	27	988.65	7,000	11,650
986.15	617	54	988.70	7,000	12,000
986.20	790	89	988.75	7,000	12,350
986.25	963	133	988.80	7,000	12,700
986.30	1,135	185	988.85	7,000	13,050
986.35	1,308	246	988.90	7,000	13,400
986.40	1,480	316	988.95	7,000	13,750
986.45	1,653	394	989.00	7,000	14,100
986.50	1,825	481	989.05	7,000	14,450
986.55	1,997	577	989.10	7,000	14,800
986.60	2,170	681	989.15	7,000	15,150
986.65	2,342	794	989.20	7,000	15,500
986.70	2,515	915	989.25	7,000	15,850
986.75	2,688	1,045	989.30	7,000	16,200
986.80	2,860	1,184	989.35	7,000	16,550
986.85	3,033	1,331	989.40	7,000	16,900
986.90	3,205	1,487	989.45	7,000	17,250
986.95	3,378	1,652	989.50	7,000	17,600
987.00	3,550	1,825	989.55	7,000	17,950
987.05	3,722	2,007	989.60	7,000	18,300
987.10	3,895	2,197	989.65	7,000	18,650
987.15	4,067	2,396	989.70	7,000	19,000
987.20	4,240	2,604	989.75	7,000	19,350
987.25	4,413	2,820	989.80	7,000	19,700
987.30	4,585	3,045	989.85	7,000	20,050
987.35	4,758	3,279	989.90	7,000	20,400
987.40	4,930	3,521	989.95	7,000	20,750
987.45	5,103	3,772	990.00	7,000	21,100
987.50	5,275	4,031			
987.55	5,447	4,299			
987.60	5,620	4,576			
987.65	5,792	4,861			
987.70	5,965	5,155			
987.75	6,138	5,458			
987.80	6,310	5,769			
987.85	6,483	6,089			
987.90	6,655	6,417			
987.95	6,828	6,754			
988.00	7,000	7,100			
988.05	7,000	7,450			
988.10	7,000	7,800			
988.15	7,000	8,150			
988.20	7,000	8,500			
988.25	7,000	8,850			
988.30	7,000	9,200			
988.35	7,000	9,550			
988.40	7,000	9,900			
988.45	7,000	10,250			
988.50	7,000	10,600			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_I8: CB_I8

Inflow Area = 1.173 ac, 25.23% Impervious, Inflow Depth = 1.28" for 2yr-24hr event
 Inflow = 1.98 cfs @ 12.20 hrs, Volume= 0.126 af
 Outflow = 1.98 cfs @ 12.21 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.98 cfs @ 12.21 hrs, Volume= 0.126 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 987.19' @ 12.21 hrs Surf.Area= 201 sf Storage= 24 cf

Plug-Flow detention time= 0.3 min calculated for 0.125 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (798.1 - 797.8)

Volume	Invert	Avail.Storage	Storage Description
#1	987.00'	3,105 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
987.00	50	0	0
988.00	830	440	440
989.00	1,500	1,165	1,605
990.00	1,500	1,500	3,105

Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.97 cfs @ 12.21 hrs HW=987.19' TW=969.59' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.97 cfs @ 1.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=987.00' TW=986.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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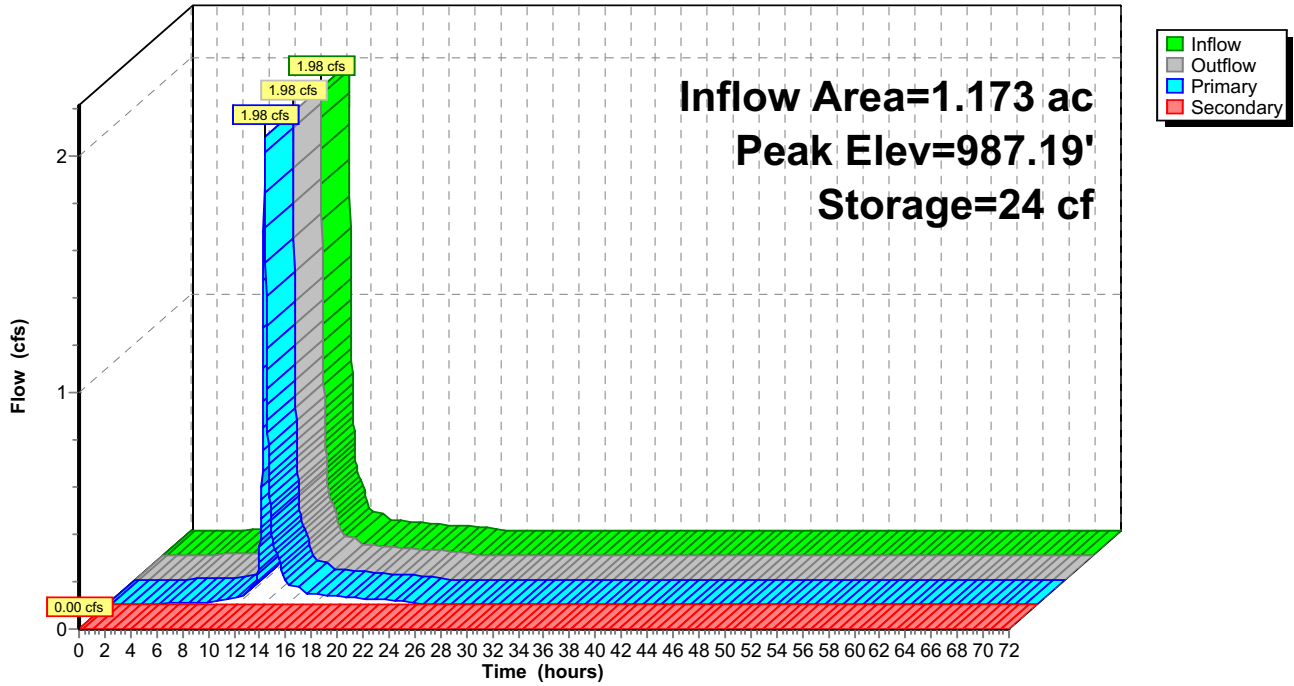
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I8: CB_I8

Hydrograph



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Stage-Area-Storage for Pond CB_I8: CB_I8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
987.00	50	0	989.55	1,500	2,430
987.05	89	3	989.60	1,500	2,505
987.10	128	9	989.65	1,500	2,580
987.15	167	16	989.70	1,500	2,655
987.20	206	26	989.75	1,500	2,730
987.25	245	37	989.80	1,500	2,805
987.30	284	50	989.85	1,500	2,880
987.35	323	65	989.90	1,500	2,955
987.40	362	82	989.95	1,500	3,030
987.45	401	101	990.00	1,500	3,105
987.50	440	123			
987.55	479	145			
987.60	518	170			
987.65	557	197			
987.70	596	226			
987.75	635	257			
987.80	674	290			
987.85	713	324			
987.90	752	361			
987.95	791	399			
988.00	830	440			
988.05	863	482			
988.10	897	526			
988.15	930	572			
988.20	964	619			
988.25	998	668			
988.30	1,031	719			
988.35	1,065	772			
988.40	1,098	826			
988.45	1,132	881			
988.50	1,165	939			
988.55	1,198	998			
988.60	1,232	1,059			
988.65	1,265	1,121			
988.70	1,299	1,185			
988.75	1,333	1,251			
988.80	1,366	1,318			
988.85	1,400	1,388			
988.90	1,433	1,458			
988.95	1,467	1,531			
989.00	1,500	1,605			
989.05	1,500	1,680			
989.10	1,500	1,755			
989.15	1,500	1,830			
989.20	1,500	1,905			
989.25	1,500	1,980			
989.30	1,500	2,055			
989.35	1,500	2,130			
989.40	1,500	2,205			
989.45	1,500	2,280			
989.50	1,500	2,355			

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Summary for Pond CB_I9: CB_I9

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af
 Outflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.2 min
 Primary = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.07' @ 12.20 hrs Surf.Area= 86 sf Storage= 5 cf

Plug-Flow detention time= 0.3 min calculated for 0.028 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (795.6 - 795.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	300	88	88
980.00	300	450	538
984.00	340	1,280	1,818

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.44 cfs @ 12.20 hrs HW=978.07' TW=969.86' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.44 cfs @ 0.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=969.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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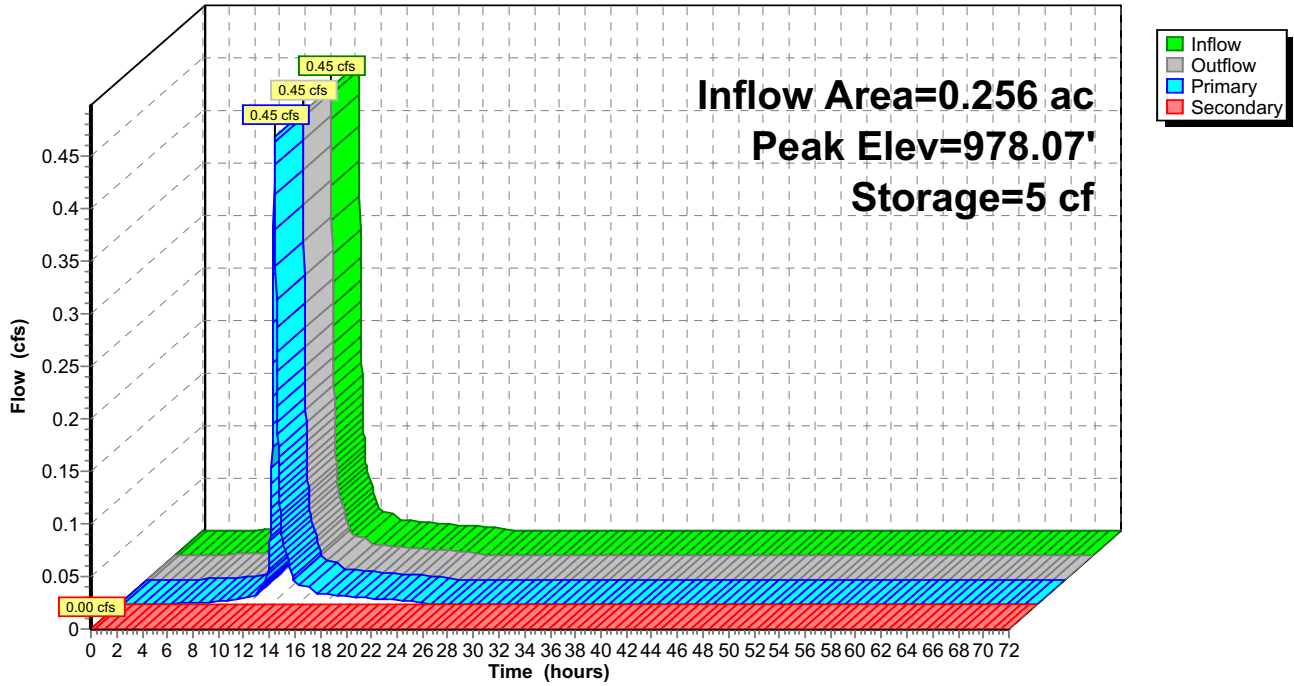
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I9: CB_I9

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Stage-Area-Storage for Pond CB_I9: CB_I9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	983.10	331	1,516
978.10	100	8	983.20	332	1,549
978.20	150	20	983.30	333	1,582
978.30	200	37	983.40	334	1,615
978.40	250	60	983.50	335	1,649
978.50	300	88	983.60	336	1,682
978.60	300	118	983.70	337	1,716
978.70	300	148	983.80	338	1,750
978.80	300	177	983.90	339	1,784
978.90	300	207	984.00	340	1,818
979.00	300	238			
979.10	300	268			
979.20	300	298			
979.30	300	327			
979.40	300	357			
979.50	300	388			
979.60	300	418			
979.70	300	448			
979.80	300	477			
979.90	300	507			
980.00	300	538			
980.10	301	568			
980.20	302	598			
980.30	303	628			
980.40	304	658			
980.50	305	689			
980.60	306	719			
980.70	307	750			
980.80	308	781			
980.90	309	812			
981.00	310	843			
981.10	311	874			
981.20	312	905			
981.30	313	936			
981.40	314	967			
981.50	315	999			
981.60	316	1,030			
981.70	317	1,062			
981.80	318	1,094			
981.90	319	1,126			
982.00	320	1,158			
982.10	321	1,190			
982.20	322	1,222			
982.30	323	1,254			
982.40	324	1,286			
982.50	325	1,319			
982.60	326	1,351			
982.70	327	1,384			
982.80	328	1,417			
982.90	329	1,450			
983.00	330	1,483			

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Summary for Pond CB_J3: CB_J3

Inflow Area = 1.496 ac, 20.32% Impervious, Inflow Depth = 1.20" for 2yr-24hr event
 Inflow = 2.36 cfs @ 12.20 hrs, Volume= 0.149 af
 Outflow = 2.35 cfs @ 12.21 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.3 min
 Primary = 2.35 cfs @ 12.21 hrs, Volume= 0.149 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.22' @ 12.21 hrs Surf.Area= 323 sf Storage= 41 cf

Plug-Flow detention time= 0.3 min calculated for 0.149 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (803.7 - 803.4)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	4,575 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	1,300	675	675
993.00	1,300	1,300	1,975
995.00	1,300	2,600	4,575

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	992.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.34 cfs @ 12.21 hrs HW=991.22' TW=973.70' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 2.34 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=991.00' TW=973.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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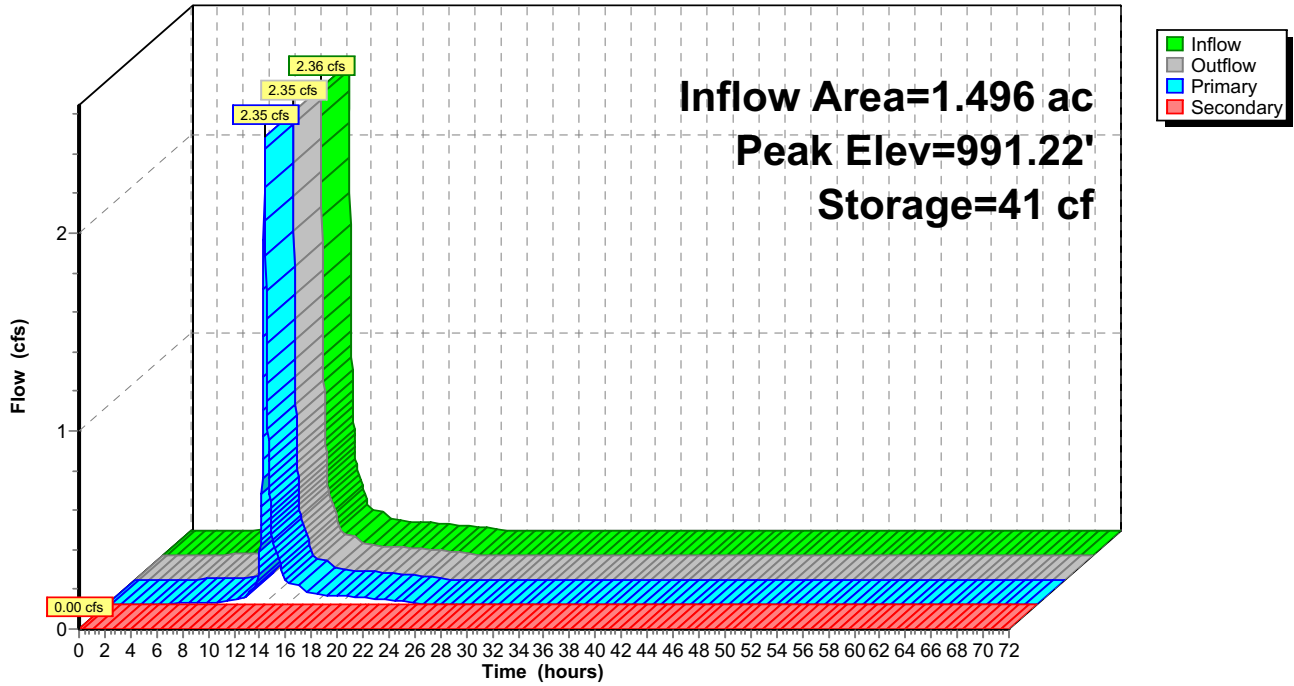
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_J3: CB_J3

Hydrograph



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Stage-Area-Storage for Pond CB_J3: CB_J3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
991.00	50	0	993.55	1,300	2,690
991.05	112	4	993.60	1,300	2,755
991.10	175	11	993.65	1,300	2,820
991.15	237	22	993.70	1,300	2,885
991.20	300	35	993.75	1,300	2,950
991.25	363	52	993.80	1,300	3,015
991.30	425	71	993.85	1,300	3,080
991.35	488	94	993.90	1,300	3,145
991.40	550	120	993.95	1,300	3,210
991.45	613	149	994.00	1,300	3,275
991.50	675	181	994.05	1,300	3,340
991.55	737	217	994.10	1,300	3,405
991.60	800	255	994.15	1,300	3,470
991.65	862	297	994.20	1,300	3,535
991.70	925	341	994.25	1,300	3,600
991.75	988	389	994.30	1,300	3,665
991.80	1,050	440	994.35	1,300	3,730
991.85	1,113	494	994.40	1,300	3,795
991.90	1,175	551	994.45	1,300	3,860
991.95	1,238	612	994.50	1,300	3,925
992.00	1,300	675	994.55	1,300	3,990
992.05	1,300	740	994.60	1,300	4,055
992.10	1,300	805	994.65	1,300	4,120
992.15	1,300	870	994.70	1,300	4,185
992.20	1,300	935	994.75	1,300	4,250
992.25	1,300	1,000	994.80	1,300	4,315
992.30	1,300	1,065	994.85	1,300	4,380
992.35	1,300	1,130	994.90	1,300	4,445
992.40	1,300	1,195	994.95	1,300	4,510
992.45	1,300	1,260	995.00	1,300	4,575
992.50	1,300	1,325			
992.55	1,300	1,390			
992.60	1,300	1,455			
992.65	1,300	1,520			
992.70	1,300	1,585			
992.75	1,300	1,650			
992.80	1,300	1,715			
992.85	1,300	1,780			
992.90	1,300	1,845			
992.95	1,300	1,910			
993.00	1,300	1,975			
993.05	1,300	2,040			
993.10	1,300	2,105			
993.15	1,300	2,170			
993.20	1,300	2,235			
993.25	1,300	2,300			
993.30	1,300	2,365			
993.35	1,300	2,430			
993.40	1,300	2,495			
993.45	1,300	2,560			
993.50	1,300	2,625			

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Summary for Pond CB_J4: CB_J4

Inflow Area = 0.993 ac, 12.19% Impervious, Inflow Depth = 1.05" for 2yr-24hr event
 Inflow = 1.39 cfs @ 12.21 hrs, Volume= 0.087 af
 Outflow = 1.27 cfs @ 12.25 hrs, Volume= 0.087 af, Atten= 9%, Lag= 2.7 min
 Primary = 1.27 cfs @ 12.25 hrs, Volume= 0.087 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.54' @ 12.25 hrs Surf.Area= 791 sf Storage= 227 cf

Plug-Flow detention time= 4.0 min calculated for 0.087 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (818.4 - 814.7)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	5,650 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	2,800	2,850	2,850
997.00	2,800	2,800	5,650

Device	Routing	Invert	Outlet Devices
#1	Secondary	995.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	994.00'	15.0" Round Culvert L= 166.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 994.00' / 991.00' S= 0.0181 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.26 cfs @ 12.25 hrs HW=994.54' TW=973.79' (Dynamic Tailwater)
 ↑**2=Culvert** (Inlet Controls 1.26 cfs @ 2.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=991.00' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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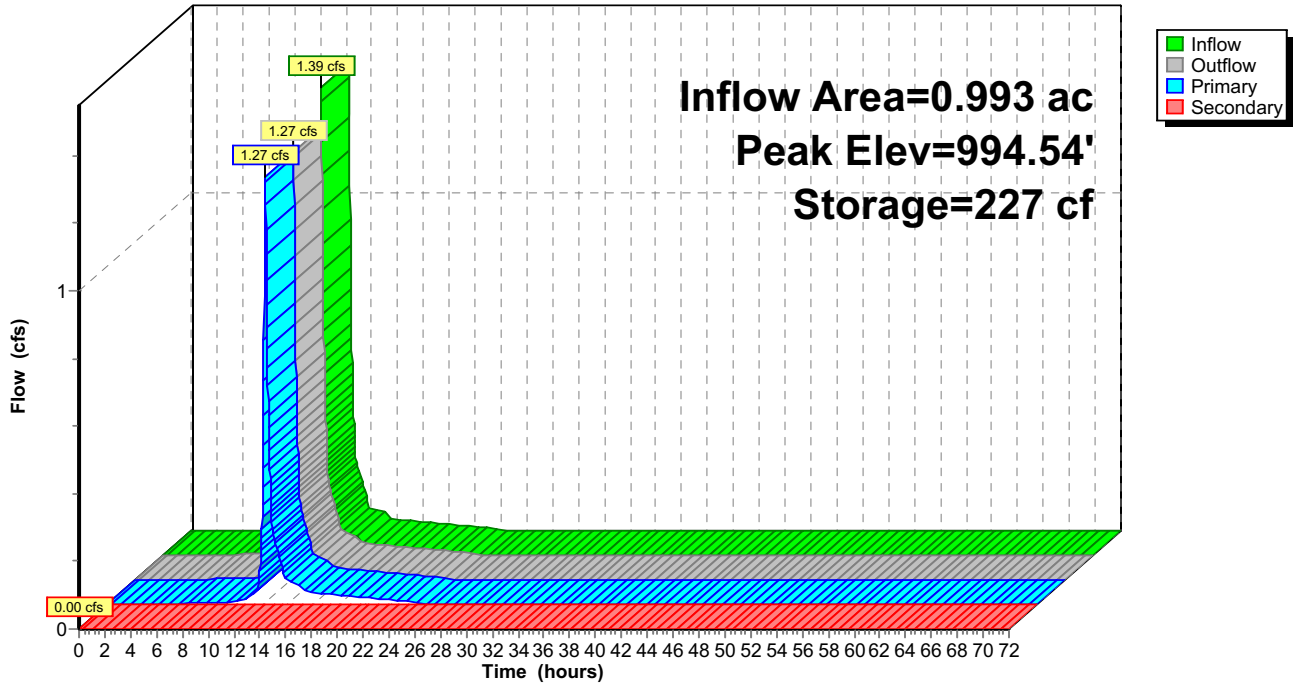
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_J4: CB_J4

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_J4: CB_J4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
994.00	50	0	996.55	2,800	4,390
994.05	119	4	996.60	2,800	4,530
994.10	188	12	996.65	2,800	4,670
994.15	256	23	996.70	2,800	4,810
994.20	325	38	996.75	2,800	4,950
994.25	394	55	996.80	2,800	5,090
994.30	462	77	996.85	2,800	5,230
994.35	531	102	996.90	2,800	5,370
994.40	600	130	996.95	2,800	5,510
994.45	669	162	997.00	2,800	5,650
994.50	738	197			
994.55	806	235			
994.60	875	278			
994.65	944	323			
994.70	1,013	372			
994.75	1,081	424			
994.80	1,150	480			
994.85	1,219	539			
994.90	1,287	602			
994.95	1,356	668			
995.00	1,425	738			
995.05	1,494	810			
995.10	1,563	887			
995.15	1,631	967			
995.20	1,700	1,050			
995.25	1,769	1,137			
995.30	1,837	1,227			
995.35	1,906	1,320			
995.40	1,975	1,417			
995.45	2,044	1,518			
995.50	2,113	1,622			
995.55	2,181	1,729			
995.60	2,250	1,840			
995.65	2,319	1,954			
995.70	2,388	2,072			
995.75	2,456	2,193			
995.80	2,525	2,317			
995.85	2,594	2,445			
995.90	2,662	2,577			
995.95	2,731	2,712			
996.00	2,800	2,850			
996.05	2,800	2,990			
996.10	2,800	3,130			
996.15	2,800	3,270			
996.20	2,800	3,410			
996.25	2,800	3,550			
996.30	2,800	3,690			
996.35	2,800	3,830			
996.40	2,800	3,970			
996.45	2,800	4,110			
996.50	2,800	4,250			

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Summary for Pond CB_L4: CB_L4

Inflow Area = 0.167 ac, 20.96% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
Inflow = 0.26 cfs @ 12.20 hrs, Volume= 0.017 af
Outflow = 0.26 cfs @ 12.21 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.3 min
Primary = 0.26 cfs @ 12.21 hrs, Volume= 0.017 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 978.05' @ 12.21 hrs Surf.Area= 120 sf Storage= 4 cf

Plug-Flow detention time= 0.4 min calculated for 0.017 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (803.0 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	750	200	200
980.00	750	1,125	1,325

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.26 cfs @ 12.21 hrs HW=978.05' TW=968.55' (Dynamic Tailwater)
↑**1=Grate** (Weir Controls 0.26 cfs @ 0.73 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=967.50' (Dynamic Tailwater)
↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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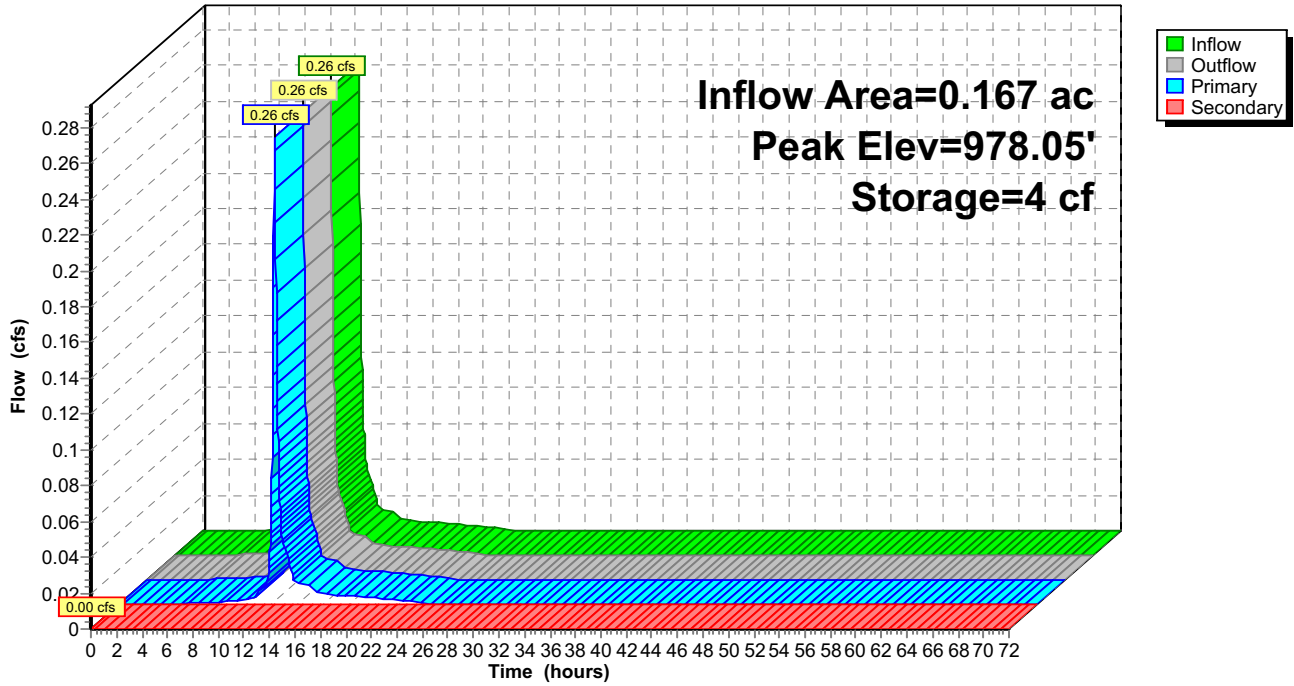
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L4: CB_L4

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_L4: CB_L4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	979.02	750	590
978.02	78	1	979.04	750	605
978.04	106	3	979.06	750	620
978.06	134	6	979.08	750	635
978.08	162	8	979.10	750	650
978.10	190	12	979.12	750	665
978.12	218	16	979.14	750	680
978.14	246	21	979.16	750	695
978.16	274	26	979.18	750	710
978.18	302	32	979.20	750	725
978.20	330	38	979.22	750	740
978.22	358	45	979.24	750	755
978.24	386	52	979.26	750	770
978.26	414	60	979.28	750	785
978.28	442	69	979.30	750	800
978.30	470	78	979.32	750	815
978.32	498	88	979.34	750	830
978.34	526	98	979.36	750	845
978.36	554	109	979.38	750	860
978.38	582	120	979.40	750	875
978.40	610	132	979.42	750	890
978.42	638	144	979.44	750	905
978.44	666	158	979.46	750	920
978.46	694	171	979.48	750	935
978.48	722	185	979.50	750	950
978.50	750	200	979.52	750	965
978.52	750	215	979.54	750	980
978.54	750	230	979.56	750	995
978.56	750	245	979.58	750	1,010
978.58	750	260	979.60	750	1,025
978.60	750	275	979.62	750	1,040
978.62	750	290	979.64	750	1,055
978.64	750	305	979.66	750	1,070
978.66	750	320	979.68	750	1,085
978.68	750	335	979.70	750	1,100
978.70	750	350	979.72	750	1,115
978.72	750	365	979.74	750	1,130
978.74	750	380	979.76	750	1,145
978.76	750	395	979.78	750	1,160
978.78	750	410	979.80	750	1,175
978.80	750	425	979.82	750	1,190
978.82	750	440	979.84	750	1,205
978.84	750	455	979.86	750	1,220
978.86	750	470	979.88	750	1,235
978.88	750	485	979.90	750	1,250
978.90	750	500	979.92	750	1,265
978.92	750	515	979.94	750	1,280
978.94	750	530	979.96	750	1,295
978.96	750	545	979.98	750	1,310
978.98	750	560	980.00	750	1,325
979.00	750	575			

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Summary for Pond CB_L5: CB_L5

Inflow Area = 0.763 ac, 22.02% Impervious, Inflow Depth = 1.83" for 2yr-24hr event
 Inflow = 1.61 cfs @ 12.22 hrs, Volume= 0.116 af
 Outflow = 1.61 cfs @ 12.22 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.61 cfs @ 12.22 hrs, Volume= 0.116 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 977.67' @ 12.22 hrs Surf.Area= 246 sf Storage= 25 cf

Plug-Flow detention time= 0.3 min calculated for 0.116 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (809.1 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	6,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	50	0	0
978.00	630	170	170
980.00	5,700	6,330	6,500

Device	Routing	Invert	Outlet Devices
#1	Primary	977.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.61 cfs @ 12.22 hrs HW=977.67' TW=968.61' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.61 cfs @ 1.34 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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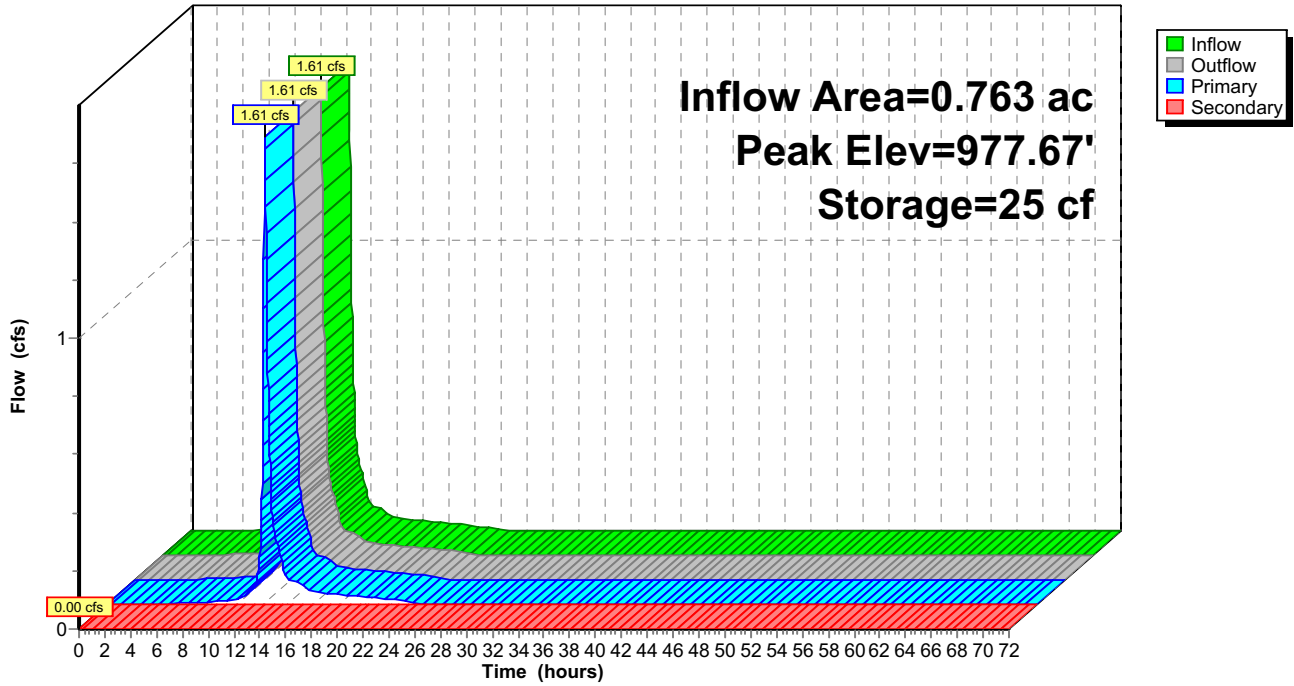
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_L5: CB_L5

Hydrograph



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Stage-Area-Storage for Pond CB_L5: CB_L5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
977.50	50	0
977.55	108	4
977.60	166	11
977.65	224	21
977.70	282	33
977.75	340	49
977.80	398	67
977.85	456	89
977.90	514	113
977.95	572	140
978.00	630	170
978.05	757	205
978.10	884	246
978.15	1,010	293
978.20	1,137	347
978.25	1,264	407
978.30	1,390	473
978.35	1,517	546
978.40	1,644	625
978.45	1,771	710
978.50	1,898	802
978.55	2,024	900
978.60	2,151	1,004
978.65	2,278	1,115
978.70	2,405	1,232
978.75	2,531	1,355
978.80	2,658	1,485
978.85	2,785	1,621
978.90	2,911	1,764
978.95	3,038	1,912
979.00	3,165	2,068
979.05	3,292	2,229
979.10	3,419	2,397
979.15	3,545	2,571
979.20	3,672	2,751
979.25	3,799	2,938
979.30	3,925	3,131
979.35	4,052	3,331
979.40	4,179	3,536
979.45	4,306	3,748
979.50	4,433	3,967
979.55	4,559	4,192
979.60	4,686	4,423
979.65	4,813	4,660
979.70	4,940	4,904
979.75	5,066	5,154
979.80	5,193	5,411
979.85	5,320	5,674
979.90	5,446	5,943
979.95	5,573	6,218
980.00	5,700	6,500

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Summary for Pond CB_L6: CB_L6

Inflow Area = 1.091 ac, 19.98% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
 Inflow = 1.71 cfs @ 12.20 hrs, Volume= 0.108 af
 Outflow = 1.30 cfs @ 12.29 hrs, Volume= 0.108 af, Atten= 24%, Lag= 5.2 min
 Primary = 0.84 cfs @ 12.29 hrs, Volume= 0.070 af
 Secondary = 0.46 cfs @ 12.29 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.11' @ 12.29 hrs Surf.Area= 829 sf Storage= 740 cf

Plug-Flow detention time= 20.3 min calculated for 0.108 af (100% of inflow)
 Center-of-Mass det. time= 20.1 min (823.9 - 803.8)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	13,500 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	100	0	0
980.00	13,400	13,500	13,500

Device	Routing	Invert	Outlet Devices
#1	Secondary	978.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.84 cfs @ 12.29 hrs HW=978.11' TW=968.81' (Dynamic Tailwater)
 ↑**2=Grate** (Weir Controls 0.84 cfs @ 1.08 fps)

Secondary OutFlow Max=0.46 cfs @ 12.29 hrs HW=978.11' TW=977.66' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir**(Weir Controls 0.46 cfs @ 0.84 fps)

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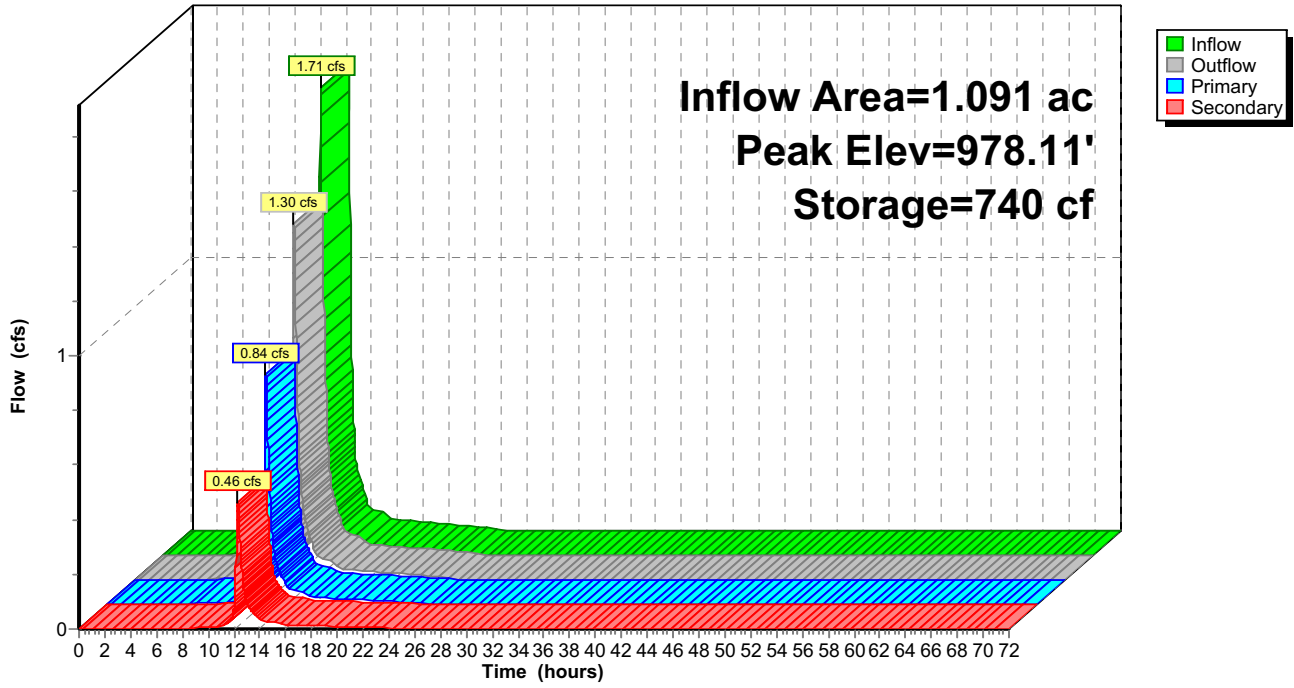
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_L6: CB_L6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_L6: CB_L6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	100	0	979.02	6,883	6,885
978.02	233	135	979.04	7,016	7,020
978.04	366	270	979.06	7,149	7,155
978.06	499	405	979.08	7,282	7,290
978.08	632	540	979.10	7,415	7,425
978.10	765	675	979.12	7,548	7,560
978.12	898	810	979.14	7,681	7,695
978.14	1,031	945	979.16	7,814	7,830
978.16	1,164	1,080	979.18	7,947	7,965
978.18	1,297	1,215	979.20	8,080	8,100
978.20	1,430	1,350	979.22	8,213	8,235
978.22	1,563	1,485	979.24	8,346	8,370
978.24	1,696	1,620	979.26	8,479	8,505
978.26	1,829	1,755	979.28	8,612	8,640
978.28	1,962	1,890	979.30	8,745	8,775
978.30	2,095	2,025	979.32	8,878	8,910
978.32	2,228	2,160	979.34	9,011	9,045
978.34	2,361	2,295	979.36	9,144	9,180
978.36	2,494	2,430	979.38	9,277	9,315
978.38	2,627	2,565	979.40	9,410	9,450
978.40	2,760	2,700	979.42	9,543	9,585
978.42	2,893	2,835	979.44	9,676	9,720
978.44	3,026	2,970	979.46	9,809	9,855
978.46	3,159	3,105	979.48	9,942	9,990
978.48	3,292	3,240	979.50	10,075	10,125
978.50	3,425	3,375	979.52	10,208	10,260
978.52	3,558	3,510	979.54	10,341	10,395
978.54	3,691	3,645	979.56	10,474	10,530
978.56	3,824	3,780	979.58	10,607	10,665
978.58	3,957	3,915	979.60	10,740	10,800
978.60	4,090	4,050	979.62	10,873	10,935
978.62	4,223	4,185	979.64	11,006	11,070
978.64	4,356	4,320	979.66	11,139	11,205
978.66	4,489	4,455	979.68	11,272	11,340
978.68	4,622	4,590	979.70	11,405	11,475
978.70	4,755	4,725	979.72	11,538	11,610
978.72	4,888	4,860	979.74	11,671	11,745
978.74	5,021	4,995	979.76	11,804	11,880
978.76	5,154	5,130	979.78	11,937	12,015
978.78	5,287	5,265	979.80	12,070	12,150
978.80	5,420	5,400	979.82	12,203	12,285
978.82	5,553	5,535	979.84	12,336	12,420
978.84	5,686	5,670	979.86	12,469	12,555
978.86	5,819	5,805	979.88	12,602	12,690
978.88	5,952	5,940	979.90	12,735	12,825
978.90	6,085	6,075	979.92	12,868	12,960
978.92	6,218	6,210	979.94	13,001	13,095
978.94	6,351	6,345	979.96	13,134	13,230
978.96	6,484	6,480	979.98	13,267	13,365
978.98	6,617	6,615	980.00	13,400	13,500
979.00	6,750	6,750			

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Summary for Pond CB_L7: CB_L7

Inflow Area = 0.759 ac, 21.21% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
 Inflow = 1.21 cfs @ 12.20 hrs, Volume= 0.077 af
 Outflow = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 979.14' @ 12.21 hrs Surf.Area= 236 sf Storage= 20 cf

Plug-Flow detention time= 0.3 min calculated for 0.077 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (802.6 - 802.3)

Volume	Invert	Avail.Storage	Storage Description
#1	979.00'	715 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
979.00	50	0	0
980.00	1,380	715	715

Device	Routing	Invert	Outlet Devices
#1	Primary	979.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.90'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.20 cfs @ 12.21 hrs HW=979.14' TW=968.55' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 1.20 cfs @ 1.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=979.00' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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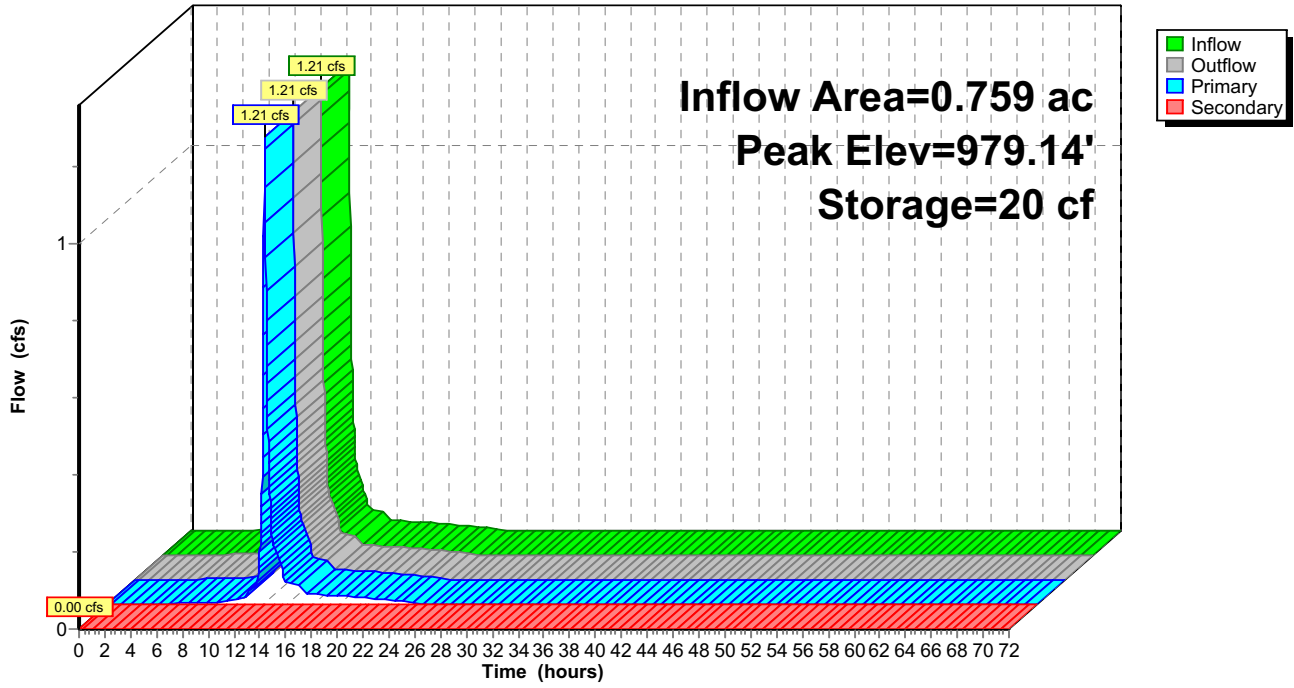
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_L7: CB_L7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_L7: CB_L7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
979.00	50	0	979.51	728	198
979.01	63	1	979.52	742	206
979.02	77	1	979.53	755	213
979.03	90	2	979.54	768	221
979.04	103	3	979.55	781	229
979.05	116	4	979.56	795	237
979.06	130	5	979.57	808	245
979.07	143	7	979.58	821	253
979.08	156	8	979.59	835	261
979.09	170	10	979.60	848	269
979.10	183	12	979.61	861	278
979.11	196	14	979.62	875	287
979.12	210	16	979.63	888	295
979.13	223	18	979.64	901	304
979.14	236	20	979.65	914	313
979.15	249	22	979.66	928	323
979.16	263	25	979.67	941	332
979.17	276	28	979.68	954	341
979.18	289	31	979.69	968	351
979.19	303	34	979.70	981	361
979.20	316	37	979.71	994	371
979.21	329	40	979.72	1,008	381
979.22	343	43	979.73	1,021	391
979.23	356	47	979.74	1,034	401
979.24	369	50	979.75	1,048	412
979.25	383	54	979.76	1,061	422
979.26	396	58	979.77	1,074	433
979.27	409	62	979.78	1,087	444
979.28	422	66	979.79	1,101	455
979.29	436	70	979.80	1,114	466
979.30	449	75	979.81	1,127	477
979.31	462	79	979.82	1,141	488
979.32	476	84	979.83	1,154	500
979.33	489	89	979.84	1,167	511
979.34	502	94	979.85	1,181	523
979.35	516	99	979.86	1,194	535
979.36	529	104	979.87	1,207	547
979.37	542	110	979.88	1,220	559
979.38	555	115	979.89	1,234	571
979.39	569	121	979.90	1,247	584
979.40	582	126	979.91	1,260	596
979.41	595	132	979.92	1,274	609
979.42	609	138	979.93	1,287	622
979.43	622	144	979.94	1,300	635
979.44	635	151	979.95	1,314	648
979.45	649	157	979.96	1,327	661
979.46	662	164	979.97	1,340	674
979.47	675	170	979.98	1,353	688
979.48	688	177	979.99	1,367	701
979.49	702	184	980.00	1,380	715
979.50	715	191			

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Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_L8: CB_L8

Inflow Area = 1.441 ac, 22.07% Impervious, Inflow Depth = 1.18" for 2yr-24hr event
Inflow = 2.23 cfs @ 12.20 hrs, Volume= 0.141 af
Outflow = 2.18 cfs @ 12.22 hrs, Volume= 0.141 af, Atten= 2%, Lag= 1.3 min
Primary = 2.18 cfs @ 12.22 hrs, Volume= 0.141 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 980.21' @ 12.22 hrs Surf.Area= 1,227 sf Storage= 132 cf

Plug-Flow detention time= 0.7 min calculated for 0.141 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (800.4 - 799.7)

Volume	Invert	Avail.Storage	Storage Description
#1	980.00'	11,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
980.00	50	0	0
982.00	11,400	11,450	11,450

Device	Routing	Invert	Outlet Devices
#1	Primary	980.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	981.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.18 cfs @ 12.22 hrs HW=980.21' TW=968.61' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 2.18 cfs @ 1.49 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=980.00' TW=979.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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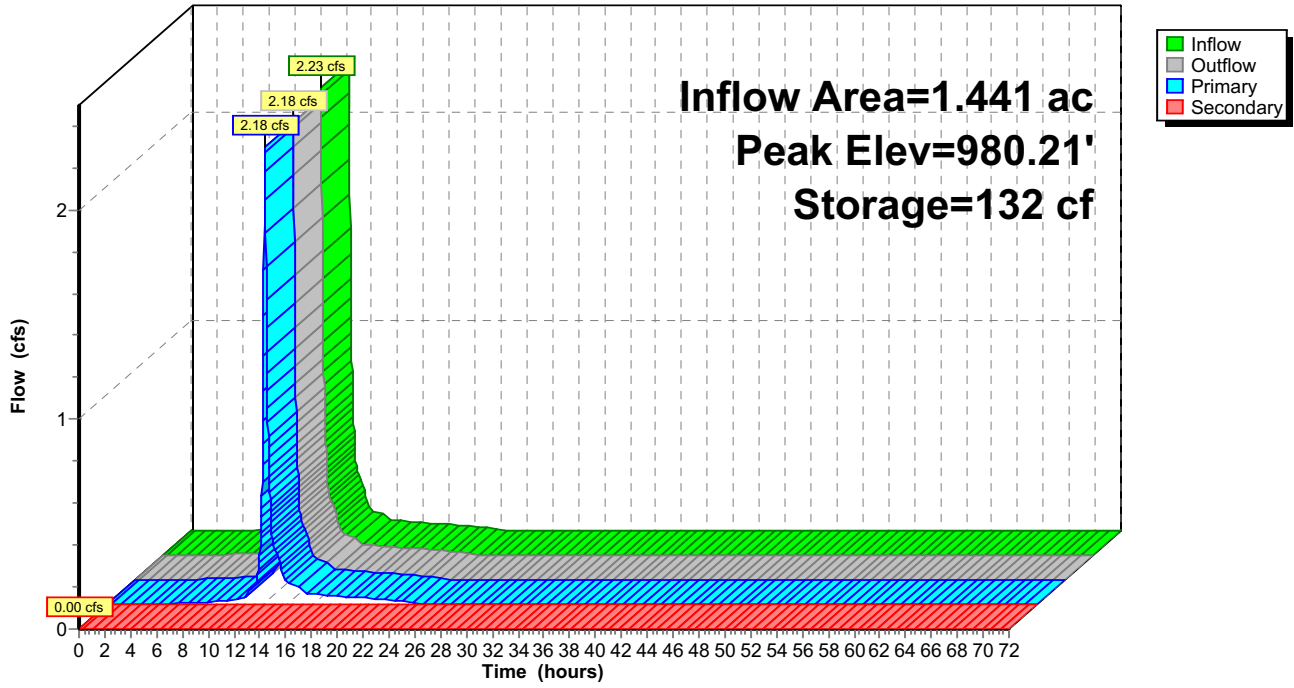
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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L8: CB_L8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_L8: CB_L8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
980.00	50	0	981.02	5,838	3,003
980.02	163	2	981.04	5,952	3,121
980.04	277	7	981.06	6,065	3,241
980.06	390	13	981.08	6,179	3,364
980.08	504	22	981.10	6,293	3,488
980.10	618	33	981.12	6,406	3,615
980.12	731	47	981.14	6,519	3,745
980.14	844	63	981.16	6,633	3,876
980.16	958	81	981.18	6,746	4,010
980.18	1,071	101	981.20	6,860	4,146
980.20	1,185	124	981.22	6,974	4,284
980.22	1,299	148	981.24	7,087	4,425
980.24	1,412	175	981.26	7,200	4,568
980.26	1,525	205	981.28	7,314	4,713
980.28	1,639	236	981.30	7,427	4,860
980.30	1,752	270	981.32	7,541	5,010
980.32	1,866	307	981.34	7,655	5,162
980.34	1,980	345	981.36	7,768	5,316
980.36	2,093	386	981.38	7,881	5,473
980.38	2,206	429	981.40	7,995	5,631
980.40	2,320	474	981.42	8,108	5,793
980.42	2,433	522	981.44	8,222	5,956
980.44	2,547	571	981.46	8,336	6,121
980.46	2,661	623	981.48	8,449	6,289
980.48	2,774	678	981.50	8,563	6,459
980.50	2,888	734	981.52	8,676	6,632
980.52	3,001	793	981.54	8,789	6,806
980.54	3,114	854	981.56	8,903	6,983
980.56	3,228	918	981.58	9,017	7,163
980.58	3,342	984	981.60	9,130	7,344
980.60	3,455	1,052	981.62	9,244	7,528
980.62	3,569	1,122	981.64	9,357	7,714
980.64	3,682	1,194	981.66	9,470	7,902
980.66	3,795	1,269	981.68	9,584	8,093
980.68	3,909	1,346	981.70	9,698	8,285
980.70	4,023	1,425	981.72	9,811	8,480
980.72	4,136	1,507	981.74	9,925	8,678
980.74	4,250	1,591	981.76	10,038	8,877
980.76	4,363	1,677	981.78	10,151	9,079
980.78	4,476	1,765	981.80	10,265	9,283
980.80	4,590	1,856	981.82	10,379	9,490
980.82	4,704	1,949	981.84	10,492	9,699
980.84	4,817	2,044	981.86	10,606	9,910
980.86	4,931	2,142	981.88	10,719	10,123
980.88	5,044	2,241	981.90	10,832	10,338
980.90	5,157	2,343	981.92	10,946	10,556
980.92	5,271	2,448	981.94	11,060	10,776
980.94	5,385	2,554	981.96	11,173	10,999
980.96	5,498	2,663	981.98	11,287	11,223
980.98	5,612	2,774	982.00	11,400	11,450
981.00	5,725	2,888			

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_L9: CB_L9

Inflow Area = 2.129 ac, 19.16% Impervious, Inflow Depth = 1.17" for 2yr-24hr event
 Inflow = 3.30 cfs @ 12.20 hrs, Volume= 0.208 af
 Outflow = 2.70 cfs @ 12.28 hrs, Volume= 0.208 af, Atten= 18%, Lag= 4.3 min
 Primary = 2.70 cfs @ 12.28 hrs, Volume= 0.208 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 982.83' @ 12.28 hrs Surf.Area= 1,955 sf Storage= 856 cf

Plug-Flow detention time= 5.7 min calculated for 0.208 af (100% of inflow)
 Center-of-Mass det. time= 5.8 min (810.6 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1	982.00'	7,815 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
982.00	100	0	0
983.50	3,440	2,655	2,655
985.00	3,440	5,160	7,815

Device	Routing	Invert	Outlet Devices
#1	Primary	982.00'	15.0" Round Culvert L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 982.00' / 975.68' S= 0.0388 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	983.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.70 cfs @ 12.28 hrs HW=982.83' TW=968.77' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 2.70 cfs @ 3.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=982.00' TW=980.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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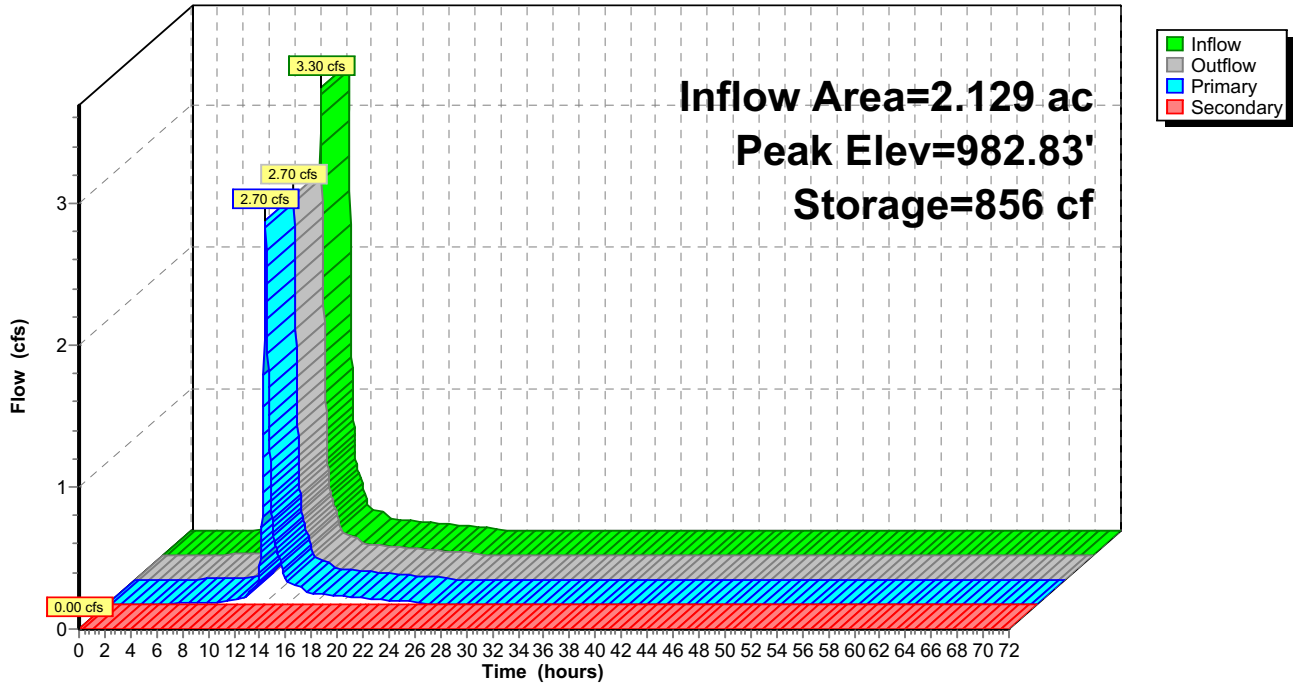
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond CB_L9: CB_L9

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Stage-Area-Storage for Pond CB_L9: CB_L9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
982.00	100	0	984.55	3,440	6,267
982.05	211	8	984.60	3,440	6,439
982.10	323	21	984.65	3,440	6,611
982.15	434	40	984.70	3,440	6,783
982.20	545	65	984.75	3,440	6,955
982.25	657	95	984.80	3,440	7,127
982.30	768	130	984.85	3,440	7,299
982.35	879	171	984.90	3,440	7,471
982.40	991	218	984.95	3,440	7,643
982.45	1,102	270	985.00	3,440	7,815
982.50	1,213	328			
982.55	1,325	392			
982.60	1,436	461			
982.65	1,547	535			
982.70	1,659	616			
982.75	1,770	701			
982.80	1,881	793			
982.85	1,993	889			
982.90	2,104	992			
982.95	2,215	1,100			
983.00	2,327	1,213			
983.05	2,438	1,332			
983.10	2,549	1,457			
983.15	2,661	1,587			
983.20	2,772	1,723			
983.25	2,883	1,865			
983.30	2,995	2,012			
983.35	3,106	2,164			
983.40	3,217	2,322			
983.45	3,329	2,486			
983.50	3,440	2,655			
983.55	3,440	2,827			
983.60	3,440	2,999			
983.65	3,440	3,171			
983.70	3,440	3,343			
983.75	3,440	3,515			
983.80	3,440	3,687			
983.85	3,440	3,859			
983.90	3,440	4,031			
983.95	3,440	4,203			
984.00	3,440	4,375			
984.05	3,440	4,547			
984.10	3,440	4,719			
984.15	3,440	4,891			
984.20	3,440	5,063			
984.25	3,440	5,235			
984.30	3,440	5,407			
984.35	3,440	5,579			
984.40	3,440	5,751			
984.45	3,440	5,923			
984.50	3,440	6,095			

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 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_O10: CB_O10

Inflow Area = 0.609 ac, 15.44% Impervious, Inflow Depth = 1.11" for 2yr-24hr event
 Inflow = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af
 Outflow = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.5 min
 Primary = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.11' @ 12.21 hrs Surf.Area= 346 sf Storage= 23 cf

Plug-Flow detention time= 0.4 min calculated for 0.056 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (810.3 - 809.8)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	25,530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
980.00	5,240	5,290	5,290
982.00	15,000	20,240	25,530

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	980.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.89 cfs @ 12.21 hrs HW=978.11' TW=968.57' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 0.89 cfs @ 1.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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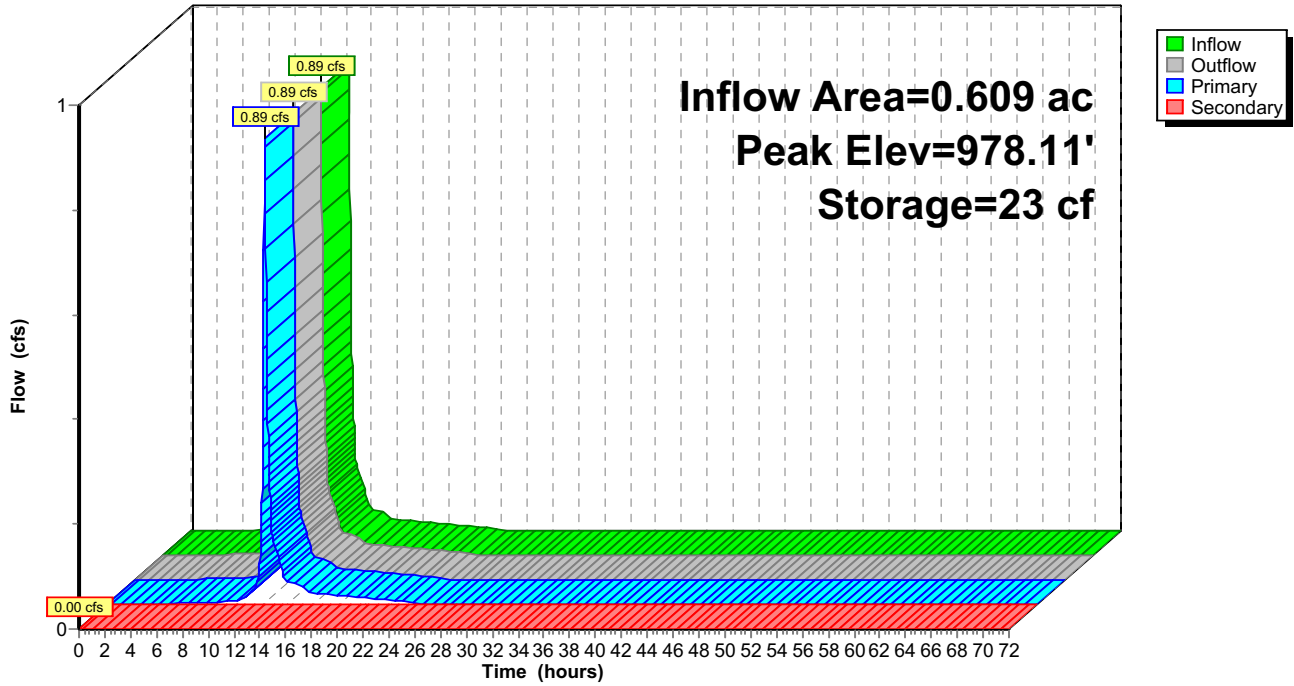
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Pond CB_O10: CB_O10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond CB_O10: CB_O10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	980.55	7,924	8,910
978.05	180	6	980.60	8,168	9,312
978.10	310	18	980.65	8,412	9,727
978.15	439	37	980.70	8,656	10,154
978.20	569	62	980.75	8,900	10,593
978.25	699	94	980.80	9,144	11,044
978.30	828	132	980.85	9,388	11,507
978.35	958	176	980.90	9,632	11,982
978.40	1,088	228	980.95	9,876	12,470
978.45	1,218	285	981.00	10,120	12,970
978.50	1,348	349	981.05	10,364	13,482
978.55	1,477	420	981.10	10,608	14,006
978.60	1,607	497	981.15	10,852	14,543
978.65	1,737	581	981.20	11,096	15,092
978.70	1,867	671	981.25	11,340	15,653
978.75	1,996	767	981.30	11,584	16,226
978.80	2,126	870	981.35	11,828	16,811
978.85	2,256	980	981.40	12,072	17,408
978.90	2,385	1,096	981.45	12,316	18,018
978.95	2,515	1,218	981.50	12,560	18,640
979.00	2,645	1,348	981.55	12,804	19,274
979.05	2,775	1,483	981.60	13,048	19,920
979.10	2,905	1,625	981.65	13,292	20,579
979.15	3,034	1,773	981.70	13,536	21,250
979.20	3,164	1,928	981.75	13,780	21,933
979.25	3,294	2,090	981.80	14,024	22,628
979.30	3,423	2,258	981.85	14,268	23,335
979.35	3,553	2,432	981.90	14,512	24,054
979.40	3,683	2,613	981.95	14,756	24,786
979.45	3,813	2,800	982.00	15,000	25,530
979.50	3,943	2,994			
979.55	4,072	3,195			
979.60	4,202	3,402			
979.65	4,332	3,615			
979.70	4,462	3,835			
979.75	4,591	4,061			
979.80	4,721	4,294			
979.85	4,851	4,533			
979.90	4,980	4,779			
979.95	5,110	5,031			
980.00	5,240	5,290			
980.05	5,484	5,558			
980.10	5,728	5,838			
980.15	5,972	6,131			
980.20	6,216	6,436			
980.25	6,460	6,753			
980.30	6,704	7,082			
980.35	6,948	7,423			
980.40	7,192	7,776			
980.45	7,436	8,142			
980.50	7,680	8,520			

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 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_O8: CB_O8

Inflow Area = 0.490 ac, 12.24% Impervious, Inflow Depth = 1.05" for 2yr-24hr event
 Inflow = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af
 Outflow = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.2 min
 Primary = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 975.60' @ 12.21 hrs Surf.Area= 117 sf Storage= 8 cf

Plug-Flow detention time= 0.3 min calculated for 0.043 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (815.0 - 814.6)

Volume	Invert	Avail.Storage	Storage Description
#1	975.50'	913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
975.50	50	0	0
976.00	400	113	113
978.00	400	800	913

Device	Routing	Invert	Outlet Devices
#1	Primary	975.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	976.00'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.68 cfs @ 12.21 hrs HW=975.60' TW=968.55' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 0.68 cfs @ 1.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.50' TW=967.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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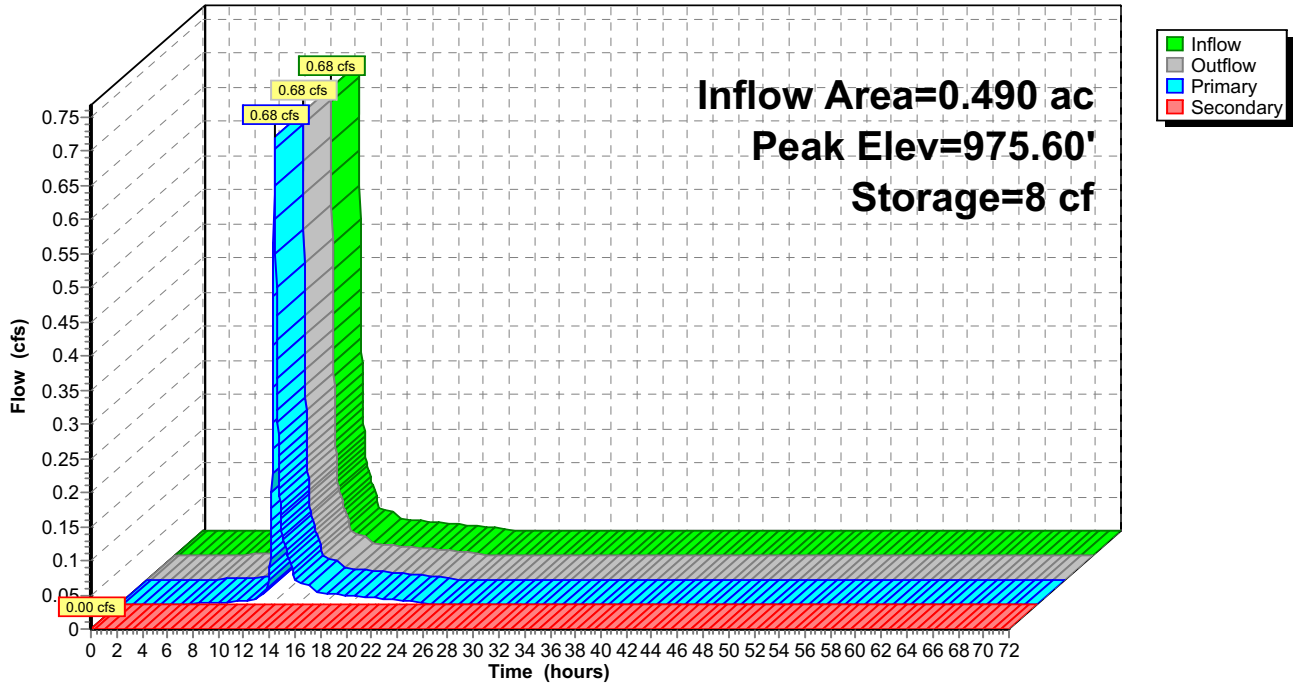
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_O8: CB_O8

Hydrograph



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Stage-Area-Storage for Pond CB_O8: CB_O8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
975.50	50	0
975.55	85	3
975.60	120	9
975.65	155	15
975.70	190	24
975.75	225	34
975.80	260	46
975.85	295	60
975.90	330	76
975.95	365	93
976.00	400	113
976.05	400	132
976.10	400	153
976.15	400	172
976.20	400	193
976.25	400	213
976.30	400	232
976.35	400	253
976.40	400	272
976.45	400	293
976.50	400	313
976.55	400	332
976.60	400	353
976.65	400	372
976.70	400	393
976.75	400	413
976.80	400	432
976.85	400	453
976.90	400	472
976.95	400	493
977.00	400	513
977.05	400	532
977.10	400	553
977.15	400	572
977.20	400	593
977.25	400	613
977.30	400	632
977.35	400	653
977.40	400	672
977.45	400	693
977.50	400	713
977.55	400	732
977.60	400	753
977.65	400	772
977.70	400	793
977.75	400	813
977.80	400	832
977.85	400	853
977.90	400	872
977.95	400	893
978.00	400	913

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Summary for Pond CB_O9: CB_O9

Inflow Area = 1.143 ac, 19.86% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
 Inflow = 1.79 cfs @ 12.20 hrs, Volume= 0.113 af
 Outflow = 1.79 cfs @ 12.21 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.4 min
 Primary = 1.79 cfs @ 12.21 hrs, Volume= 0.113 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.21 hrs Surf.Area= 313 sf Storage= 33 cf

Plug-Flow detention time= 0.3 min calculated for 0.113 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (804.3 - 804.0)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	2,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
979.00	1,500	775	775
980.00	1,500	1,500	2,275

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.78 cfs @ 12.21 hrs HW=978.18' TW=968.56' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.78 cfs @ 1.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=975.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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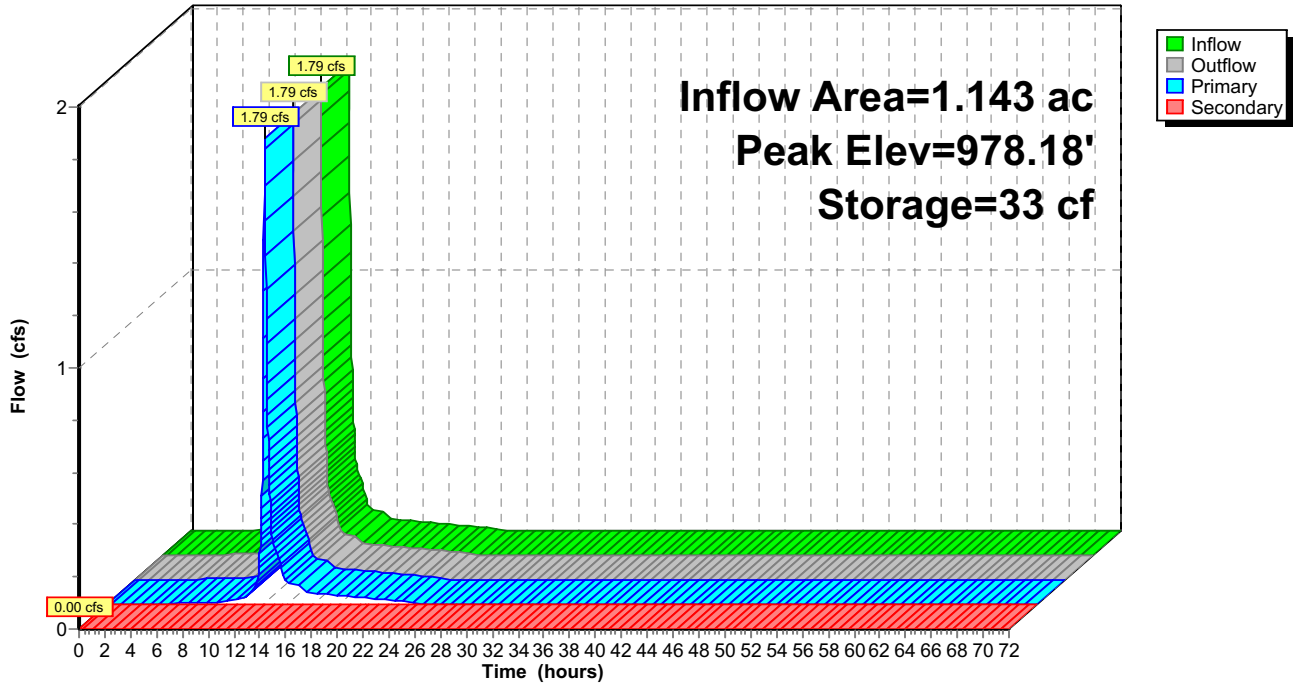
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_O9: CB_O9

Hydrograph



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Stage-Area-Storage for Pond CB_09: CB_09

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	979.02	1,500	805
978.02	79	1	979.04	1,500	835
978.04	108	3	979.06	1,500	865
978.06	137	6	979.08	1,500	895
978.08	166	9	979.10	1,500	925
978.10	195	12	979.12	1,500	955
978.12	224	16	979.14	1,500	985
978.14	253	21	979.16	1,500	1,015
978.16	282	27	979.18	1,500	1,045
978.18	311	32	979.20	1,500	1,075
978.20	340	39	979.22	1,500	1,105
978.22	369	46	979.24	1,500	1,135
978.24	398	54	979.26	1,500	1,165
978.26	427	62	979.28	1,500	1,195
978.28	456	71	979.30	1,500	1,225
978.30	485	80	979.32	1,500	1,255
978.32	514	90	979.34	1,500	1,285
978.34	543	101	979.36	1,500	1,315
978.36	572	112	979.38	1,500	1,345
978.38	601	124	979.40	1,500	1,375
978.40	630	136	979.42	1,500	1,405
978.42	659	149	979.44	1,500	1,435
978.44	688	162	979.46	1,500	1,465
978.46	717	176	979.48	1,500	1,495
978.48	746	191	979.50	1,500	1,525
978.50	775	206	979.52	1,500	1,555
978.52	804	222	979.54	1,500	1,585
978.54	833	238	979.56	1,500	1,615
978.56	862	255	979.58	1,500	1,645
978.58	891	273	979.60	1,500	1,675
978.60	920	291	979.62	1,500	1,705
978.62	949	310	979.64	1,500	1,735
978.64	978	329	979.66	1,500	1,765
978.66	1,007	349	979.68	1,500	1,795
978.68	1,036	369	979.70	1,500	1,825
978.70	1,065	390	979.72	1,500	1,855
978.72	1,094	412	979.74	1,500	1,885
978.74	1,123	434	979.76	1,500	1,915
978.76	1,152	457	979.78	1,500	1,945
978.78	1,181	480	979.80	1,500	1,975
978.80	1,210	504	979.82	1,500	2,005
978.82	1,239	528	979.84	1,500	2,035
978.84	1,268	554	979.86	1,500	2,065
978.86	1,297	579	979.88	1,500	2,095
978.88	1,326	605	979.90	1,500	2,125
978.90	1,355	632	979.92	1,500	2,155
978.92	1,384	660	979.94	1,500	2,185
978.94	1,413	688	979.96	1,500	2,215
978.96	1,442	716	979.98	1,500	2,245
978.98	1,471	745	980.00	1,500	2,275
979.00	1,500	775			

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Summary for Pond P1N: Pond 1N

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=169)

Inflow Area = 5.394 ac, 29.66% Impervious, Inflow Depth = 1.36" for 2yr-24hr event
 Inflow = 9.50 cfs @ 12.20 hrs, Volume= 0.613 af
 Outflow = 0.31 cfs @ 12.38 hrs, Volume= 0.109 af, Atten= 97%, Lag= 10.4 min
 Primary = 0.31 cfs @ 12.38 hrs, Volume= 0.109 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.50' Surf.Area= 0.946 ac Storage= 4.353 af
 Peak Elev= 1,010.04' @ 19.36 hrs Surf.Area= 1.079 ac Storage= 4.895 af (0.543 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 479.4 min (1,273.0 - 793.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	9.367 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,000.00	0.243	0.000	0.000
1,002.00	0.315	0.558	0.558
1,004.00	0.392	0.707	1.265
1,006.00	0.482	0.874	2.139
1,008.00	0.584	1.066	3.205
1,010.00	1.067	1.651	4.856
1,012.00	1.722	2.789	7.645
1,013.00	1.722	1.722	9.367

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	15.0" Round Main outlet (Structure 248 to 249) L= 30.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 1,009.50' / 1,009.10' S= 0.0133 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	1,010.80'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,007.00'	15.0" Round low flow pipe L= 44.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,006.50' / 1,007.00' S= -0.0114 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#4	Secondary	1,012.00'	10.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=0.29 cfs @ 12.38 hrs HW=1,009.81' TW=1,009.65' (Dynamic Tailwater)

1=Main outlet (Structure 248 to 249)(Outlet Controls 0.29 cfs @ 1.82 fps)

2=Orifice/Grate (Controls 0.00 cfs)

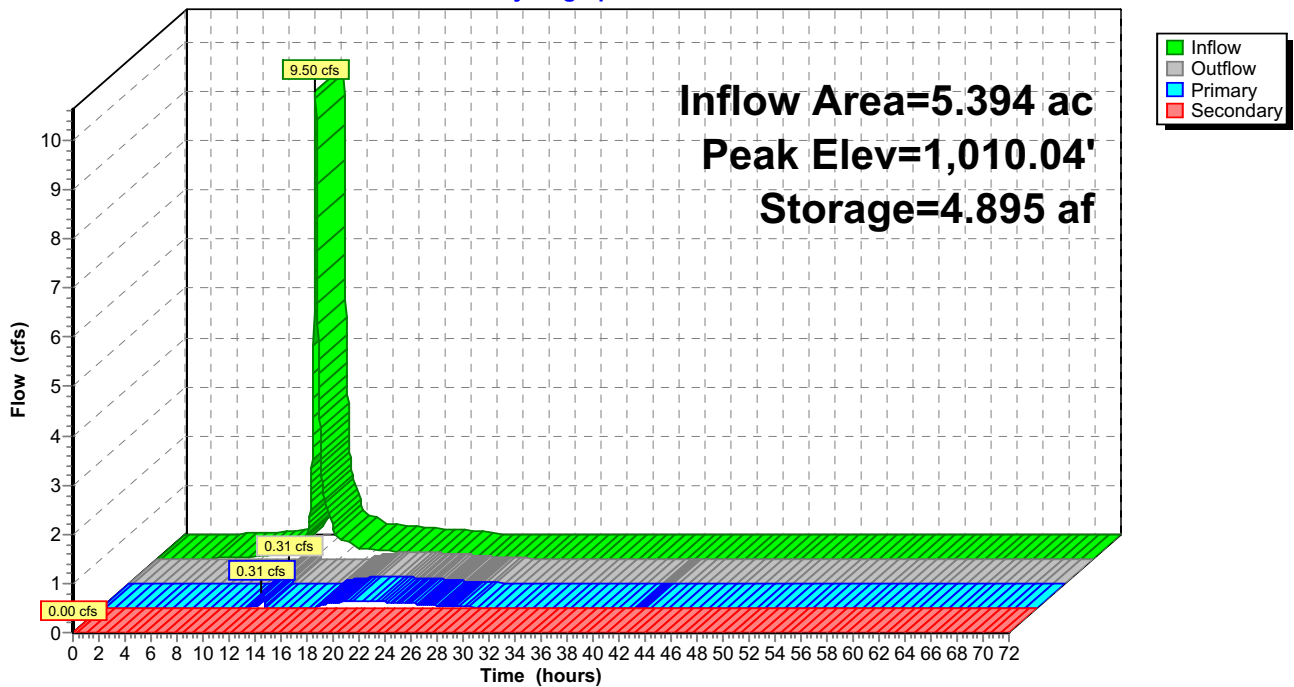
3=low flow pipe (Passes 0.29 cfs of 2.39 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,009.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P1N: Pond 1N

Hydrograph



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Stage-Area-Storage for Pond P1N: Pond 1N

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,000.00	0.243	0.000	1,007.65	0.566	3.004
1,000.15	0.248	0.037	1,007.80	0.574	3.089
1,000.30	0.254	0.075	1,007.95	0.581	3.176
1,000.45	0.259	0.113	1,008.10	0.608	3.265
1,000.60	0.265	0.152	1,008.25	0.644	3.359
1,000.75	0.270	0.192	1,008.40	0.681	3.458
1,000.90	0.275	0.233	1,008.55	0.717	3.563
1,001.05	0.281	0.275	1,008.70	0.753	3.673
1,001.20	0.286	0.318	1,008.85	0.789	3.789
1,001.35	0.292	0.361	1,009.00	0.826	3.910
1,001.50	0.297	0.405	1,009.15	0.862	4.036
1,001.65	0.302	0.450	1,009.30	0.898	4.168
1,001.80	0.308	0.496	1,009.45	0.934	4.306
1,001.95	0.313	0.542	1,009.60	0.970	4.449
1,002.10	0.319	0.590	1,009.75	1.007	4.597
1,002.25	0.325	0.638	1,009.90	1.043	4.751
1,002.40	0.330	0.687	1,010.05	1.083	4.910
1,002.55	0.336	0.737	1,010.20	1.133	5.076
1,002.70	0.342	0.788	1,010.35	1.182	5.250
1,002.85	0.348	0.840	1,010.50	1.231	5.430
1,003.00	0.354	0.892	1,010.65	1.280	5.619
1,003.15	0.359	0.946	1,010.80	1.329	5.814
1,003.30	0.365	1.000	1,010.95	1.378	6.017
1,003.45	0.371	1.055	1,011.10	1.427	6.228
1,003.60	0.377	1.111	1,011.25	1.476	6.446
1,003.75	0.382	1.168	1,011.40	1.525	6.671
1,003.90	0.388	1.226	1,011.55	1.575	6.903
1,004.05	0.394	1.285	1,011.70	1.624	7.143
1,004.20	0.401	1.344	1,011.85	1.673	7.390
1,004.35	0.408	1.405	1,012.00	1.722	7.645
1,004.50	0.415	1.467	1,012.15	1.722	7.903
1,004.65	0.421	1.529	1,012.30	1.722	8.162
1,004.80	0.428	1.593	1,012.45	1.722	8.420
1,004.95	0.435	1.658	1,012.60	1.722	8.678
1,005.10	0.442	1.723	1,012.75	1.722	8.937
1,005.25	0.448	1.790	1,012.90	1.722	9.195
1,005.40	0.455	1.858			
1,005.55	0.462	1.927			
1,005.70	0.469	1.996			
1,005.85	0.475	2.067			
1,006.00	0.482	2.139			
1,006.15	0.490	2.212			
1,006.30	0.497	2.286			
1,006.45	0.505	2.361			
1,006.60	0.513	2.437			
1,006.75	0.520	2.515			
1,006.90	0.528	2.593			
1,007.05	0.536	2.673			
1,007.20	0.543	2.754			
1,007.35	0.551	2.836			
1,007.50	0.558	2.919			

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Summary for Pond P1S: Pond 1S

Inflow Area = 106.817 ac, 34.75% Impervious, Inflow Depth > 1.33" for 2yr-24hr event
 Inflow = 41.58 cfs @ 12.22 hrs, Volume= 11.798 af
 Outflow = 10.06 cfs @ 14.72 hrs, Volume= 11.407 af, Atten= 76%, Lag= 150.1 min
 Primary = 10.06 cfs @ 14.72 hrs, Volume= 11.407 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.00' Surf.Area= 1.857 ac Storage= 5.676 af
 Peak Elev= 968.49' @ 14.72 hrs Surf.Area= 2.247 ac Storage= 8.735 af (3.058 af above start)

Plug-Flow detention time= 1,167.2 min calculated for 5.730 af (49% of inflow)
 Center-of-Mass det. time= 253.5 min (1,471.0 - 1,217.6)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	24.421 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
960.00	0.217	0.000	0.000
962.00	0.476	0.693	0.693
964.00	0.854	1.329	2.022
966.00	1.248	2.102	4.124
967.00	1.857	1.552	5.676
968.00	2.126	1.991	7.668
970.00	2.620	4.746	12.414
972.00	3.129	5.749	18.163
974.00	3.129	6.258	24.421

Device	Routing	Invert	Outlet Devices
#1	Primary	967.00'	30.0" Round Main outlet (Structure 294 to 295) L= 31.4' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.00' / 966.84' S= 0.0051 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	971.00'	48.0" Horiz. Structure 294 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	30.0" Round low flow pipe L= 25.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0391 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#4	Secondary	971.00'	10.0' long x 4.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=10.06 cfs @ 14.72 hrs HW=968.49' TW=0.00' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 294 to 295)**(Barrel Controls 10.06 cfs @ 4.75 fps)

↳ **2=Structure 294 Grate** (Controls 0.00 cfs)

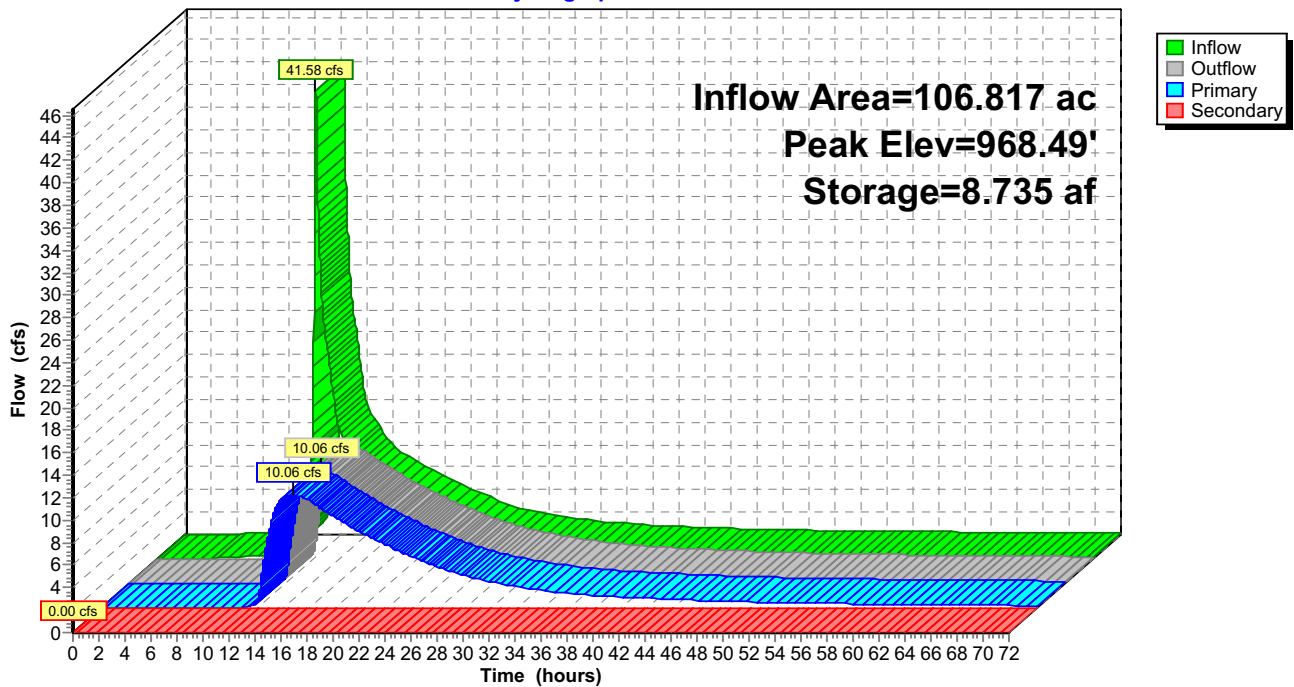
↳ **3=low flow pipe** (Passes 10.06 cfs of 12.65 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.00' TW=0.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P1S: Pond 1S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond P1S: Pond 1S

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
960.00	0.217	0.000	967.65	2.032	6.940
960.15	0.236	0.034	967.80	2.072	7.248
960.30	0.256	0.071	967.95	2.113	7.562
960.45	0.275	0.111	968.10	2.151	7.881
960.60	0.295	0.154	968.25	2.188	8.207
960.75	0.314	0.199	968.40	2.225	8.538
960.90	0.334	0.248	968.55	2.262	8.874
961.05	0.353	0.299	968.70	2.299	9.216
961.20	0.372	0.354	968.85	2.336	9.564
961.35	0.392	0.411	969.00	2.373	9.917
961.50	0.411	0.471	969.15	2.410	10.276
961.65	0.431	0.534	969.30	2.447	10.640
961.80	0.450	0.600	969.45	2.484	11.010
961.95	0.469	0.669	969.60	2.521	11.386
962.10	0.495	0.741	969.75	2.559	11.767
962.25	0.523	0.818	969.90	2.596	12.153
962.40	0.551	0.898	970.05	2.633	12.545
962.55	0.580	0.983	970.20	2.671	12.943
962.70	0.608	1.072	970.35	2.709	13.347
962.85	0.636	1.166	970.50	2.747	13.756
963.00	0.665	1.263	970.65	2.786	14.171
963.15	0.693	1.365	970.80	2.824	14.592
963.30	0.721	1.471	970.95	2.862	15.018
963.45	0.750	1.581	971.10	2.900	15.450
963.60	0.778	1.696	971.25	2.938	15.888
963.75	0.806	1.815	971.40	2.976	16.332
963.90	0.835	1.938	971.55	3.015	16.781
964.05	0.863	2.065	971.70	3.053	17.236
964.20	0.893	2.197	971.85	3.091	17.697
964.35	0.923	2.333	972.00	3.129	18.163
964.50	0.952	2.474	972.15	3.129	18.633
964.65	0.982	2.619	972.30	3.129	19.102
964.80	1.011	2.768	972.45	3.129	19.571
964.95	1.041	2.922	972.60	3.129	20.041
965.10	1.070	3.081	972.75	3.129	20.510
965.25	1.100	3.243	972.90	3.129	20.979
965.40	1.130	3.411	973.05	3.129	21.449
965.55	1.159	3.582	973.20	3.129	21.918
965.70	1.189	3.758	973.35	3.129	22.387
965.85	1.218	3.939	973.50	3.129	22.857
966.00	1.248	4.124	973.65	3.129	23.326
966.15	1.339	4.318	973.80	3.129	23.795
966.30	1.431	4.526	973.95	3.129	24.265
966.45	1.522	4.747			
966.60	1.613	4.982			
966.75	1.705	5.231			
966.90	1.796	5.494			
967.05	1.870	5.769			
967.20	1.911	6.053			
967.35	1.951	6.343			
967.50	1.991	6.638			

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Summary for Pond P2S: Pond 2S

Inflow Area = 7.044 ac, 38.20% Impervious, Inflow Depth = 1.52" for 2yr-24hr event
 Inflow = 13.82 cfs @ 12.20 hrs, Volume= 0.892 af
 Outflow = 3.65 cfs @ 12.54 hrs, Volume= 0.882 af, Atten= 74%, Lag= 20.5 min
 Primary = 3.65 cfs @ 12.54 hrs, Volume= 0.882 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 969.00' Surf.Area= 20,740 sf Storage= 78,236 cf
 Peak Elev= 969.84' @ 12.54 hrs Surf.Area= 22,344 sf Storage= 96,314 cf (18,079 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 178.4 min (965.0 - 786.6)

Volume	Invert	Avail.Storage	Storage Description
#1	962.00'	201,932 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
962.00	6,080	0	0
964.00	8,581	14,661	14,661
966.00	11,400	19,981	34,642
968.00	14,549	25,949	60,591
969.00	20,740	17,645	78,236
970.00	22,651	21,696	99,931
972.00	26,450	49,101	149,032
974.00	26,450	52,900	201,932

Device	Routing	Invert	Outlet Devices
#1	Primary	969.00'	24.0" Round Main outlet (Structure 251 to 252) L= 30.8' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 968.69' S= 0.0101 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	972.00'	48.0" Horiz. Structure 251 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	24.0" Round low flow pipe L= 36.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0272 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Secondary	972.00'	8.0' long x 32.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=3.65 cfs @ 12.54 hrs HW=969.84' TW=0.00' (Dynamic Tailwater)

1=Main outlet (Structure 251 to 252)(Barrel Controls 3.65 cfs @ 4.31 fps)

2=Structure 251 Grate (Controls 0.00 cfs)

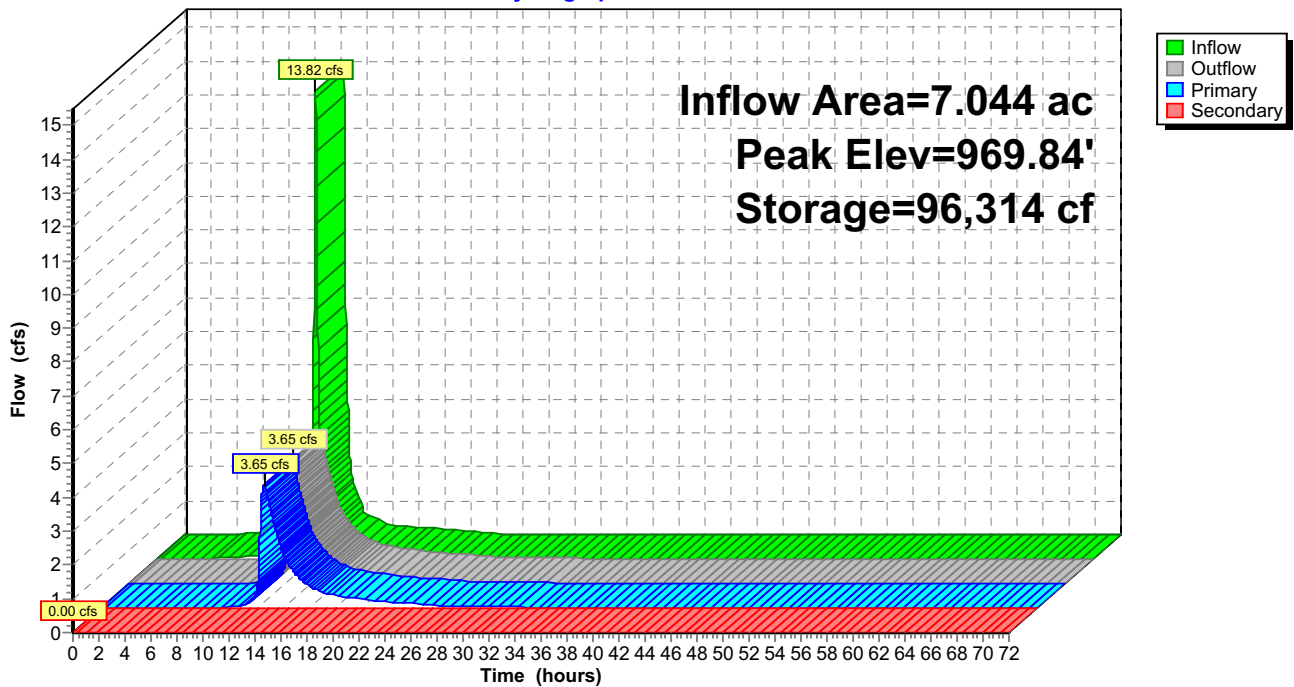
3=low flow pipe (Passes 3.65 cfs of 13.86 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=969.00' TW=0.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P2S: Pond 2S

Hydrograph



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Stage-Area-Storage for Pond P2S: Pond 2S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
962.00	6,080	0	969.65	21,982	92,120
962.15	6,268	926	969.80	22,269	95,439
962.30	6,455	1,880	969.95	22,555	98,801
962.45	6,643	2,863	970.10	22,841	102,206
962.60	6,830	3,873	970.25	23,126	105,653
962.75	7,018	4,912	970.40	23,411	109,143
962.90	7,205	5,978	970.55	23,696	112,676
963.05	7,393	7,073	970.70	23,981	116,252
963.20	7,581	8,196	970.85	24,266	119,871
963.35	7,768	9,348	971.00	24,551	123,532
963.50	7,956	10,527	971.15	24,835	127,236
963.65	8,143	11,734	971.30	25,120	130,982
963.80	8,331	12,970	971.45	25,405	134,772
963.95	8,518	14,234	971.60	25,690	138,604
964.10	8,722	15,526	971.75	25,975	142,479
964.25	8,933	16,850	971.90	26,260	146,396
964.40	9,145	18,206	972.05	26,450	150,354
964.55	9,356	19,594	972.20	26,450	154,322
964.70	9,568	21,013	972.35	26,450	158,290
964.85	9,779	22,464	972.50	26,450	162,257
965.00	9,991	23,947	972.65	26,450	166,224
965.15	10,202	25,461	972.80	26,450	170,192
965.30	10,413	27,007	972.95	26,450	174,160
965.45	10,625	28,585	973.10	26,450	178,127
965.60	10,836	30,195	973.25	26,450	182,095
965.75	11,048	31,836	973.40	26,450	186,062
965.90	11,259	33,509	973.55	26,450	190,029
966.05	11,479	35,214	973.70	26,450	193,997
966.20	11,715	36,953	973.85	26,450	197,965
966.35	11,951	38,728	974.00	26,450	201,932
966.50	12,187	40,539			
966.65	12,423	42,385			
966.80	12,660	44,266			
966.95	12,896	46,182			
967.10	13,132	48,135			
967.25	13,368	50,122			
967.40	13,604	52,145			
967.55	13,840	54,203			
967.70	14,077	56,297			
967.85	14,313	58,426			
968.00	14,549	60,591			
968.15	15,478	62,843			
968.30	16,406	65,234			
968.45	17,335	67,765			
968.60	18,264	70,435			
968.75	19,192	73,244			
968.90	20,121	76,192			
969.05	20,836	79,275			
969.20	21,122	82,422			
969.35	21,409	85,612			
969.50	21,696	88,844			

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Summary for Pond P3S: Pond 3S

Inflow Area = 12.637 ac, 40.00% Impervious, Inflow Depth = 1.55" for 2yr-24hr event
 Inflow = 25.22 cfs @ 12.20 hrs, Volume= 1.634 af
 Outflow = 4.44 cfs @ 12.67 hrs, Volume= 1.600 af, Atten= 82%, Lag= 27.9 min
 Primary = 4.44 cfs @ 12.67 hrs, Volume= 1.600 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 973.00' Surf.Area= 34,587 sf Storage= 138,303 cf
 Peak Elev= 974.04' @ 12.67 hrs Surf.Area= 38,282 sf Storage= 176,372 cf (38,069 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 264.6 min (1,049.7 - 785.1)

Volume	Invert	Avail.Storage	Storage Description
#1	966.00'	769,728 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
966.00	10,237	0	0
968.00	15,246	25,483	25,483
970.00	20,473	35,719	61,202
972.00	26,223	46,696	107,898
973.00	34,587	30,405	138,303
974.00	38,115	36,351	174,654
976.00	45,520	83,635	258,289
978.00	65,471	110,991	369,280
980.00	103,978	169,449	538,729
982.00	127,021	230,999	769,728

Device	Routing	Invert	Outlet Devices
#1	Primary	967.20'	24.0" Round H2 to H1 L= 55.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.20' / 967.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	967.70'	24.0" Round H2A to H1 L= 149.2' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.70' / 967.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#3	Device 2	967.90'	24.0" Round H3 to H2 L= 86.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.90' / 967.70' S= 0.0023 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Device 3	968.00'	21.0" Round H4 to H3 L= 42.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 968.00' / 967.90' S= 0.0024 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#5	Device 4	968.50'	21.0" Round H5 to H4 L= 184.0' RCP, groove end w/headwall, Ke= 0.200

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#6	Device 5	972.50'	Inlet / Outlet Invert= 968.50' / 968.00' S= 0.0027 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf 21.0" Round H9 to H5 L= 146.0' RCP, groove end w/headwall, Ke= 0.200
#7	Device 6	973.00'	Inlet / Outlet Invert= 972.50' / 968.50' S= 0.0274 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf 21.0" Round H10 to H9 L= 92.0' RCP, groove end w/headwall, Ke= 0.200
#8	Device 7	976.10'	Inlet / Outlet Invert= 973.00' / 972.50' S= 0.0054 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf 48.0" Horiz. I13 Grate C= 0.600 Limited to weir flow at low heads
#9	Device 7	970.00'	21.0" Round low flow pipe L= 88.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 968.00' / 970.00' S= -0.0227 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#10	Secondary	978.00'	5.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.44 cfs @ 12.67 hrs HW=974.04' TW=968.03' (Dynamic Tailwater)

- ↑ 1=H2 to H1 (Passes 4.44 cfs of 41.24 cfs potential flow)
- ↑ 2=H2A to H1 (Passes 4.44 cfs of 31.73 cfs potential flow)
- ↑ 3=H3 to H2 (Passes 4.44 cfs of 34.87 cfs potential flow)
- ↑ 4=H4 to H3 (Passes 4.44 cfs of 29.95 cfs potential flow)
- ↑ 5=H5 to H4 (Passes 4.44 cfs of 20.15 cfs potential flow)
- ↑ 6=H9 to H5 (Passes 4.44 cfs of 11.89 cfs potential flow)
- ↑ 7=H10 to H9 (Barrel Controls 4.44 cfs @ 4.25 fps)
- ↑ 8=I13 Grate (Controls 0.00 cfs)
- ↑ 9=low flow pipe (Passes 4.44 cfs of 11.77 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=972.00' (Dynamic Tailwater)

- ↑ 10=EOF (Controls 0.00 cfs)

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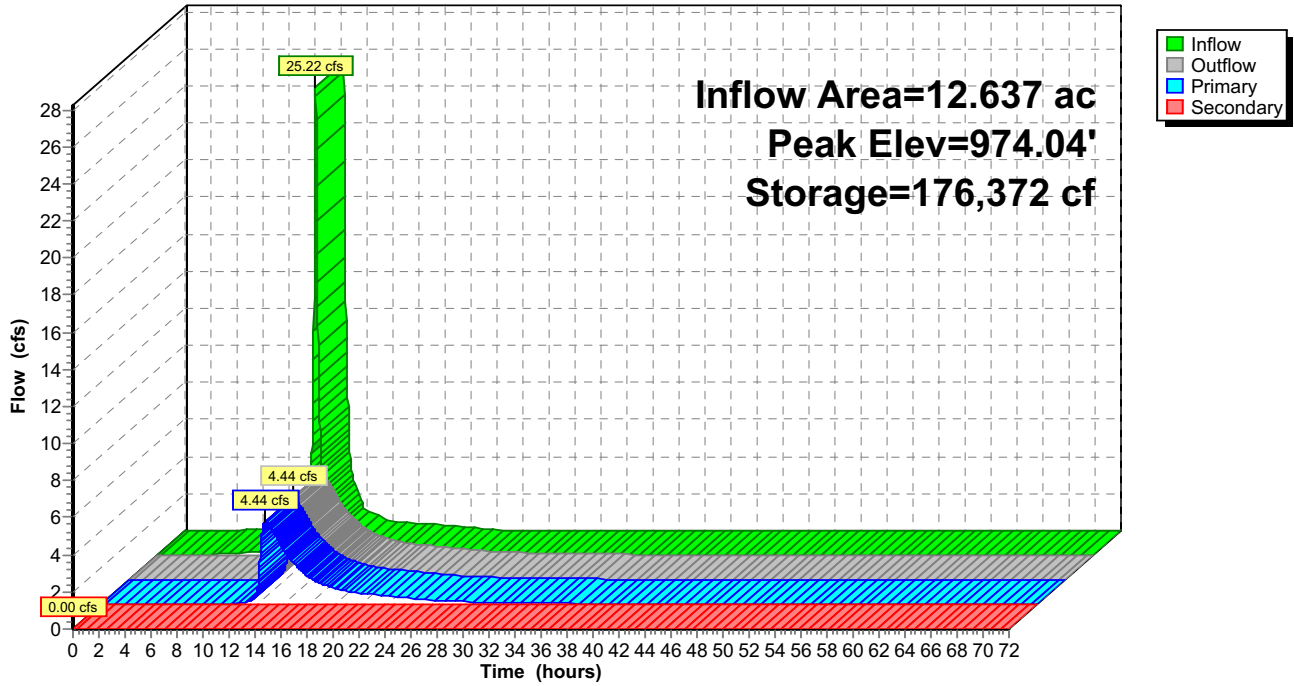
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond P3S: Pond 3S

Hydrograph



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Stage-Area-Storage for Pond P3S: Pond 3S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
966.00	10,237	0	976.20	47,515	267,593
966.20	10,738	2,097	976.40	49,510	277,295
966.40	11,239	4,295	976.60	51,505	287,397
966.60	11,740	6,593	976.80	53,500	297,897
966.80	12,241	8,991	977.00	55,496	308,797
967.00	12,742	11,489	977.20	57,491	320,095
967.20	13,242	14,088	977.40	59,486	331,793
967.40	13,743	16,786	977.60	61,481	343,890
967.60	14,244	19,585	977.80	63,476	356,385
967.80	14,745	22,484	978.00	65,471	369,280
968.00	15,246	25,483	978.20	69,322	382,759
968.20	15,769	28,584	978.40	73,172	397,009
968.40	16,291	31,790	978.60	77,023	412,028
968.60	16,814	35,101	978.80	80,874	427,818
968.80	17,337	38,516	979.00	84,725	444,378
969.00	17,860	42,036	979.20	88,575	461,708
969.20	18,382	45,660	979.40	92,426	479,808
969.40	18,905	49,389	979.60	96,277	498,678
969.60	19,428	53,222	979.80	100,127	518,318
969.80	19,950	57,160	980.00	103,978	538,729
970.00	20,473	61,202	980.20	106,282	559,755
970.20	21,048	65,354	980.40	108,587	581,242
970.40	21,623	69,621	980.60	110,891	603,190
970.60	22,198	74,003	980.80	113,195	625,598
970.80	22,773	78,500	981.00	115,500	648,468
971.00	23,348	83,113	981.20	117,804	671,798
971.20	23,923	87,840	981.40	120,108	695,589
971.40	24,498	92,682	981.60	122,412	719,841
971.60	25,073	97,639	981.80	124,717	744,554
971.80	25,648	102,711	982.00	127,021	769,728
972.00	26,223	107,898			
972.20	27,896	113,310			
972.40	29,569	119,056			
972.60	31,241	125,137			
972.80	32,914	131,553			
973.00	34,587	138,303			
973.20	35,293	145,291			
973.40	35,998	152,420			
973.60	36,704	159,690			
973.80	37,409	167,102			
974.00	38,115	174,654			
974.20	38,856	182,351			
974.40	39,596	190,196			
974.60	40,337	198,189			
974.80	41,077	206,331			
975.00	41,818	214,620			
975.20	42,558	223,058			
975.40	43,298	231,643			
975.60	44,039	240,377			
975.80	44,779	249,259			
976.00	45,520	258,289			

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Summary for Pond P4S: Pond 4S

Inflow Area = 76.299 ac, 31.96% Impervious, Inflow Depth > 1.27" for 2yr-24hr event
 Inflow = 35.01 cfs @ 12.22 hrs, Volume= 8.071 af
 Outflow = 13.32 cfs @ 12.61 hrs, Volume= 7.961 af, Atten= 62%, Lag= 23.2 min
 Primary = 13.32 cfs @ 12.61 hrs, Volume= 7.961 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.50' Surf.Area= 25,439 sf Storage= 76,590 cf
 Peak Elev= 969.10' @ 12.61 hrs Surf.Area= 31,602 sf Storage= 122,196 cf (45,606 cf above start)

Plug-Flow detention time= 579.1 min calculated for 6.203 af (77% of inflow)
 Center-of-Mass det. time= 99.2 min (1,373.9 - 1,274.6)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	647,869 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	2,396	0	0
962.00	4,400	6,796	6,796
964.00	9,322	13,722	20,518
966.00	15,812	25,134	45,652
967.50	25,439	30,938	76,590
968.00	27,312	13,188	89,778
970.00	35,109	62,421	152,199
972.00	59,939	95,048	247,247
974.00	113,561	173,500	420,747
976.00	113,561	227,122	647,869

Device	Routing	Invert	Outlet Devices
#1	Primary	967.20'	48.0" Round Culvert L= 121.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.20' / 967.00' S= 0.0016 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#2	Device 1	967.30'	48.0" Round Culvert L= 27.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.30' / 967.20' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#3	Device 2	967.50'	48.0" Round Culvert L= 120.9' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.30' S= 0.0017 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#4	Device 3	971.50'	72.0" Horiz. Structure 254 Grate C= 0.600 Limited to weir flow at low heads
#5	Device 3	964.00'	48.0" Round Culvert L= 33.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.00' / 964.00' S= -0.0303 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf

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#6	Secondary	969.00'	72.0" W x 36.0" H Box Box Culvert L= 150.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 969.00' / 968.00' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 18.00 sf
#7	Device 6	971.50'	10.0' long x 4.0' breadth Berm to Secondary EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=13.32 cfs @ 12.61 hrs HW=969.10' TW=967.99' (Dynamic Tailwater)

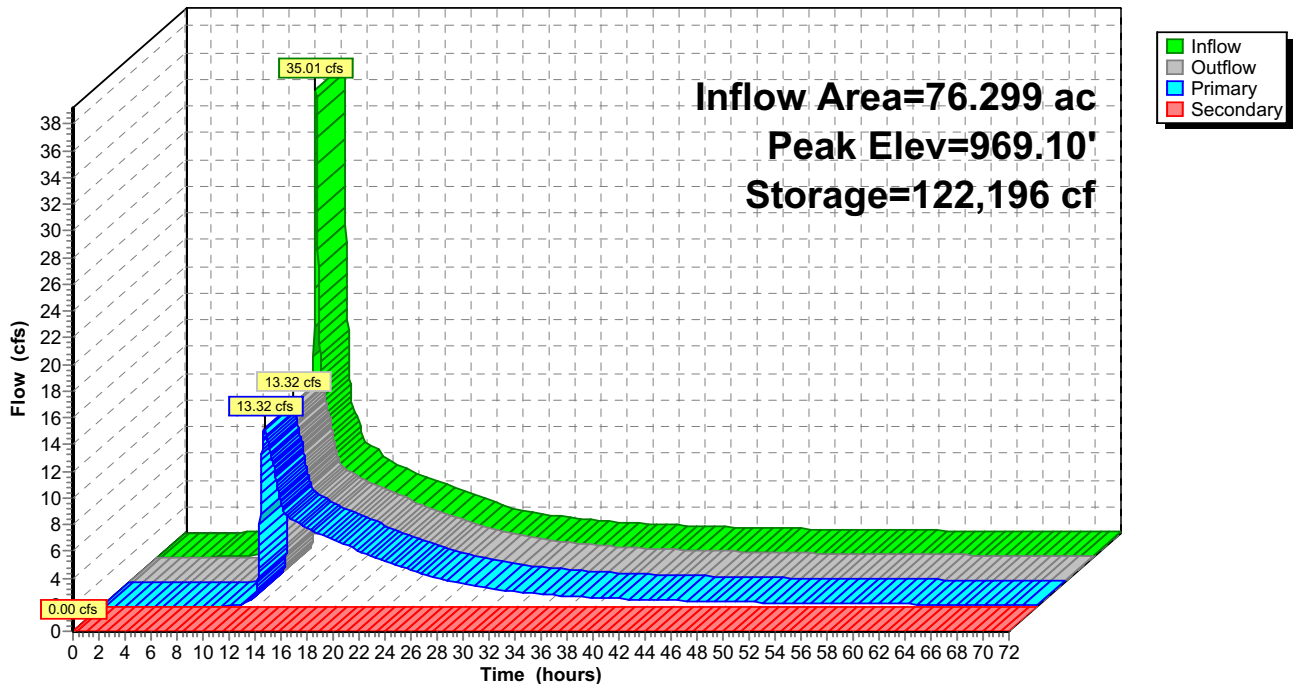
- ↑ 1=Culvert (Passes 13.32 cfs of 18.59 cfs potential flow)
- ↑ 2=Culvert (Passes 13.32 cfs of 18.78 cfs potential flow)
- ↑ 3=Culvert (Barrel Controls 13.32 cfs @ 4.20 fps)
- ↑ 4=Structure 254 Grate (Controls 0.00 cfs)
- ↑ 5=Culvert (Passes 13.32 cfs of 63.87 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.50' TW=967.00' (Dynamic Tailwater)

- ↑ 6=Box Culvert (Controls 0.00 cfs)
- ↑ 7=Berm to Secondary EOF (Controls 0.00 cfs)

Pond P4S: Pond 4S

Hydrograph



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Stage-Area-Storage for Pond P4S: Pond 4S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
960.00	2,396	0	970.20	37,592	159,469
960.20	2,596	499	970.40	40,075	167,236
960.40	2,797	1,039	970.60	42,558	175,499
960.60	2,997	1,618	970.80	45,041	184,259
960.80	3,198	2,237	971.00	47,524	193,516
961.00	3,398	2,897	971.20	50,007	203,269
961.20	3,598	3,597	971.40	52,490	213,518
961.40	3,799	4,336	971.60	54,973	224,265
961.60	3,999	5,116	971.80	57,456	235,507
961.80	4,200	5,936	972.00	59,939	247,247
962.00	4,400	6,796	972.20	65,301	259,771
962.20	4,892	7,725	972.40	70,663	273,367
962.40	5,384	8,753	972.60	76,026	288,036
962.60	5,877	9,879	972.80	81,388	303,778
962.80	6,369	11,104	973.00	86,750	320,592
963.00	6,861	12,427	973.20	92,112	338,478
963.20	7,353	13,848	973.40	97,474	357,436
963.40	7,845	15,368	973.60	102,837	377,467
963.60	8,338	16,986	973.80	108,199	398,571
963.80	8,830	18,703	974.00	113,561	420,747
964.00	9,322	20,518	974.20	113,561	443,459
964.20	9,971	22,447	974.40	113,561	466,171
964.40	10,620	24,506	974.60	113,561	488,884
964.60	11,269	26,695	974.80	113,561	511,596
964.80	11,918	29,014	975.00	113,561	534,308
965.00	12,567	31,463	975.20	113,561	557,020
965.20	13,216	34,041	975.40	113,561	579,732
965.40	13,865	36,749	975.60	113,561	602,445
965.60	14,514	39,587	975.80	113,561	625,157
965.80	15,163	42,554	976.00	113,561	647,869
966.00	15,812	45,652			
966.20	17,096	48,943			
966.40	18,379	52,490			
966.60	19,663	56,294			
966.80	20,946	60,355			
967.00	22,230	64,673			
967.20	23,514	69,247			
967.40	24,797	74,078			
967.60	25,814	79,153			
967.80	26,563	84,391			
968.00	27,312	89,778			
968.20	28,092	95,318			
968.40	28,871	101,015			
968.60	29,651	106,867			
968.80	30,431	112,875			
969.00	31,211	119,039			
969.20	31,990	125,359			
969.40	32,770	131,835			
969.60	33,550	138,467			
969.80	34,329	145,255			
970.00	35,109	152,199			

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Summary for Pond P5S: Pond 5S

Inflow Area = 53.598 ac, 34.53% Impervious, Inflow Depth = 1.41" for 2yr-24hr event
 Inflow = 96.48 cfs @ 12.21 hrs, Volume= 6.309 af
 Outflow = 5.08 cfs @ 13.69 hrs, Volume= 5.737 af, Atten= 95%, Lag= 89.0 min
 Primary = 5.08 cfs @ 13.69 hrs, Volume= 5.737 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Starting Elev= 978.00' Surf.Area= 188,571 sf Storage= 1,154,774 cf

Peak Elev= 978.97' @ 13.69 hrs Surf.Area= 199,385 sf Storage= 1,343,252 cf (188,478 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 680.1 min (1,468.3 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1	970.00'	4,080,390 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
970.00	109,989	0	0
972.00	126,585	236,574	236,574
974.00	142,572	269,157	505,731
976.00	158,950	301,522	807,253
978.00	188,571	347,521	1,154,774
980.00	210,830	399,401	1,554,175
982.00	257,265	468,095	2,022,270
984.00	257,265	514,530	2,536,800
990.00	257,265	1,543,590	4,080,390

Device	Routing	Invert	Outlet Devices
#1	Primary	970.00'	18.0" Round Structure 273 to 246 L= 190.9' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 970.00' / 967.50' S= 0.0131 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	972.00'	18.0" Round Structure 272 to 273 L= 70.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 970.00' S= 0.0286 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Device 2	974.00'	18.0" Round Structure 271 to 272 L= 50.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 974.00' / 973.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#4	Device 3	978.00'	18.0" Round Structure 245 to 271 L= 78.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 978.00' / 974.00' S= 0.0513 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#5	Device 4	975.50'	21.0" Round low flow pipe L= 52.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 975.00' / 975.50' S= -0.0096 '/' Cc= 0.900

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#6	Device 4	981.50'	n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
			48.0" Horiz. Structure 245 grate C= 0.600
			Limited to weir flow at low heads
#7	Secondary	981.50'	10.0' long x 2.0' breadth EOF
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=5.08 cfs @ 13.69 hrs HW=978.97' TW=968.85' (Dynamic Tailwater)

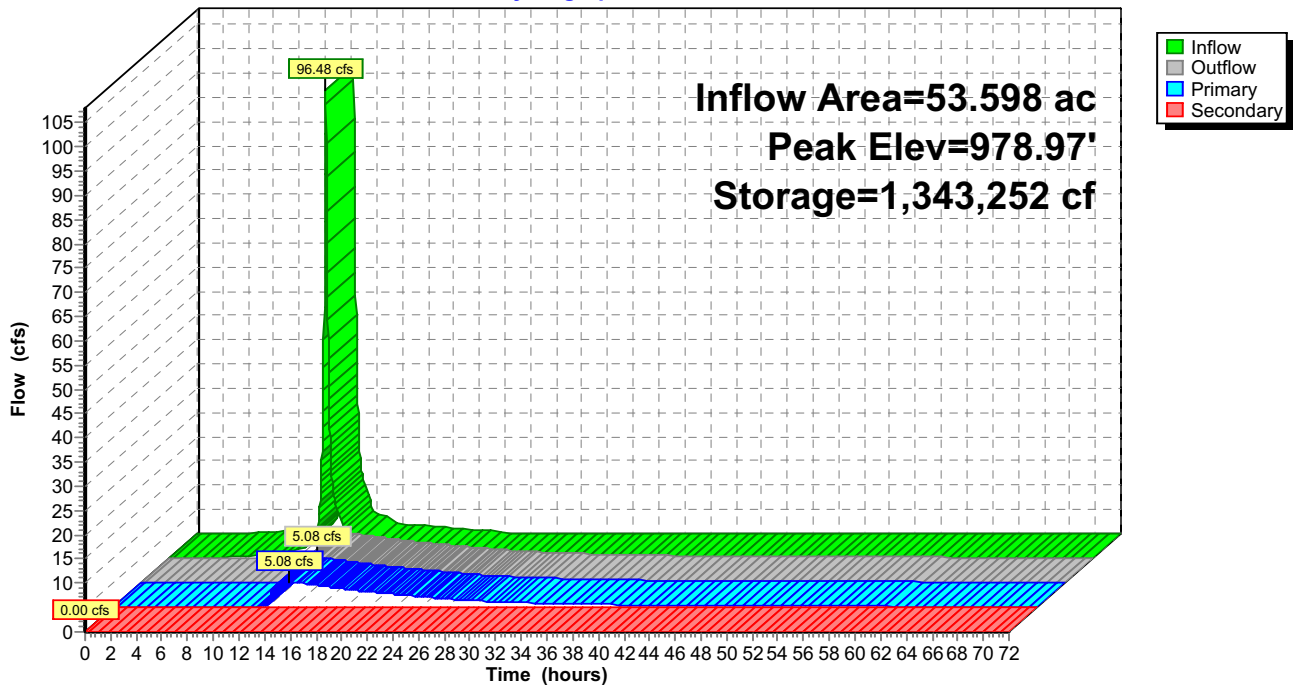
- 1=Structure 273 to 246 (Passes 5.08 cfs of 20.68 cfs potential flow)
- 2=Structure 272 to 273 (Passes 5.08 cfs of 24.61 cfs potential flow)
- 3=Structure 271 to 272 (Passes 5.08 cfs of 20.62 cfs potential flow)
- 4=Structure 245 to 271 (Inlet Controls 5.08 cfs @ 4.20 fps)
- 5=low flow pipe (Passes 5.08 cfs of 11.42 cfs potential flow)
- 6=Structure 245 grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)

- 7=EOF (Controls 0.00 cfs)

Pond P5S: Pond 5S

Hydrograph



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Stage-Area-Storage for Pond P5S: Pond 5S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
970.00	109,989	0	980.20	215,474	1,596,805
970.20	111,649	22,164	980.40	220,117	1,640,364
970.40	113,308	44,659	980.60	224,761	1,684,852
970.60	114,968	67,487	980.80	229,404	1,730,269
970.80	116,627	90,647	981.00	234,048	1,776,614
971.00	118,287	114,138	981.20	238,691	1,823,888
971.20	119,947	137,961	981.40	243,334	1,872,090
971.40	121,606	162,117	981.60	247,978	1,921,221
971.60	123,266	186,604	981.80	252,621	1,971,281
971.80	124,925	211,423	982.00	257,265	2,022,270
972.00	126,585	236,574	982.20	257,265	2,073,723
972.20	128,184	262,051	982.40	257,265	2,125,176
972.40	129,782	287,847	982.60	257,265	2,176,629
972.60	131,381	313,964	982.80	257,265	2,228,082
972.80	132,980	340,400	983.00	257,265	2,279,535
973.00	134,579	367,156	983.20	257,265	2,330,988
973.20	136,177	394,231	983.40	257,265	2,382,441
973.40	137,776	421,627	983.60	257,265	2,433,894
973.60	139,375	449,342	983.80	257,265	2,485,347
973.80	140,973	477,376	984.00	257,265	2,536,800
974.00	142,572	505,731	984.20	257,265	2,588,253
974.20	144,210	534,409	984.40	257,265	2,639,706
974.40	145,848	563,415	984.60	257,265	2,691,159
974.60	147,485	592,748	984.80	257,265	2,742,612
974.80	149,123	622,409	985.00	257,265	2,794,065
975.00	150,761	652,398	985.20	257,265	2,845,518
975.20	152,399	682,713	985.40	257,265	2,896,971
975.40	154,037	713,357	985.60	257,265	2,948,424
975.60	155,674	744,328	985.80	257,265	2,999,877
975.80	157,312	775,627	986.00	257,265	3,051,330
976.00	158,950	807,253	986.20	257,265	3,102,783
976.20	161,912	839,339	986.40	257,265	3,154,236
976.40	164,874	872,018	986.60	257,265	3,205,689
976.60	167,836	905,289	986.80	257,265	3,257,142
976.80	170,798	939,152	987.00	257,265	3,308,595
977.00	173,761	973,608	987.20	257,265	3,360,048
977.20	176,723	1,008,657	987.40	257,265	3,411,501
977.40	179,685	1,044,297	987.60	257,265	3,462,954
977.60	182,647	1,080,530	987.80	257,265	3,514,407
977.80	185,609	1,117,356	988.00	257,265	3,565,860
978.00	188,571	1,154,774	988.20	257,265	3,617,313
978.20	190,797	1,192,711	988.40	257,265	3,668,766
978.40	193,023	1,231,093	988.60	257,265	3,720,219
978.60	195,249	1,269,920	988.80	257,265	3,771,672
978.80	197,475	1,309,192	989.00	257,265	3,823,125
979.00	199,701	1,348,910	989.20	257,265	3,874,578
979.20	201,926	1,389,072	989.40	257,265	3,926,031
979.40	204,152	1,429,680	989.60	257,265	3,977,484
979.60	206,378	1,470,733	989.80	257,265	4,028,937
979.80	208,604	1,512,232	990.00	257,265	4,080,390
980.00	210,830	1,554,175			

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Summary for Pond Wetland 9: Wetland 9

[80] Warning: Exceeded Pond P1N by 0.14' @ 13.18 hrs (0.73 cfs 0.140 af)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 0.70" for 2yr-24hr event
 Inflow = 4.89 cfs @ 12.25 hrs, Volume= 0.598 af
 Outflow = 0.87 cfs @ 13.38 hrs, Volume= 0.297 af, Atten= 82%, Lag= 68.0 min
 Primary = 0.87 cfs @ 13.38 hrs, Volume= 0.297 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 0.217 ac Storage= 0.150 af
 Peak Elev= 1,010.07' @ 13.38 hrs Surf.Area= 0.384 ac Storage= 0.477 af (0.327 af above start)

Plug-Flow detention time= 653.6 min calculated for 0.148 af (25% of inflow)
 Center-of-Mass det. time= 213.4 min (1,110.8 - 897.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	1.218 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,008.00	0.082	0.000	0.000
1,009.00	0.217	0.150	0.150
1,010.00	0.384	0.301	0.450
1,012.00	0.384	0.768	1.218

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.87 cfs @ 13.38 hrs HW=1,010.07' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 0.87 cfs @ 0.62 fps)

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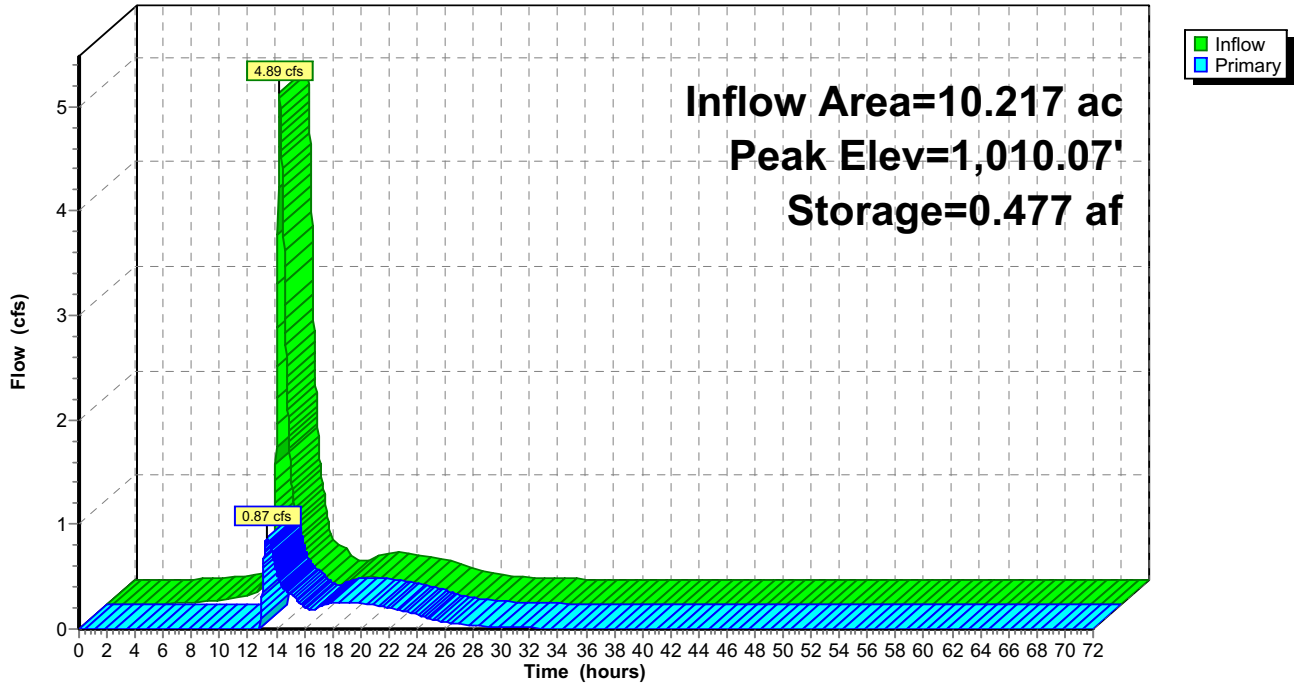
MSE 24-hr 3 yr-24hr Rainfall=2.87"

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Pond Wetland 9: Wetland 9

Hydrograph



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 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Stage-Area-Storage for Pond Wetland 9: Wetland 9

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,008.00	0.082	0.000	1,010.55	0.384	0.661
1,008.05	0.089	0.004	1,010.60	0.384	0.680
1,008.10	0.096	0.009	1,010.65	0.384	0.700
1,008.15	0.102	0.014	1,010.70	0.384	0.719
1,008.20	0.109	0.019	1,010.75	0.384	0.738
1,008.25	0.116	0.025	1,010.80	0.384	0.757
1,008.30	0.122	0.031	1,010.85	0.384	0.776
1,008.35	0.129	0.037	1,010.90	0.384	0.796
1,008.40	0.136	0.044	1,010.95	0.384	0.815
1,008.45	0.143	0.051	1,011.00	0.384	0.834
1,008.50	0.150	0.058	1,011.05	0.384	0.853
1,008.55	0.156	0.066	1,011.10	0.384	0.872
1,008.60	0.163	0.074	1,011.15	0.384	0.892
1,008.65	0.170	0.082	1,011.20	0.384	0.911
1,008.70	0.177	0.090	1,011.25	0.384	0.930
1,008.75	0.183	0.099	1,011.30	0.384	0.949
1,008.80	0.190	0.109	1,011.35	0.384	0.968
1,008.85	0.197	0.118	1,011.40	0.384	0.988
1,008.90	0.203	0.128	1,011.45	0.384	1.007
1,008.95	0.210	0.139	1,011.50	0.384	1.026
1,009.00	0.217	0.150	1,011.55	0.384	1.045
1,009.05	0.225	0.161	1,011.60	0.384	1.064
1,009.10	0.234	0.172	1,011.65	0.384	1.084
1,009.15	0.242	0.184	1,011.70	0.384	1.103
1,009.20	0.250	0.196	1,011.75	0.384	1.122
1,009.25	0.259	0.209	1,011.80	0.384	1.141
1,009.30	0.267	0.222	1,011.85	0.384	1.160
1,009.35	0.275	0.236	1,011.90	0.384	1.180
1,009.40	0.284	0.250	1,011.95	0.384	1.199
1,009.45	0.292	0.264	1,012.00	0.384	1.218
1,009.50	0.301	0.279			
1,009.55	0.309	0.294			
1,009.60	0.317	0.310			
1,009.65	0.326	0.326			
1,009.70	0.334	0.342			
1,009.75	0.342	0.359			
1,009.80	0.351	0.377			
1,009.85	0.359	0.394			
1,009.90	0.367	0.412			
1,009.95	0.376	0.431			
1,010.00	0.384	0.450			
1,010.05	0.384	0.469			
1,010.10	0.384	0.488			
1,010.15	0.384	0.508			
1,010.20	0.384	0.527			
1,010.25	0.384	0.546			
1,010.30	0.384	0.565			
1,010.35	0.384	0.584			
1,010.40	0.384	0.604			
1,010.45	0.384	0.623			
1,010.50	0.384	0.642			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1N: 1N	Runoff Area=4.840 ac 30.45% Impervious Runoff Depth=2.48" Tc=12.0 min CN=WQ Runoff=16.08 cfs 1.000 af
Subcatchment1N_100: 1N_100	Runoff Area=0.554 ac 22.74% Impervious Runoff Depth=2.29" Flow Length=300' Slope=0.0730 '/' Tc=14.8 min CN=WQ Runoff=1.56 cfs 0.106 af
Subcatchment1S: 1S	Runoff Area=13.529 ac 49.22% Impervious Runoff Depth=2.78" Tc=12.0 min CN=WQ Runoff=48.68 cfs 3.137 af
Subcatchment2S: 2S	Runoff Area=4.152 ac 49.86% Impervious Runoff Depth=2.91" Tc=12.0 min CN=WQ Runoff=15.79 cfs 1.008 af
Subcatchment3S: 3S	Runoff Area=9.641 ac 44.37% Impervious Runoff Depth=2.79" Tc=12.0 min CN=WQ Runoff=35.35 cfs 2.241 af
Subcatchment3S_100: 3S_100	Runoff Area=0.507 ac 69.43% Impervious Runoff Depth=3.35" Tc=12.0 min CN=WQ Runoff=2.17 cfs 0.142 af
Subcatchment4S: 4S	Runoff Area=9.391 ac 35.65% Impervious Runoff Depth=2.36" Tc=12.0 min CN=WQ Runoff=28.83 cfs 1.848 af
Subcatchment5S: 5S	Runoff Area=28.964 ac 47.03% Impervious Runoff Depth=2.70" Tc=12.0 min CN=WQ Runoff=101.52 cfs 6.509 af
Subcatchment5S_100: 5S_100	Runoff Area=0.289 ac 46.02% Impervious Runoff Depth=2.83" Tc=12.0 min CN=WQ Runoff=1.07 cfs 0.068 af
Subcatchment10S: I14_100	Runoff Area=0.378 ac 6.88% Impervious Runoff Depth=1.95" Tc=12.0 min CN=WQ Runoff=1.04 cfs 0.061 af
Subcatchment1000: 1000	Runoff Area=0.038 ac 36.84% Impervious Runoff Depth=2.62" Flow Length=115' Slope=0.0170 '/' Tc=12.3 min CN=WQ Runoff=0.13 cfs 0.008 af
SubcatchmentA10: A10	Runoff Area=0.552 ac 11.05% Impervious Runoff Depth=2.02" Tc=12.0 min CN=WQ Runoff=1.55 cfs 0.093 af
SubcatchmentA11: A11	Runoff Area=1.508 ac 12.07% Impervious Runoff Depth=2.07" Tc=12.0 min CN=WQ Runoff=4.33 cfs 0.260 af
SubcatchmentA12: A12	Runoff Area=0.782 ac 16.75% Impervious Runoff Depth=2.17" Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.142 af
SubcatchmentA12_100: A12_100	Runoff Area=0.211 ac 29.86% Impervious Runoff Depth=2.47" Tc=12.0 min CN=WQ Runoff=0.70 cfs 0.043 af
SubcatchmentA20: A20	Runoff Area=0.095 ac 10.53% Impervious Runoff Depth=2.03" Tc=12.0 min CN=WQ Runoff=0.27 cfs 0.016 af

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SubcatchmentA21: A21	Runoff Area=0.671 ac 21.61% Impervious Runoff Depth=2.28" Tc=12.0 min CN=WQ Runoff=2.08 cfs 0.128 af
SubcatchmentA7: A7	Runoff Area=0.669 ac 25.11% Impervious Runoff Depth=2.36" Tc=12.0 min CN=WQ Runoff=2.13 cfs 0.132 af
SubcatchmentA7_100: A7_100	Runoff Area=0.027 ac 100.00% Impervious Runoff Depth=4.03" Tc=12.0 min CN=98 Runoff=0.14 cfs 0.009 af
SubcatchmentA8: A8	Runoff Area=0.830 ac 33.25% Impervious Runoff Depth=2.54" Tc=12.0 min CN=WQ Runoff=2.81 cfs 0.176 af
SubcatchmentA8_100: A8_100	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=4.03" Tc=12.0 min CN=WQ Runoff=0.17 cfs 0.011 af
SubcatchmentA9: A9	Runoff Area=1.110 ac 6.67% Impervious Runoff Depth=1.94" Tc=12.0 min CN=WQ Runoff=3.02 cfs 0.179 af
SubcatchmentA9_100: A9_100	Runoff Area=0.030 ac 90.00% Impervious Runoff Depth=3.81" Tc=12.0 min CN=WQ Runoff=0.14 cfs 0.010 af
SubcatchmentC10: C10	Runoff Area=1.521 ac 10.72% Impervious Runoff Depth=2.04" Tc=12.0 min CN=WQ Runoff=4.31 cfs 0.258 af
SubcatchmentC10_100: C10_100	Runoff Area=0.546 ac 59.71% Impervious Runoff Depth=3.13" Tc=12.0 min CN=WQ Runoff=2.21 cfs 0.143 af
SubcatchmentC7: C7	Runoff Area=1.440 ac 13.61% Impervious Runoff Depth=2.10" Tc=12.0 min CN=WQ Runoff=4.19 cfs 0.252 af
SubcatchmentC7_100: C7_100	Runoff Area=0.268 ac 62.31% Impervious Runoff Depth=3.19" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=1.03 cfs 0.071 af
SubcatchmentC8: C8	Runoff Area=1.457 ac 13.04% Impervious Runoff Depth=2.09" Tc=12.0 min CN=WQ Runoff=4.21 cfs 0.254 af
SubcatchmentC8_100: C8_100	Runoff Area=0.470 ac 62.77% Impervious Runoff Depth=3.20" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=1.82 cfs 0.125 af
SubcatchmentC9: C9	Runoff Area=1.762 ac 10.95% Impervious Runoff Depth=2.04" Tc=12.0 min CN=WQ Runoff=5.01 cfs 0.300 af
SubcatchmentC9_100: C9_100	Runoff Area=0.301 ac 65.12% Impervious Runoff Depth=3.25" Tc=12.0 min CN=WQ Runoff=1.26 cfs 0.082 af
SubcatchmentE13: E13	Runoff Area=0.605 ac 27.77% Impervious Runoff Depth=2.42" Tc=12.0 min CN=WQ Runoff=1.97 cfs 0.122 af
SubcatchmentE15: E15	Runoff Area=1.926 ac 26.90% Impervious Runoff Depth=2.40" Tc=12.0 min CN=WQ Runoff=6.23 cfs 0.385 af

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SubcatchmentE16: E16	Runoff Area=1.374 ac 25.84% Impervious Runoff Depth=2.38" Tc=12.0 min CN=WQ Runoff=4.41 cfs 0.272 af
SubcatchmentE17: E17	Runoff Area=0.991 ac 20.48% Impervious Runoff Depth=2.26" Tc=12.0 min CN=WQ Runoff=3.05 cfs 0.186 af
SubcatchmentE18: E18	Runoff Area=1.734 ac 9.86% Impervious Runoff Depth=2.02" Tc=15.0 min CN=WQ Runoff=4.41 cfs 0.292 af
SubcatchmentE21: E21	Runoff Area=0.376 ac 3.46% Impervious Runoff Depth=1.87" Tc=12.0 min CN=WQ Runoff=1.00 cfs 0.059 af
SubcatchmentE22: E22	Runoff Area=0.511 ac 11.94% Impervious Runoff Depth=2.06" Tc=12.0 min CN=WQ Runoff=1.46 cfs 0.088 af
SubcatchmentE22_100: E22_100	Runoff Area=0.075 ac 56.00% Impervious Runoff Depth=3.05" Tc=12.0 min CN=WQ Runoff=0.30 cfs 0.019 af
SubcatchmentE23: E23	Runoff Area=1.215 ac 7.98% Impervious Runoff Depth=1.98" Tc=12.0 min CN=WQ Runoff=3.36 cfs 0.200 af
SubcatchmentE29: E29	Runoff Area=1.254 ac 16.11% Impervious Runoff Depth=2.16" Tc=12.0 min CN=WQ Runoff=3.72 cfs 0.225 af
SubcatchmentF5: F5	Runoff Area=1.224 ac 21.24% Impervious Runoff Depth=2.27" Tc=12.0 min CN=WQ Runoff=3.79 cfs 0.232 af
SubcatchmentF6: F6	Runoff Area=0.921 ac 21.06% Impervious Runoff Depth=2.27" Tc=12.0 min CN=WQ Runoff=2.85 cfs 0.174 af
SubcatchmentF7: F7	Runoff Area=0.667 ac 11.69% Impervious Runoff Depth=2.06" Tc=12.0 min CN=WQ Runoff=1.91 cfs 0.114 af
SubcatchmentF8: F8	Runoff Area=1.906 ac 16.00% Impervious Runoff Depth=2.16" Tc=15.0 min CN=WQ Runoff=5.11 cfs 0.342 af
SubcatchmentH5: H5	Runoff Area=2.168 ac 27.21% Impervious Runoff Depth=2.20" Tc=12.0 min CN=WQ Runoff=6.31 cfs 0.398 af
SubcatchmentH6: H6	Runoff Area=1.008 ac 19.54% Impervious Runoff Depth=1.70" Tc=12.0 min CN=WQ Runoff=2.20 cfs 0.143 af
SubcatchmentH7: H7	Runoff Area=1.176 ac 19.64% Impervious Runoff Depth=1.81" Tc=12.0 min CN=WQ Runoff=2.78 cfs 0.178 af
SubcatchmentI14: I14	Runoff Area=0.270 ac 27.78% Impervious Runoff Depth=2.42" Tc=12.0 min CN=WQ Runoff=0.88 cfs 0.054 af
SubcatchmentI7: I7	Runoff Area=0.610 ac 22.62% Impervious Runoff Depth=2.30" Tc=12.0 min CN=WQ Runoff=1.91 cfs 0.117 af

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SubcatchmentI7_100: I7_100	Runoff Area=0.205 ac 7.32% Impervious Runoff Depth=1.96" Tc=12.0 min CN=WQ Runoff=0.56 cfs 0.033 af
SubcatchmentI8: I8	Runoff Area=1.003 ac 25.12% Impervious Runoff Depth=2.36" Tc=12.0 min CN=WQ Runoff=3.20 cfs 0.197 af
SubcatchmentI8_100: I8_100	Runoff Area=0.170 ac 25.88% Impervious Runoff Depth=2.38" Tc=12.0 min CN=WQ Runoff=0.55 cfs 0.034 af
SubcatchmentI9: I9	Runoff Area=0.256 ac 27.73% Impervious Runoff Depth=2.42" Tc=12.0 min CN=WQ Runoff=0.83 cfs 0.052 af
SubcatchmentJ3: J3	Runoff Area=1.496 ac 20.32% Impervious Runoff Depth=2.25" Tc=12.0 min CN=WQ Runoff=4.60 cfs 0.281 af
SubcatchmentJ4: J4	Runoff Area=0.310 ac 0.00% Impervious Runoff Depth=1.80" Tc=12.0 min CN=74 Runoff=0.80 cfs 0.046 af
SubcatchmentJ5: J5	Runoff Area=0.683 ac 17.72% Impervious Runoff Depth=2.19" Tc=12.0 min CN=WQ Runoff=2.05 cfs 0.125 af
SubcatchmentL10: L10	Runoff Area=1.158 ac 17.53% Impervious Runoff Depth=2.19" Tc=12.0 min CN=WQ Runoff=3.48 cfs 0.211 af
SubcatchmentL4: L4	Runoff Area=0.167 ac 20.96% Impervious Runoff Depth=2.24" Tc=12.0 min CN=WQ Runoff=0.51 cfs 0.031 af
SubcatchmentL5: L5	Runoff Area=0.763 ac 22.02% Impervious Runoff Depth=2.29" Tc=12.0 min CN=WQ Runoff=2.38 cfs 0.146 af
SubcatchmentL6: L6	Runoff Area=1.091 ac 19.98% Impervious Runoff Depth=2.24" Tc=12.0 min CN=WQ Runoff=3.34 cfs 0.204 af
SubcatchmentL7: L7	Runoff Area=0.759 ac 21.21% Impervious Runoff Depth=2.27" Tc=12.0 min CN=WQ Runoff=2.35 cfs 0.144 af
SubcatchmentL8: L8	Runoff Area=1.441 ac 22.07% Impervious Runoff Depth=2.19" Tc=12.0 min CN=WQ Runoff=4.27 cfs 0.263 af
SubcatchmentL9: L9	Runoff Area=0.971 ac 21.11% Impervious Runoff Depth=2.26" Tc=12.0 min CN=WQ Runoff=2.99 cfs 0.183 af
SubcatchmentO10: O10	Runoff Area=0.609 ac 15.44% Impervious Runoff Depth=2.14" Tc=12.0 min CN=WQ Runoff=1.80 cfs 0.109 af
SubcatchmentO8: O8	Runoff Area=0.490 ac 12.24% Impervious Runoff Depth=2.07" Tc=12.0 min CN=WQ Runoff=1.41 cfs 0.085 af
SubcatchmentO9: O9	Runoff Area=1.143 ac 19.86% Impervious Runoff Depth=2.24" Tc=12.0 min CN=WQ Runoff=3.50 cfs 0.214 af

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SubcatchmentW6: W6	Runoff Area=9.984 ac 9.85% Impervious Runoff Depth=2.00" Flow Length=780' Tc=27.0 min CN=WQ Runoff=18.37 cfs 1.665 af
SubcatchmentW6_100: W6_100	Runoff Area=0.217 ac 0.00% Impervious Runoff Depth=1.76" Flow Length=550' Tc=42.4 min CN=WQ Runoff=0.27 cfs 0.032 af
SubcatchmentW6_101: W6_101	Runoff Area=2.158 ac 13.44% Impervious Runoff Depth=2.08" Flow Length=605' Tc=19.1 min CN=WQ Runoff=4.95 cfs 0.374 af
SubcatchmentW6_102: W6_102	Runoff Area=0.261 ac 0.00% Impervious Runoff Depth=1.80" Tc=15.5 min CN=74 Runoff=0.59 cfs 0.039 af
SubcatchmentW9: W9	Runoff Area=1.787 ac 12.14% Impervious Runoff Depth=2.06" Tc=12.0 min CN=WQ Runoff=5.11 cfs 0.307 af
SubcatchmentW9_100: W9_100	Runoff Area=2.497 ac 22.31% Impervious Runoff Depth=2.30" Flow Length=1,013' Tc=34.0 min CN=WQ Runoff=4.51 cfs 0.478 af
SubcatchmentW9_101: W9_101	Runoff Area=0.539 ac 49.17% Impervious Runoff Depth=2.90" Flow Length=300' Slope=0.0570 '/' Tc=16.4 min CN=WQ Runoff=1.77 cfs 0.130 af
Reach 1R: Bassett Creek Watershed	Inflow=40.55 cfs 24.570 af Outflow=40.55 cfs 24.570 af
Reach 5R: Elm Creek Watershed	Inflow=5.65 cfs 1.216 af Outflow=5.65 cfs 1.216 af
Reach 8R: Offsite	Inflow=0.13 cfs 0.008 af Outflow=0.13 cfs 0.008 af
Reach Wetland: Wetland 6	Inflow=40.50 cfs 24.562 af Outflow=40.50 cfs 24.562 af
Pond 4P: CB_22 pipe	Peak Elev=970.33' Inflow=0.83 cfs 0.052 af Outflow=0.83 cfs 0.052 af
Pond CB_A10: CB_A10	Peak Elev=998.16' Storage=53 cf Inflow=1.55 cfs 0.093 af Primary=1.54 cfs 0.093 af Secondary=0.00 cfs 0.000 af Outflow=1.54 cfs 0.093 af
Pond CB_A11: CB_A11	Peak Elev=996.37' Storage=290 cf Inflow=5.38 cfs 0.325 af Primary=5.29 cfs 0.325 af Secondary=0.00 cfs 0.000 af Outflow=5.29 cfs 0.325 af
Pond CB_A12: CB_A12	Peak Elev=998.19' Storage=244 cf Inflow=3.03 cfs 0.185 af Primary=1.93 cfs 0.119 af Secondary=1.06 cfs 0.066 af Outflow=3.00 cfs 0.185 af
Pond CB_A20: CB_A20	Peak Elev=1,000.74' Storage=352 cf Inflow=2.35 cfs 0.144 af Primary=2.21 cfs 0.144 af Secondary=0.00 cfs 0.000 af Outflow=2.21 cfs 0.144 af
Pond CB_A7: CB_A7	Peak Elev=998.21' Storage=91 cf Inflow=2.27 cfs 0.141 af Primary=2.25 cfs 0.141 af Secondary=0.00 cfs 0.000 af Outflow=2.25 cfs 0.141 af

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Pond CB_A8: CB_A8	Peak Elev=996.26' Storage=40 cf Inflow=2.99 cfs 0.187 af Outflow=2.98 cfs 0.187 af
Pond CB_A9: CB_A9	Peak Elev=998.27' Storage=51 cf Inflow=3.16 cfs 0.189 af Primary=3.16 cfs 0.189 af Secondary=0.00 cfs 0.000 af Outflow=3.16 cfs 0.189 af
Pond CB_C10: CB_C10	Peak Elev=994.42' Storage=357 cf Inflow=6.52 cfs 0.401 af Primary=6.40 cfs 0.401 af Secondary=0.00 cfs 0.000 af Outflow=6.40 cfs 0.401 af
Pond CB_C7: CB_C7	Peak Elev=992.87' Storage=217 cf Inflow=5.21 cfs 0.323 af Primary=5.16 cfs 0.323 af Secondary=0.00 cfs 0.000 af Outflow=5.16 cfs 0.323 af
Pond CB_C8: CB_C8	Peak Elev=991.41' Storage=84 cf Inflow=6.02 cfs 0.379 af Outflow=6.02 cfs 0.379 af
Pond CB_C9: CB_C9	Peak Elev=992.42' Storage=210 cf Inflow=6.26 cfs 0.381 af Primary=6.22 cfs 0.381 af Secondary=0.00 cfs 0.000 af Outflow=6.22 cfs 0.381 af
Pond CB_E13: CB_E13	Peak Elev=1,009.69' Storage=20 cf Inflow=1.97 cfs 0.122 af Primary=1.97 cfs 0.122 af Secondary=0.00 cfs 0.000 af Outflow=1.97 cfs 0.122 af
Pond CB_E15: CB_E15	Peak Elev=992.52' Storage=176 cf Inflow=8.66 cfs 0.419 af Outflow=8.63 cfs 0.419 af
Pond CB_E16: CB_E16	Peak Elev=997.38' Storage=1,803 cf Inflow=11.71 cfs 0.750 af Primary=7.82 cfs 0.716 af Secondary=3.01 cfs 0.034 af Outflow=10.83 cfs 0.750 af
Pond CB_E21: CB_E21	Peak Elev=1,000.12' Storage=33 cf Inflow=1.00 cfs 0.059 af Primary=0.99 cfs 0.059 af Secondary=0.00 cfs 0.000 af Outflow=0.99 cfs 0.059 af
Pond CB_E22: CB_E22	Peak Elev=1,002.18' Storage=59 cf Inflow=1.76 cfs 0.107 af Primary=1.75 cfs 0.107 af Secondary=0.00 cfs 0.000 af Outflow=1.75 cfs 0.107 af
Pond CB_E23: CB_E23	Peak Elev=1,002.27' Storage=159 cf Inflow=3.36 cfs 0.200 af Primary=3.32 cfs 0.200 af Secondary=0.00 cfs 0.000 af Outflow=3.32 cfs 0.200 af
Pond CB_E29: CB_E29	Peak Elev=996.02' Storage=516 cf Inflow=3.72 cfs 0.225 af Outflow=3.44 cfs 0.225 af
Pond CB_F5: CB_F5	Peak Elev=983.30' Storage=119 cf Inflow=3.79 cfs 0.232 af Outflow=3.76 cfs 0.232 af
Pond CB_F6: CB_F6	Peak Elev=985.25' Storage=60 cf Inflow=2.85 cfs 0.174 af Primary=2.84 cfs 0.174 af Secondary=0.00 cfs 0.000 af Outflow=2.84 cfs 0.174 af
Pond CB_F7: CB_F7	Peak Elev=984.46' Storage=1,928 cf Inflow=6.96 cfs 0.457 af Primary=5.39 cfs 0.457 af Secondary=0.00 cfs 0.000 af Outflow=5.39 cfs 0.457 af
Pond CB_H5: CB_H5	Peak Elev=972.42' Storage=223 cf Inflow=6.31 cfs 0.398 af Outflow=6.26 cfs 0.398 af

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Pond CB_H6: CB_H6	Peak Elev=973.21' Storage=118 cf Inflow=2.20 cfs 0.143 af Primary=2.16 cfs 0.143 af Secondary=0.00 cfs 0.000 af Outflow=2.16 cfs 0.143 af
Pond CB_H7: CB_H7	Peak Elev=974.23' Storage=577 cf Inflow=2.78 cfs 0.178 af Primary=2.59 cfs 0.177 af Secondary=0.00 cfs 0.000 af Outflow=2.59 cfs 0.177 af
Pond CB_I14: CB_I14	Peak Elev=985.67' Storage=187 cf Inflow=1.91 cfs 0.116 af Primary=1.86 cfs 0.116 af Secondary=0.00 cfs 0.000 af Outflow=1.86 cfs 0.116 af
Pond CB_I7: CB_I7	Peak Elev=986.22' Storage=109 cf Inflow=2.47 cfs 0.151 af Primary=2.45 cfs 0.151 af Secondary=0.00 cfs 0.000 af Outflow=2.45 cfs 0.151 af
Pond CB_I8: CB_I8	Peak Elev=987.30' Storage=49 cf Inflow=3.75 cfs 0.231 af Primary=3.74 cfs 0.231 af Secondary=0.00 cfs 0.000 af Outflow=3.74 cfs 0.231 af
Pond CB_I9: CB_I9	Peak Elev=978.11' Storage=8 cf Inflow=0.83 cfs 0.052 af Primary=0.83 cfs 0.052 af Secondary=0.00 cfs 0.000 af Outflow=0.83 cfs 0.052 af
Pond CB_J3: CB_J3	Peak Elev=991.34' Storage=89 cf Inflow=4.60 cfs 0.281 af Primary=4.59 cfs 0.281 af Secondary=0.00 cfs 0.000 af Outflow=4.59 cfs 0.281 af
Pond CB_J4: CB_J4	Peak Elev=994.81' Storage=489 cf Inflow=2.85 cfs 0.171 af Primary=2.57 cfs 0.171 af Secondary=0.00 cfs 0.000 af Outflow=2.57 cfs 0.171 af
Pond CB_L4: CB_L4	Peak Elev=978.08' Storage=8 cf Inflow=0.51 cfs 0.031 af Primary=0.51 cfs 0.031 af Secondary=0.00 cfs 0.000 af Outflow=0.51 cfs 0.031 af
Pond CB_L5: CB_L5	Peak Elev=977.77' Storage=55 cf Inflow=3.23 cfs 0.218 af Primary=3.23 cfs 0.218 af Secondary=0.00 cfs 0.000 af Outflow=3.23 cfs 0.218 af
Pond CB_L6: CB_L6	Peak Elev=978.18' Storage=1,219 cf Inflow=3.34 cfs 0.204 af Primary=1.77 cfs 0.132 af Secondary=0.98 cfs 0.072 af Outflow=2.75 cfs 0.204 af
Pond CB_L7: CB_L7	Peak Elev=979.22' Storage=42 cf Inflow=2.35 cfs 0.144 af Primary=2.34 cfs 0.144 af Secondary=0.00 cfs 0.000 af Outflow=2.34 cfs 0.144 af
Pond CB_L8: CB_L8	Peak Elev=980.32' Storage=303 cf Inflow=4.27 cfs 0.263 af Primary=4.14 cfs 0.263 af Secondary=0.00 cfs 0.000 af Outflow=4.14 cfs 0.263 af
Pond CB_L9: CB_L9	Peak Elev=983.28' Storage=1,943 cf Inflow=6.47 cfs 0.394 af Primary=4.77 cfs 0.394 af Secondary=0.00 cfs 0.000 af Outflow=4.77 cfs 0.394 af
Pond CB_O10: CB_O10	Peak Elev=978.18' Storage=52 cf Inflow=1.80 cfs 0.109 af Primary=1.79 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=1.79 cfs 0.109 af
Pond CB_O8: CB_O8	Peak Elev=975.65' Storage=16 cf Inflow=1.41 cfs 0.085 af Primary=1.41 cfs 0.085 af Secondary=0.00 cfs 0.000 af Outflow=1.41 cfs 0.085 af
Pond CB_O9: CB_O9	Peak Elev=978.28' Storage=72 cf Inflow=3.50 cfs 0.214 af Primary=3.49 cfs 0.214 af Secondary=0.00 cfs 0.000 af Outflow=3.49 cfs 0.214 af

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Pond P1N: Pond 1N Peak Elev=1,010.26' Storage=5.140 af Inflow=17.58 cfs 1.105 af
Primary=1.09 cfs 0.602 af Secondary=0.00 cfs 0.000 af Outflow=1.09 cfs 0.602 af

Pond P1S: Pond 1S Peak Elev=969.37' Storage=10.824 af Inflow=81.81 cfs 21.325 af
Primary=21.79 cfs 20.904 af Secondary=0.00 cfs 0.000 af Outflow=21.79 cfs 20.904 af

Pond P2S: Pond 2S Peak Elev=970.32' Storage=107,282 cf Inflow=24.57 cfs 1.557 af
Primary=7.91 cfs 1.547 af Secondary=0.00 cfs 0.000 af Outflow=7.91 cfs 1.547 af

Pond P3S: Pond 3S Peak Elev=974.67' Storage=200,905 cf Inflow=44.43 cfs 2.835 af
Primary=9.35 cfs 2.800 af Secondary=0.00 cfs 0.000 af Outflow=9.35 cfs 2.800 af

Pond P4S: Pond 4S Peak Elev=970.01' Storage=152,676 cf Inflow=67.41 cfs 14.788 af
Primary=31.45 cfs 14.670 af Secondary=0.00 cfs 0.000 af Outflow=31.45 cfs 14.670 af

Pond P5S: Pond 5S Peak Elev=979.65' Storage=1,480,787 cf Inflow=171.47 cfs 11.108 af
Primary=10.08 cfs 10.489 af Secondary=0.00 cfs 0.000 af Outflow=10.08 cfs 10.489 af

Pond Wetland 9: Wetland 9 Peak Elev=1,010.24' Storage=0.542 af Inflow=9.60 cfs 1.517 af
Outflow=5.65 cfs 1.216 af

Total Runoff Area = 136.736 ac Runoff Volume = 27.793 af Average Runoff Depth = 2.44"
68.02% Pervious = 93.005 ac 31.98% Impervious = 43.731 ac

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 1N: 1N

Runoff = 16.08 cfs @ 12.20 hrs, Volume= 1.000 af, Depth= 2.48"

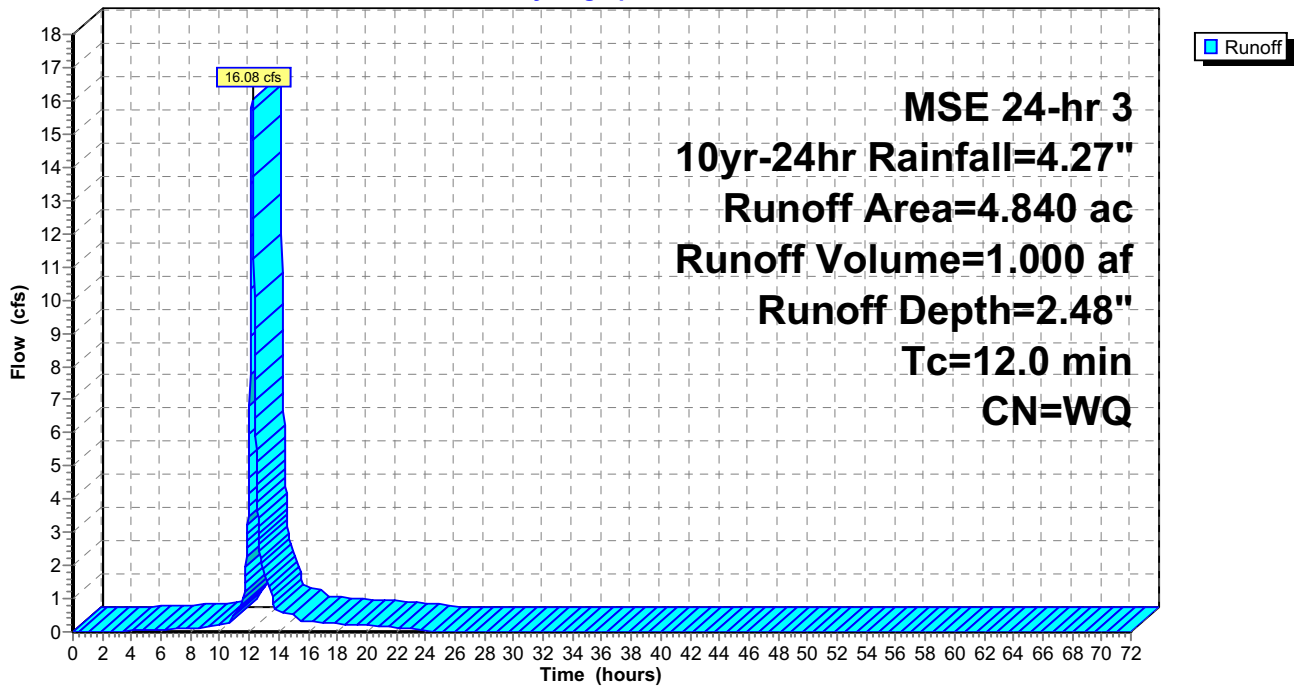
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.646	98	Impervious
3.366	74	>75% Grass cover, Good, HSG C
* 0.828	98	Pond
4.840		Weighted Average
3.366		69.55% Pervious Area
1.474		30.45% Impervious Area

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

Subcatchment 1N: 1N

Hydrograph



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Summary for Subcatchment 1N_100: 1N_100

Runoff = 1.56 cfs @ 12.23 hrs, Volume= 0.106 af, Depth= 2.29"

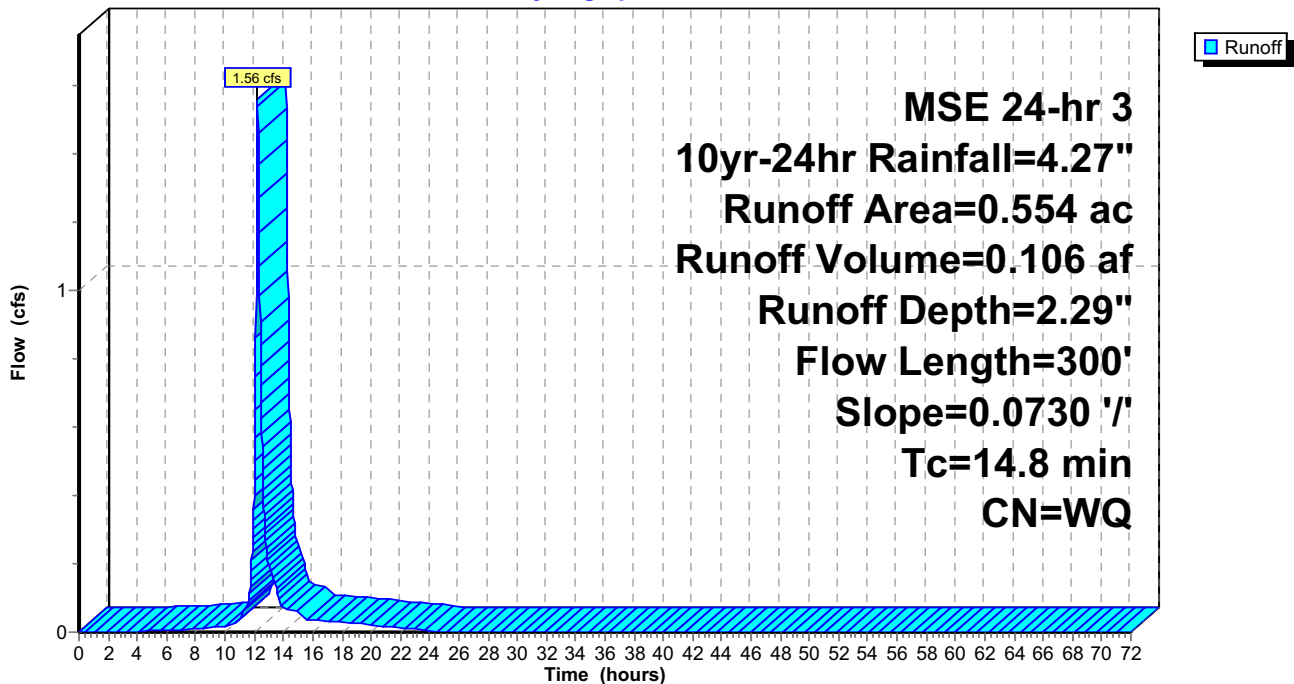
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.318	74	>75% Grass cover, Good, HSG C
* 0.126	98	Impervious
0.110	73	Woods, Fair, HSG C
0.554		Weighted Average
0.428		77.26% Pervious Area
0.126		22.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	300	0.0730	0.34		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1N_100: 1N_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 1S: 1S

Runoff = 48.68 cfs @ 12.20 hrs, Volume= 3.137 af, Depth= 2.78"

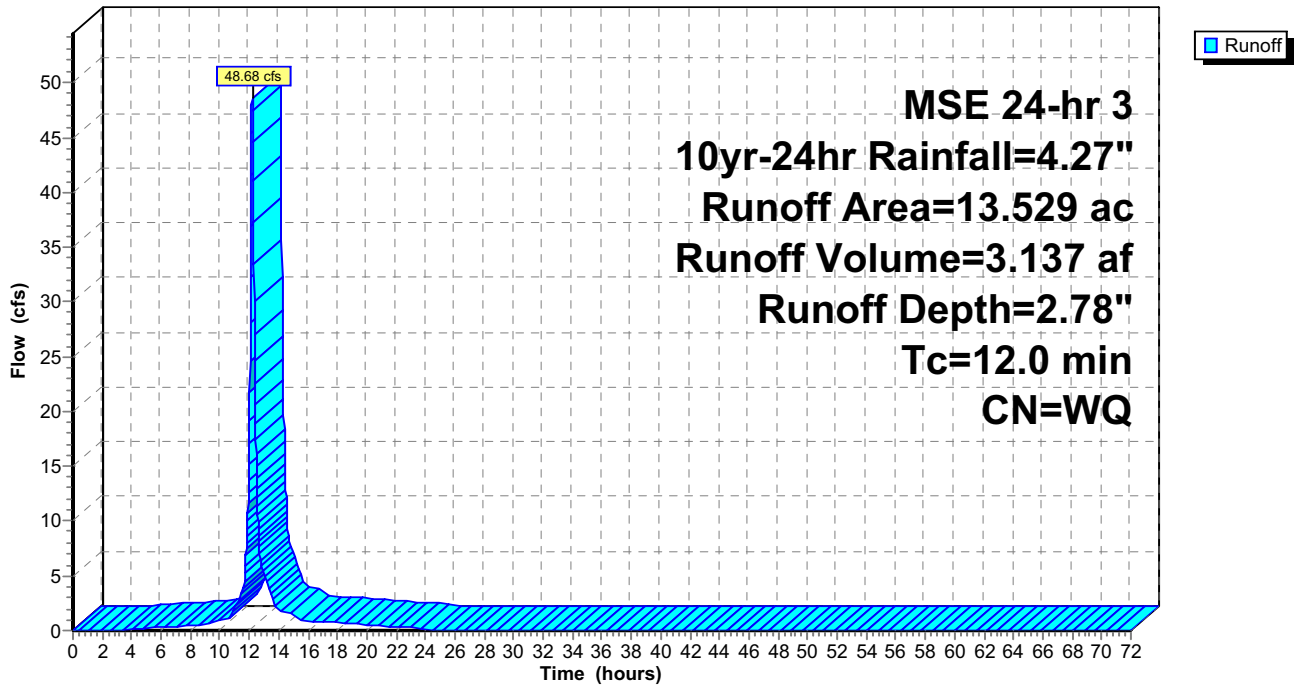
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 4.837	98	Impervious
1.856	61	>75% Grass cover, Good, HSG B
3.595	74	>75% Grass cover, Good, HSG C
1.419	74	>75% Grass cover, Good, HSG C
* 1.822	98	Pond
13.529		Weighted Average
6.870		50.78% Pervious Area
6.659		49.22% Impervious Area

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

Subcatchment 1S: 1S

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 2S: 2S

Runoff = 15.79 cfs @ 12.20 hrs, Volume= 1.008 af, Depth= 2.91"

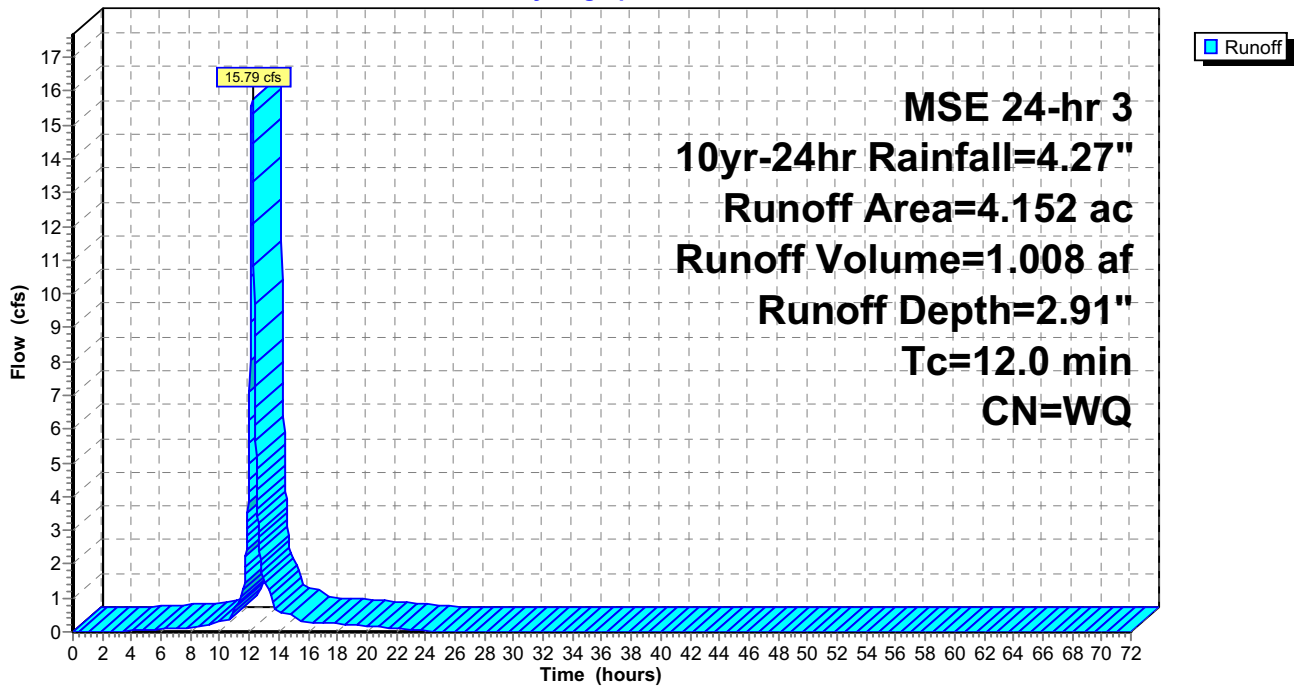
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 1.594	98	Impervious
2.082	74	>75% Grass cover, Good, HSG C
* 0.476	98	Pond
4.152		Weighted Average
2.082		50.14% Pervious Area
2.070		49.86% Impervious Area

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

Subcatchment 2S: 2S

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 3S: 3S

Runoff = 35.35 cfs @ 12.20 hrs, Volume= 2.241 af, Depth= 2.79"

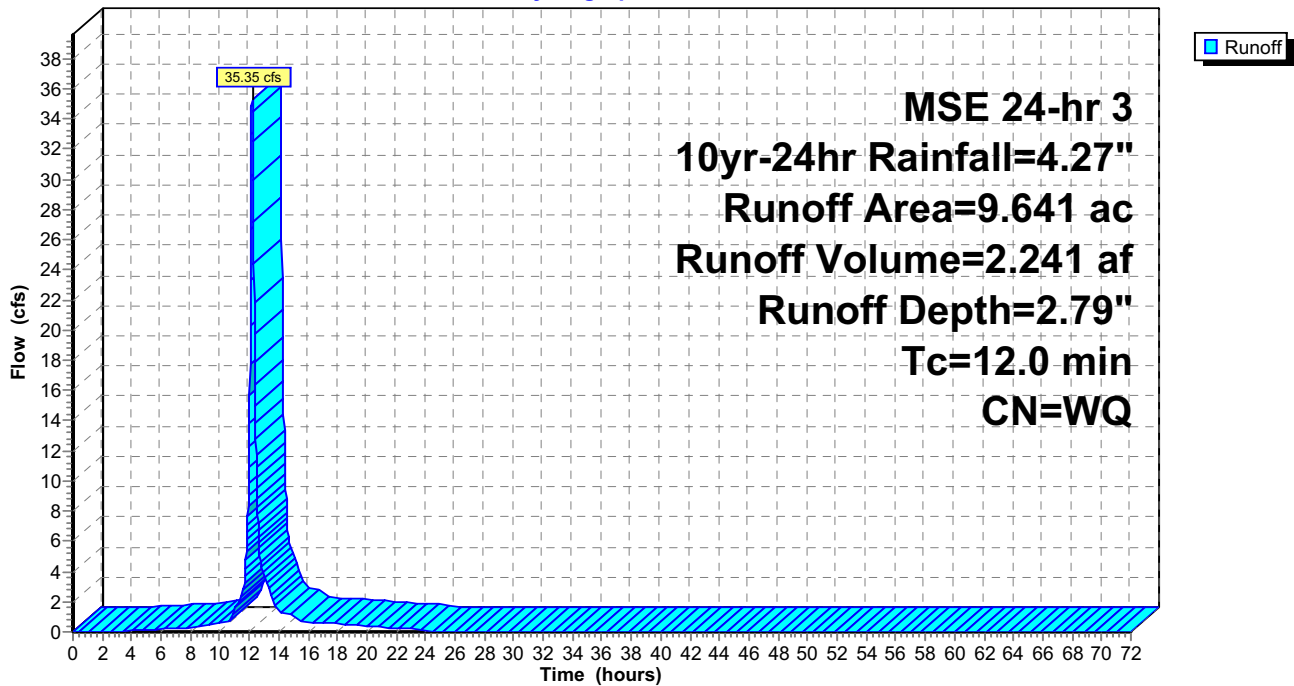
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 3.484	98	Impervious
5.363	74	>75% Grass cover, Good, HSG C
* 0.794	98	Pond
9.641		Weighted Average
5.363		55.63% Pervious Area
4.278		44.37% Impervious Area

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

Subcatchment 3S: 3S

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 3S_100: 3S_100

Runoff = 2.17 cfs @ 12.19 hrs, Volume= 0.142 af, Depth= 3.35"

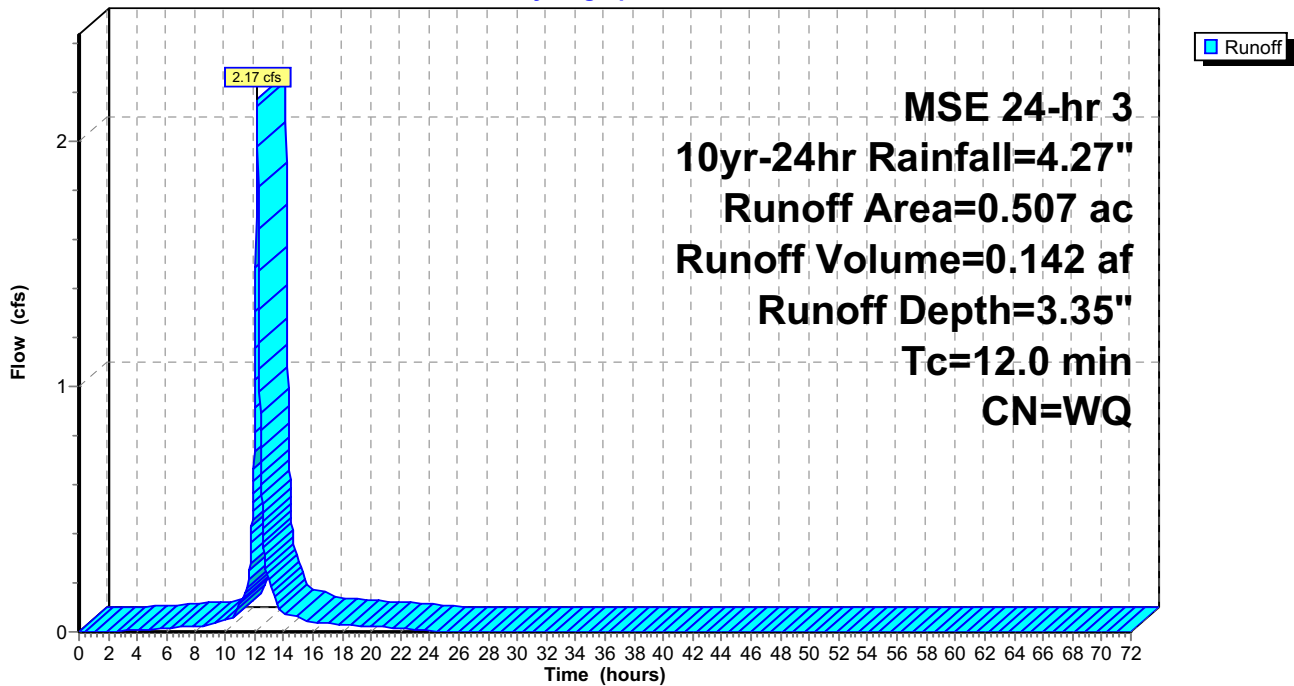
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.352	98	Impervious
0.031	74	>75% Grass cover, Good, HSG C
0.124	74	>75% Grass cover, Good, HSG C
0.507		Weighted Average
0.155		30.57% Pervious Area
0.352		69.43% Impervious Area

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

Subcatchment 3S_100: 3S_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 4S: 4S

Runoff = 28.83 cfs @ 12.20 hrs, Volume= 1.848 af, Depth= 2.36"

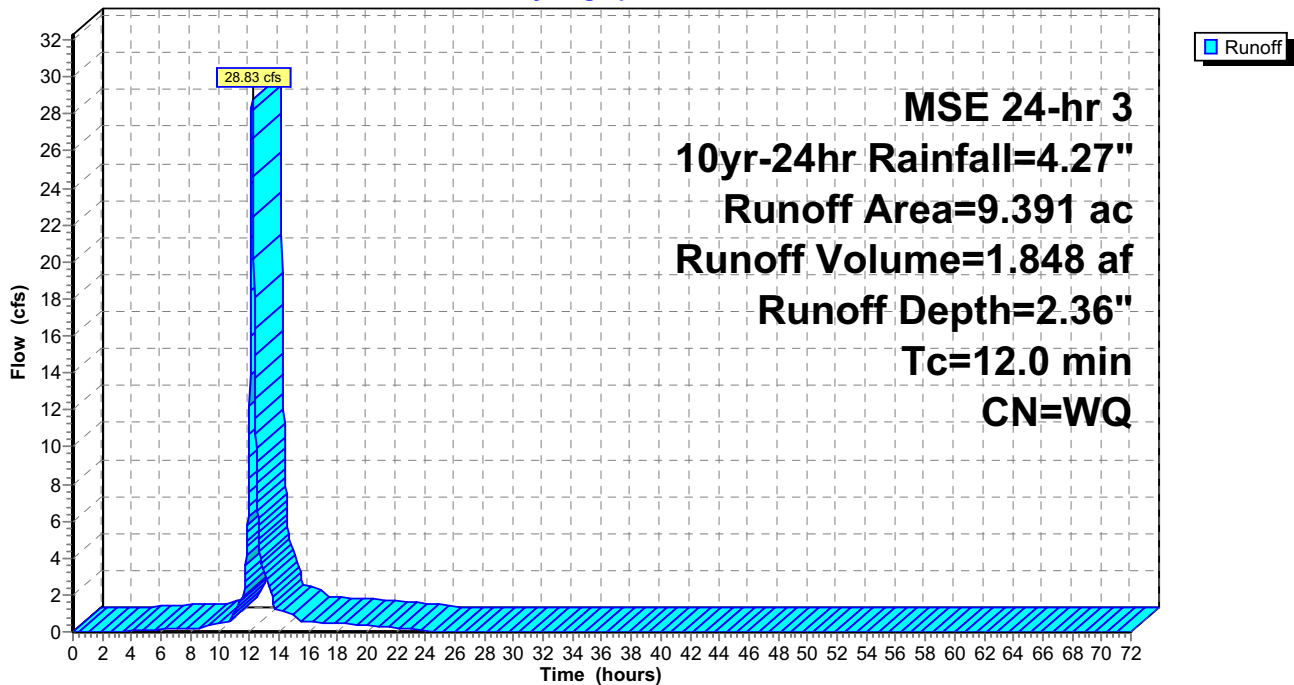
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 2.416	98	Impervious
2.605	61	>75% Grass cover, Good, HSG B
2.644	74	>75% Grass cover, Good, HSG C
0.606	74	>75% Grass cover, Good, HSG C
* 0.680	98	Pond
* 0.052	98	Impervious
* 0.200	98	Impervious
0.188	74	>75% Grass cover, Good, HSG C
9.391		Weighted Average
6.043		64.35% Pervious Area
3.348		35.65% Impervious Area

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

Subcatchment 4S: 4S

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 5S: 5S

Runoff = 101.52 cfs @ 12.20 hrs, Volume= 6.509 af, Depth= 2.70"

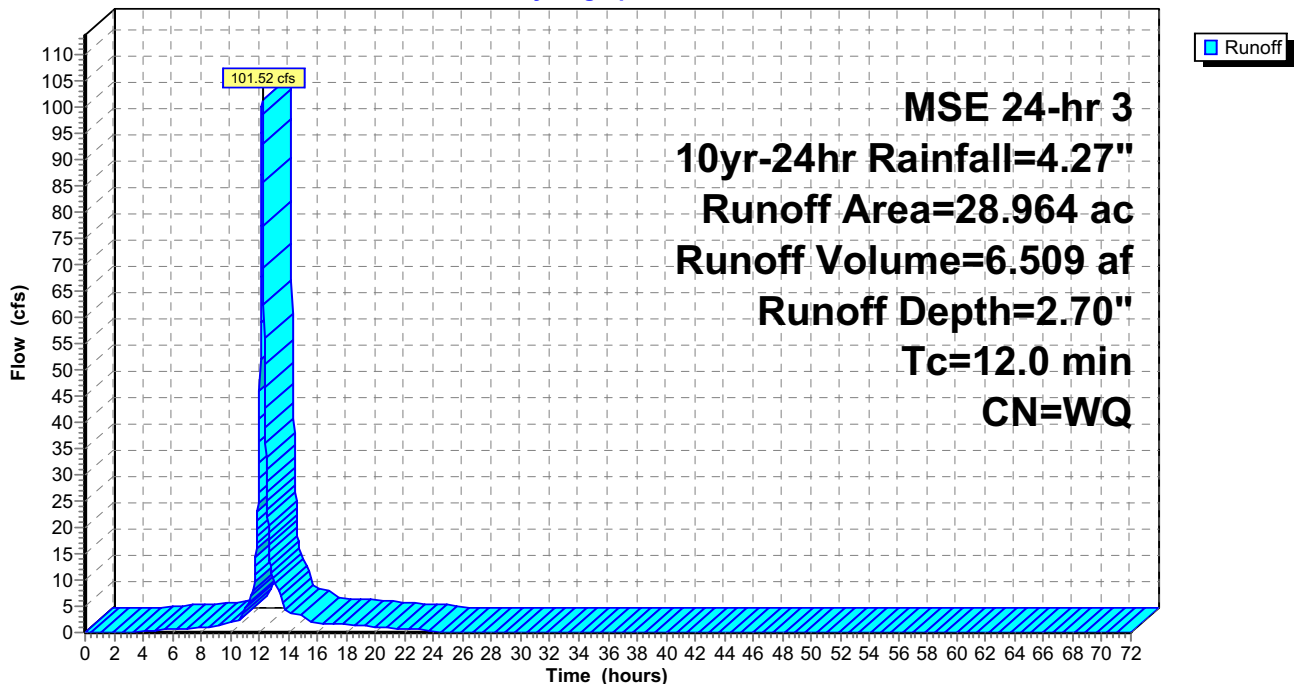
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 9.366	98	Impervious
2.568	39	>75% Grass cover, Good, HSG A
7.861	74	>75% Grass cover, Good, HSG C
4.450	74	>75% Grass cover, Good, HSG C
* 4.073	98	Pond
0.295	74	>75% Grass cover, Good, HSG C
* 0.080	98	Impervious
0.169	74	>75% Grass cover, Good, HSG C
* 0.102	98	Impervious
28.964		Weighted Average
15.343		52.97% Pervious Area
13.621		47.03% Impervious Area

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

Subcatchment 5S: 5S

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 5S_100: 5S_100

Runoff = 1.07 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 2.83"

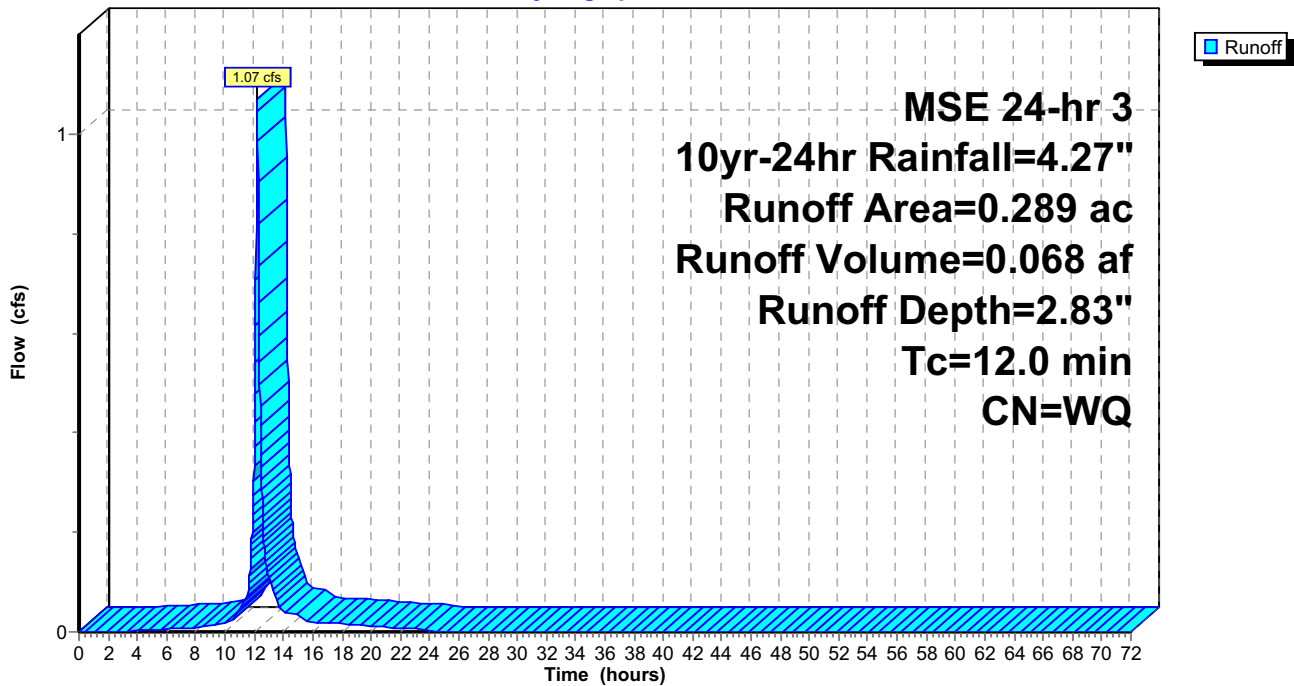
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.156	74	>75% Grass cover, Good, HSG C
* 0.055	98	Impervious
0.289		Weighted Average
0.156		53.98% Pervious Area
0.133		46.02% Impervious Area

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

Subcatchment 5S_100: 5S_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 10S: I14_100

Runoff = 1.04 cfs @ 12.20 hrs, Volume= 0.061 af, Depth= 1.95"

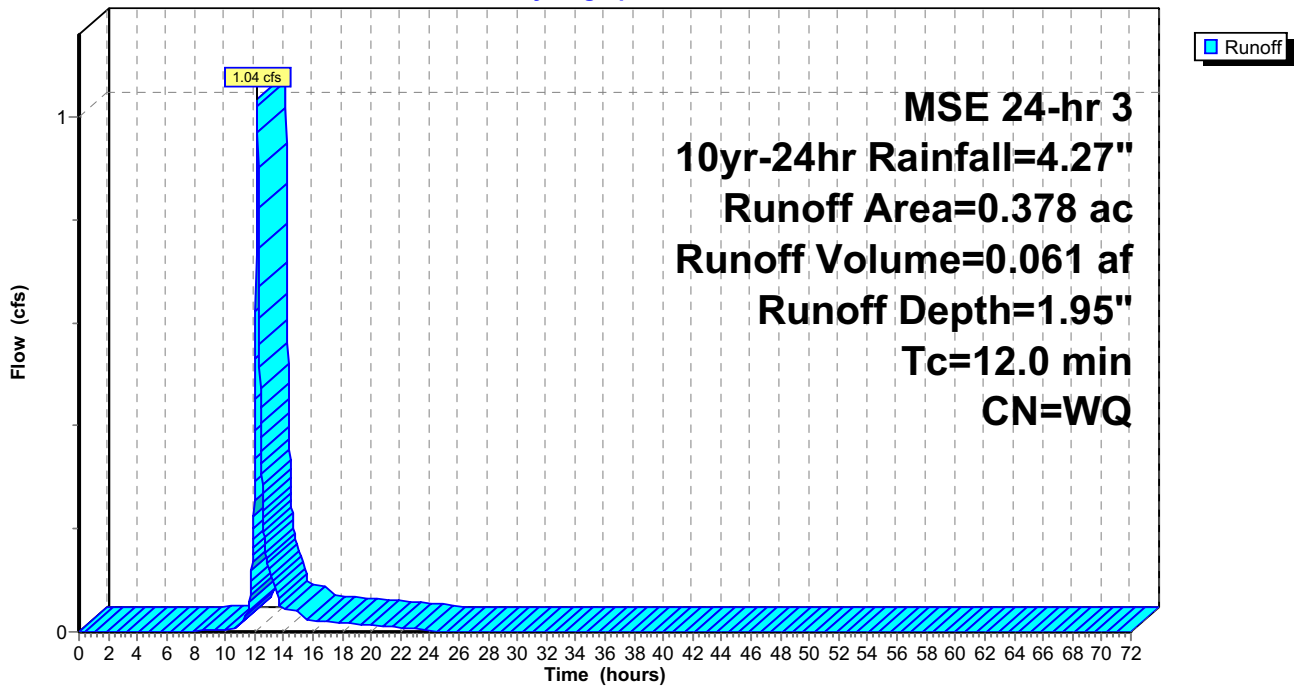
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
* 0.026	98	impervious
0.091	74	>75% Grass cover, Good, HSG C
0.378		Weighted Average
0.352		93.12% Pervious Area
0.026		6.88% Impervious Area

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

Subcatchment 10S: I14_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 1000: 1000

Runoff = 0.13 cfs @ 12.20 hrs, Volume= 0.008 af, Depth= 2.62"

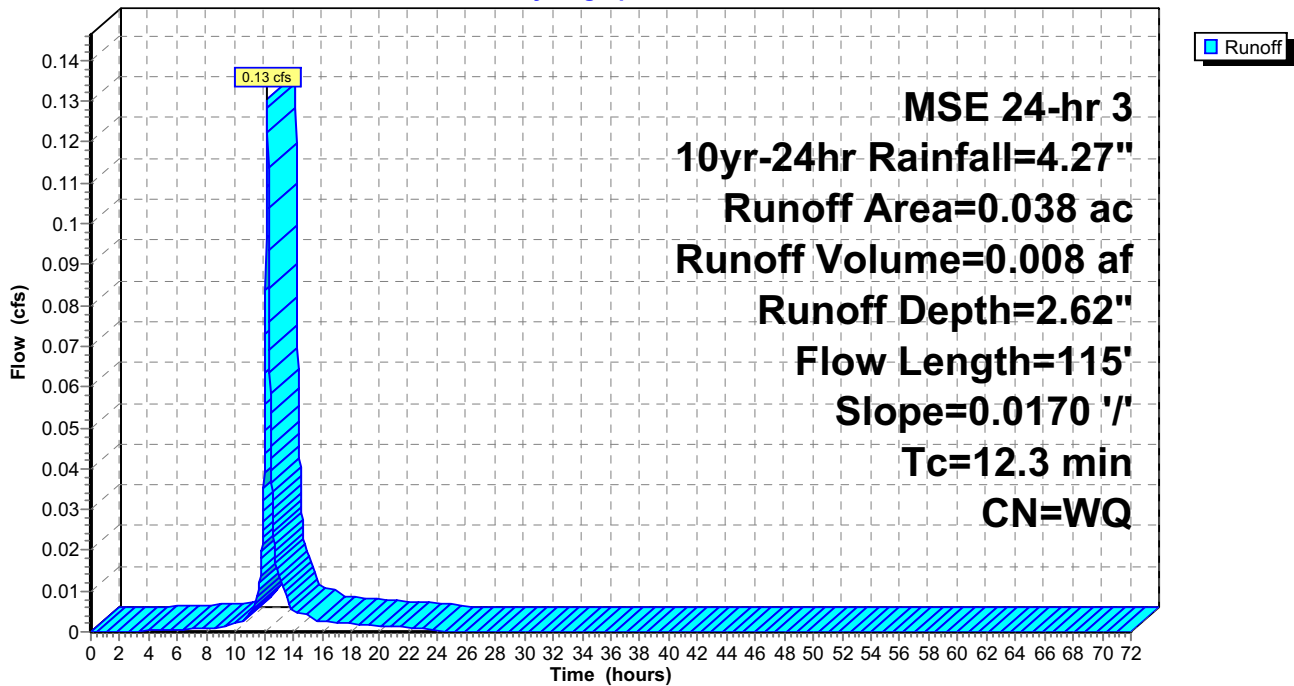
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.014	98	Impervious
0.024	74	>75% Grass cover, Good, HSG C
0.038		Weighted Average
0.024		63.16% Pervious Area
0.014		36.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	115	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1000: 1000

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A10: A10

Runoff = 1.55 cfs @ 12.20 hrs, Volume= 0.093 af, Depth= 2.02"

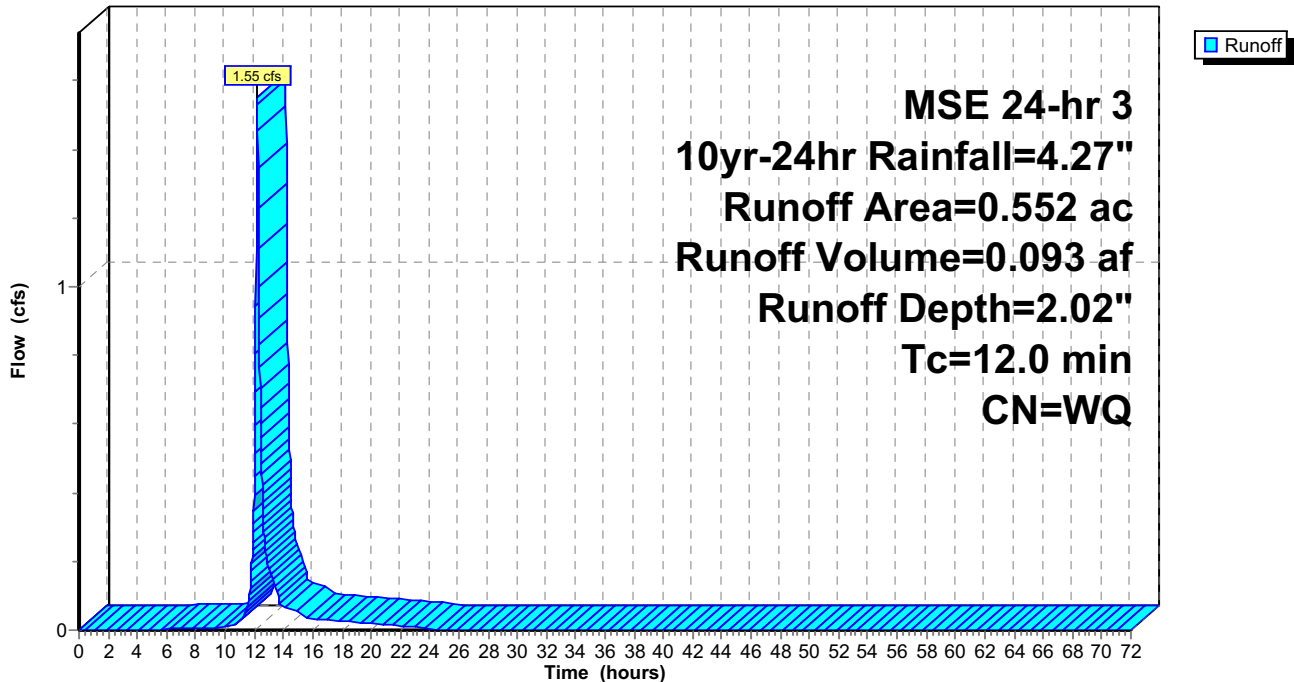
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.040	98	Impervious
0.337	74	>75% Grass cover, Good, HSG C
0.154	73	Woods, Fair, HSG C
* 0.021	98	Impervious
0.552		Weighted Average
0.491		88.95% Pervious Area
0.061		11.05% Impervious Area

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

Subcatchment A10: A10

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A11: A11

Runoff = 4.33 cfs @ 12.20 hrs, Volume= 0.260 af, Depth= 2.07"

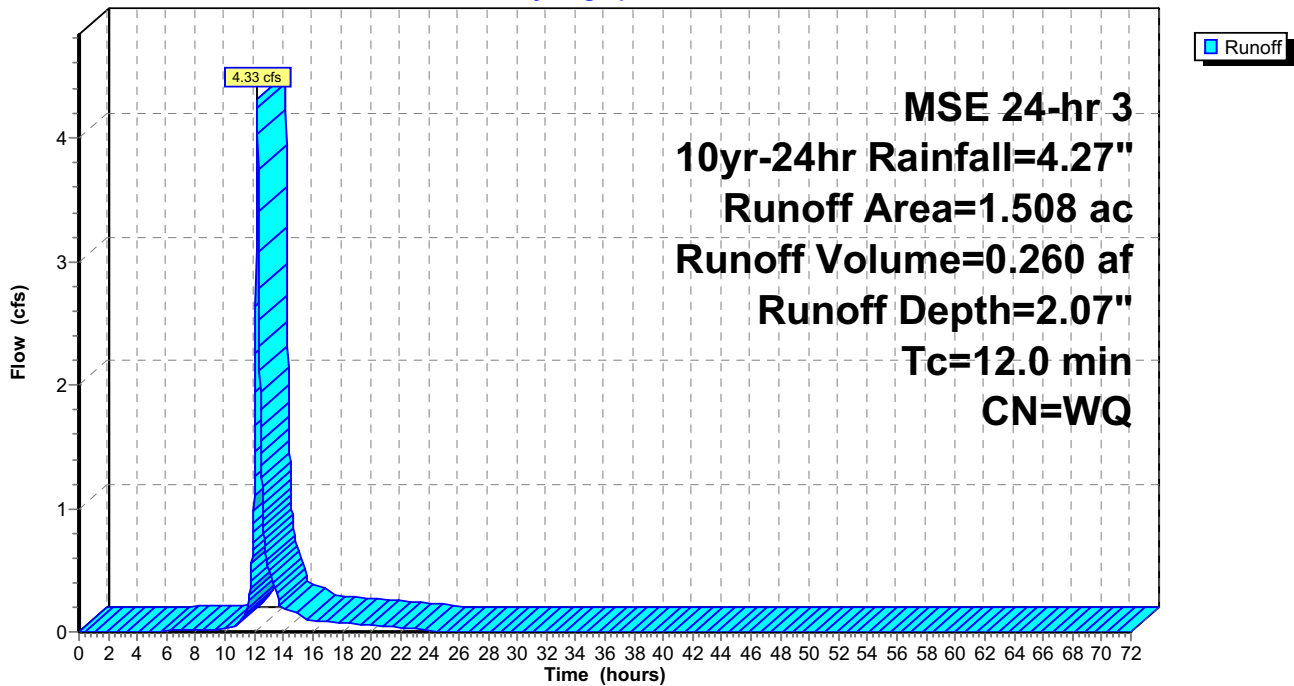
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.140	98	Impervious
1.326	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
1.508		Weighted Average
1.326		87.93% Pervious Area
0.182		12.07% Impervious Area

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

Subcatchment A11: A11

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A12: A12

Runoff = 2.33 cfs @ 12.20 hrs, Volume= 0.142 af, Depth= 2.17"

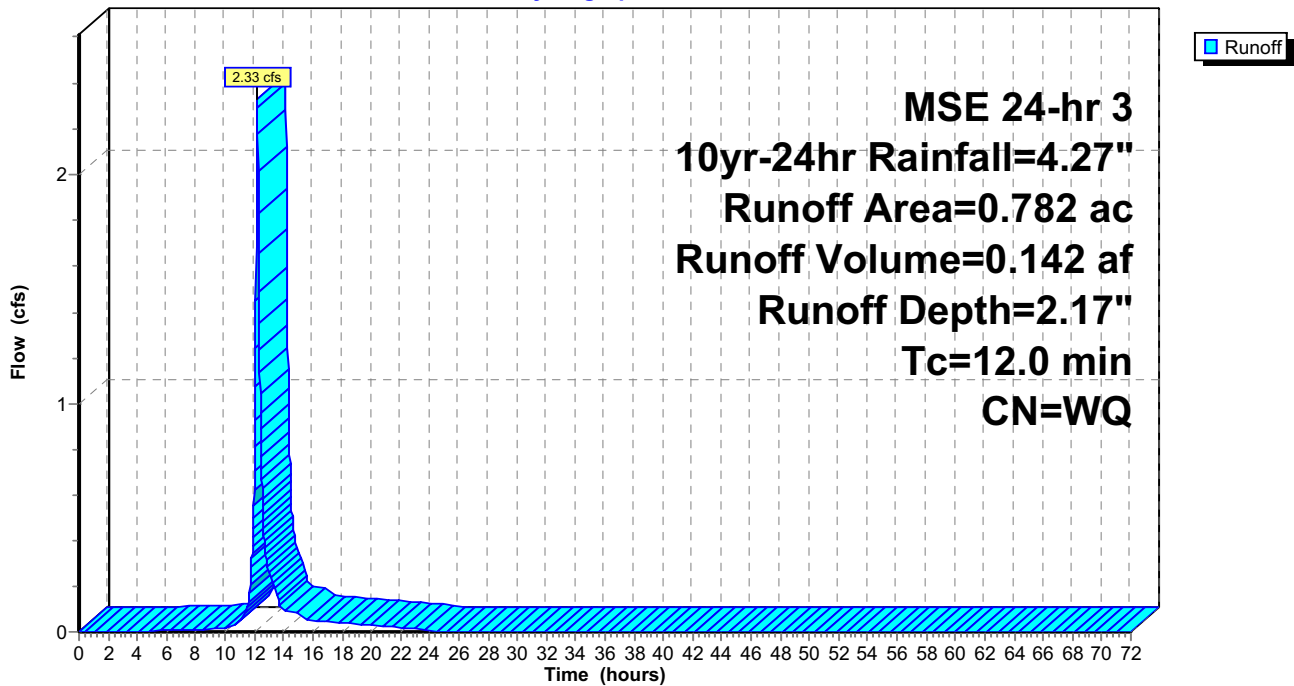
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.651	74	>75% Grass cover, Good, HSG C
* 0.080	98	Pond
* 0.051	98	Impervious
0.782		Weighted Average
0.651		83.25% Pervious Area
0.131		16.75% Impervious Area

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

Subcatchment A12: A12

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A12_100: A12_100

Runoff = 0.70 cfs @ 12.20 hrs, Volume= 0.043 af, Depth= 2.47"

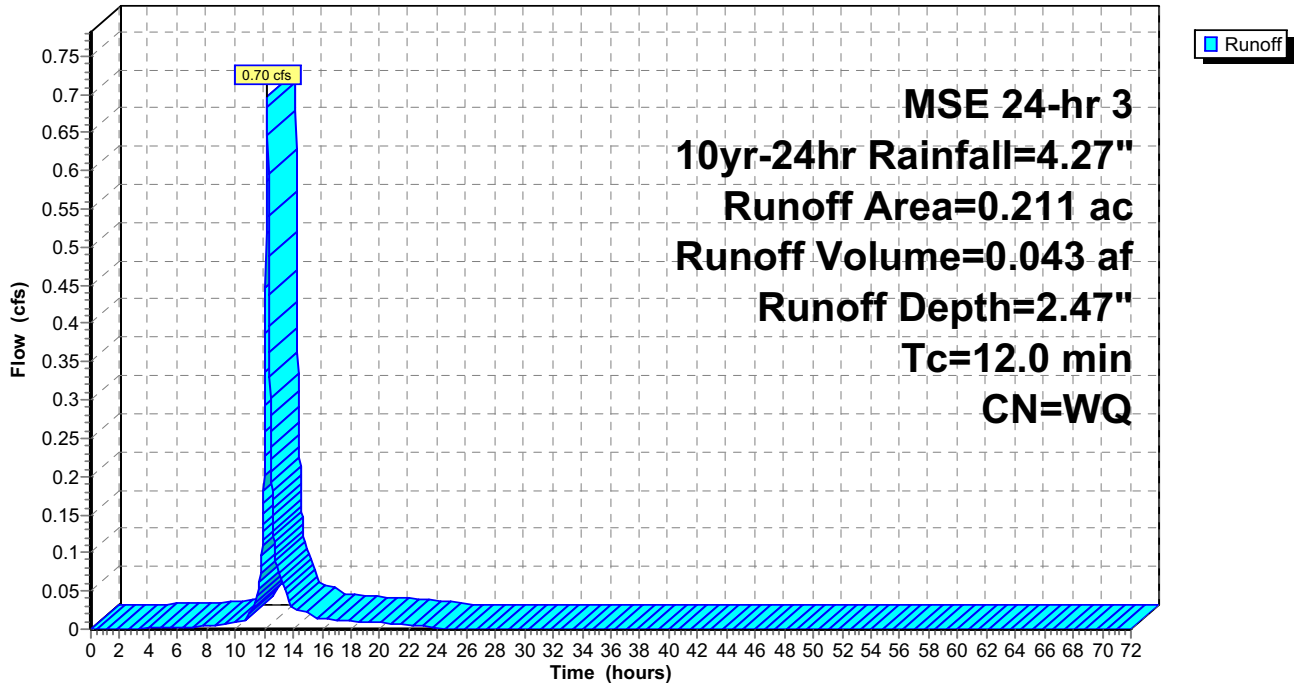
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.148	74	>75% Grass cover, Good, HSG C
* 0.063	98	Impervious
0.211		Weighted Average
0.148		70.14% Pervious Area
0.063		29.86% Impervious Area

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

Subcatchment A12_100: A12_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A20: A20

Runoff = 0.27 cfs @ 12.20 hrs, Volume= 0.016 af, Depth= 2.03"

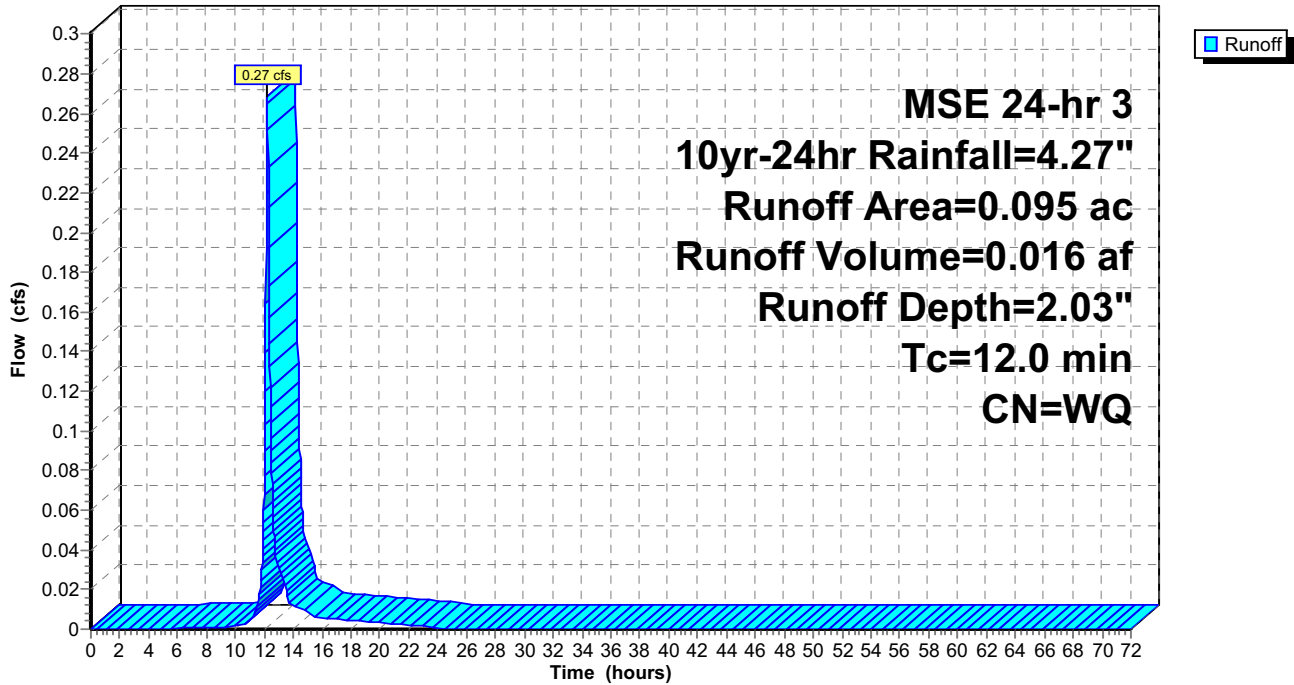
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.010	98	Impervious
0.085	74	>75% Grass cover, Good, HSG C
0.095		Weighted Average
0.085		89.47% Pervious Area
0.010		10.53% Impervious Area

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

Subcatchment A20: A20

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A21: A21

Runoff = 2.08 cfs @ 12.20 hrs, Volume= 0.128 af, Depth= 2.28"

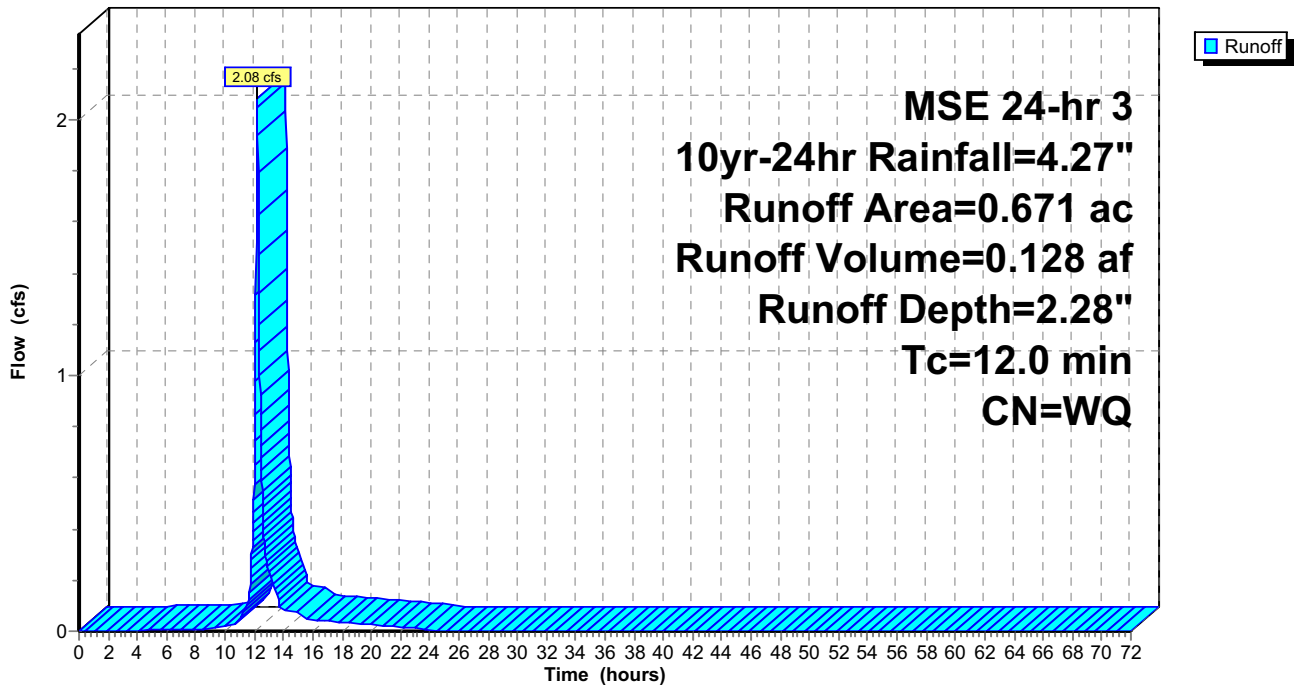
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.145	98	Impervious
0.526	74	>75% Grass cover, Good, HSG C
0.671		Weighted Average
0.526		78.39% Pervious Area
0.145		21.61% Impervious Area

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

Subcatchment A21: A21

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A7: A7

Runoff = 2.13 cfs @ 12.20 hrs, Volume= 0.132 af, Depth= 2.36"

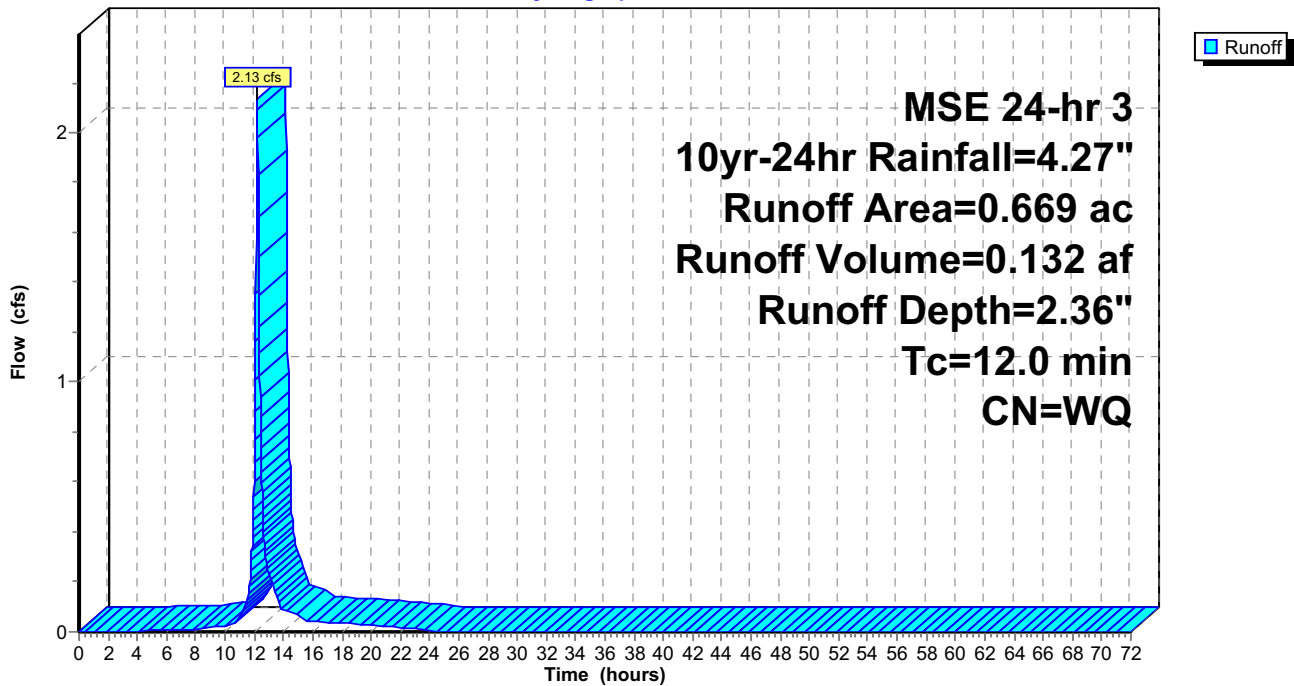
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.119	98	Impervious
0.501	74	>75% Grass cover, Good, HSG C
* 0.049	98	Impervious
0.669		Weighted Average
0.501		74.89% Pervious Area
0.168		25.11% Impervious Area

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

Subcatchment A7: A7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A7_100: A7_100

Runoff = 0.14 cfs @ 12.19 hrs, Volume= 0.009 af, Depth= 4.03"

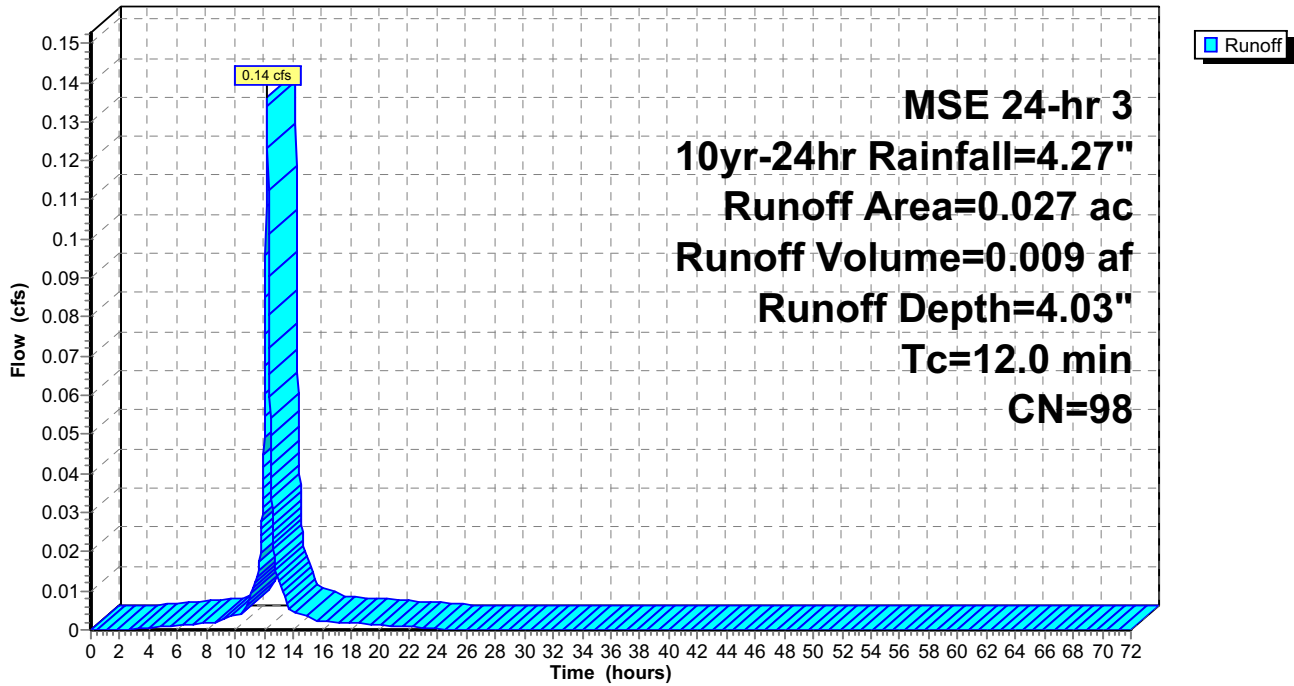
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.027	98	Impervious
0.027		100.00% Impervious Area

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

Subcatchment A7_100: A7_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A8: A8

Runoff = 2.81 cfs @ 12.20 hrs, Volume= 0.176 af, Depth= 2.54"

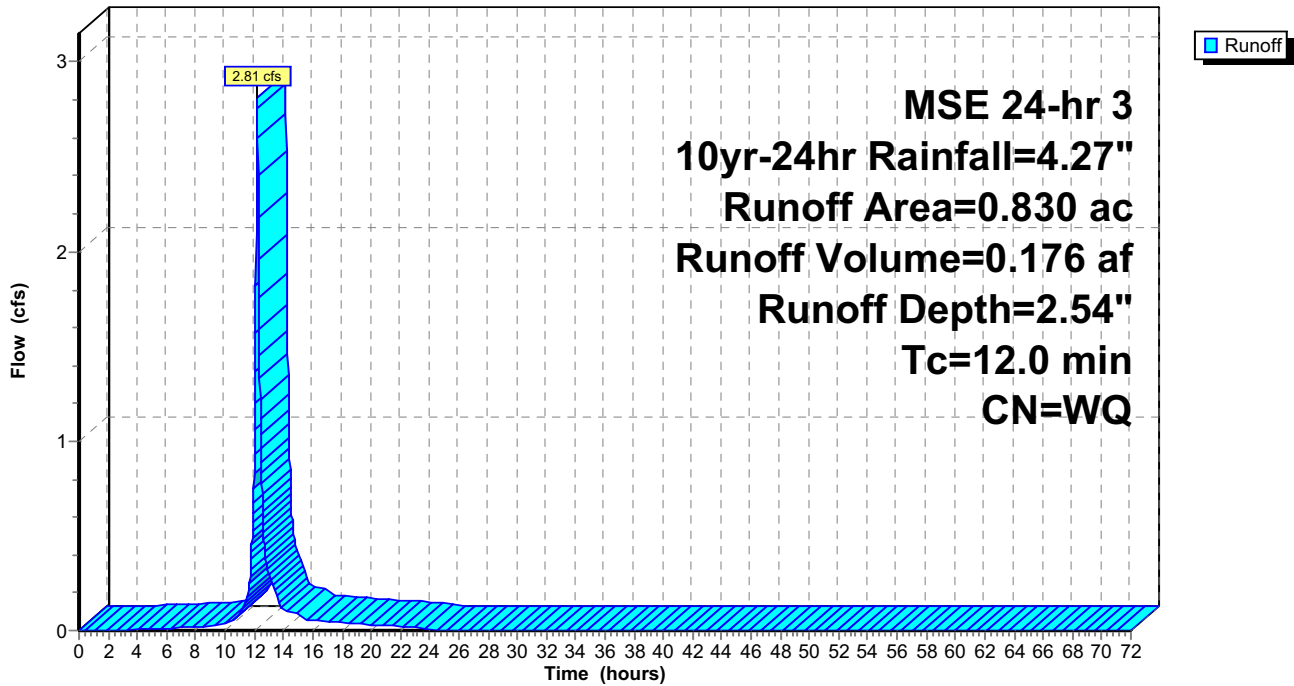
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.109	98	Impervious
0.531	74	>75% Grass cover, Good, HSG C
* 0.057	98	Impervious
* 0.110	98	Impervious
0.023	74	>75% Grass cover, Good, HSG C
0.830		Weighted Average
0.554		66.75% Pervious Area
0.276		33.25% Impervious Area

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

Subcatchment A8: A8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A8_100: A8_100

Runoff = 0.17 cfs @ 12.19 hrs, Volume= 0.011 af, Depth= 4.03"

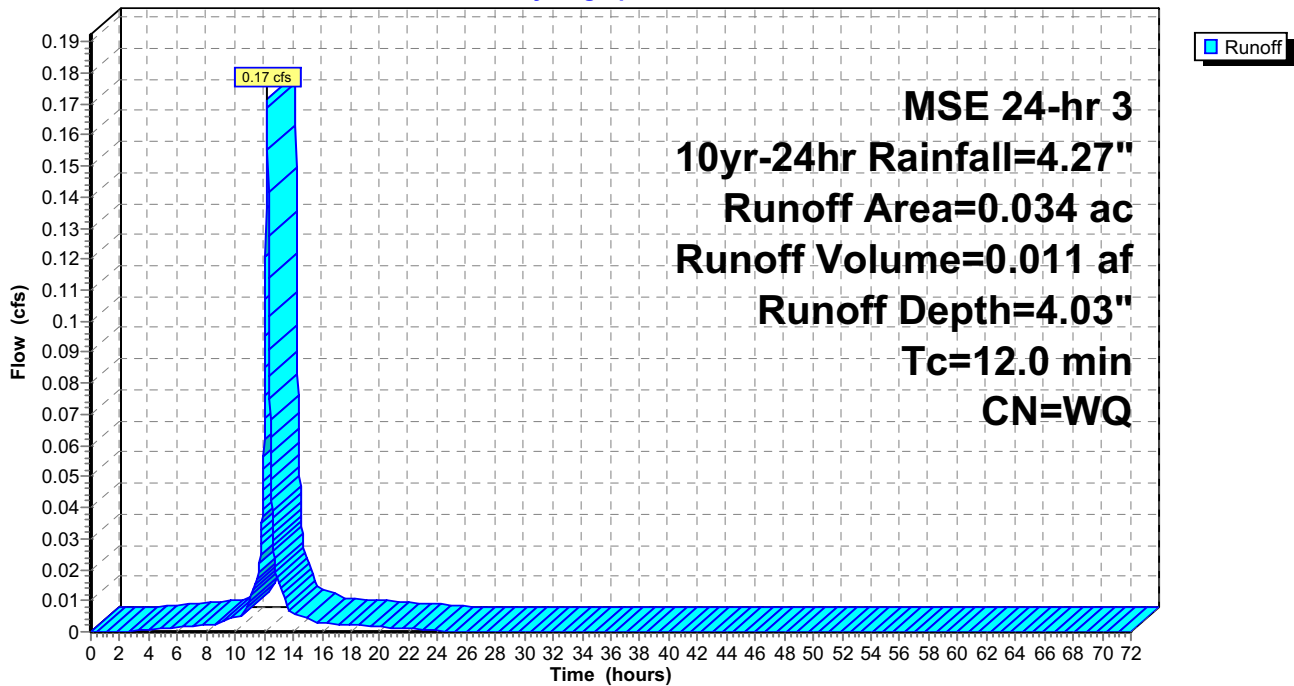
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.024	98	Impervious
* 0.010	98	Impervious
0.034		Weighted Average
0.034		100.00% Impervious Area

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

Subcatchment A8_100: A8_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A9: A9

Runoff = 3.02 cfs @ 12.20 hrs, Volume= 0.179 af, Depth= 1.94"

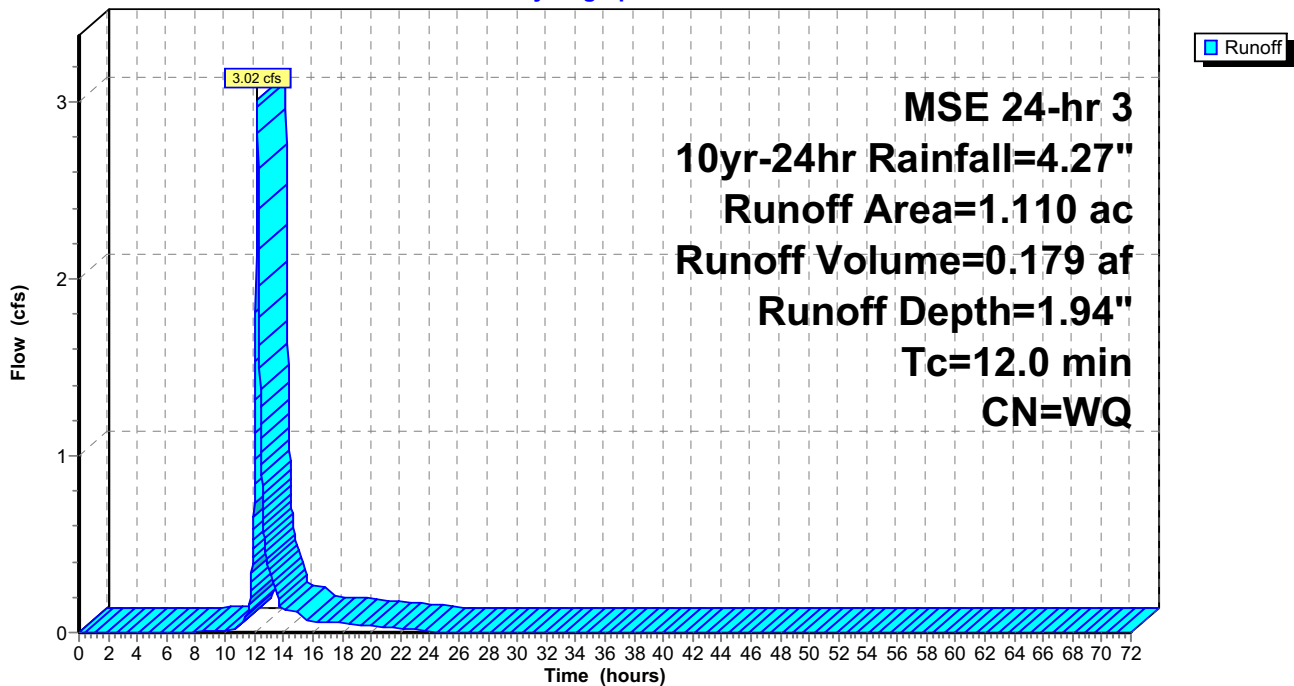
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.127	74	>75% Grass cover, Good, HSG C
0.647	74	>75% Grass cover, Good, HSG C
* 0.074	98	Impervious
0.165	73	Woods, Fair, HSG C
0.097	74	>75% Grass cover, Good, HSG C
1.110		Weighted Average
1.036		93.33% Pervious Area
0.074		6.67% Impervious Area

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

Subcatchment A9: A9

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A9_100: A9_100

Runoff = 0.14 cfs @ 12.19 hrs, Volume= 0.010 af, Depth= 3.81"

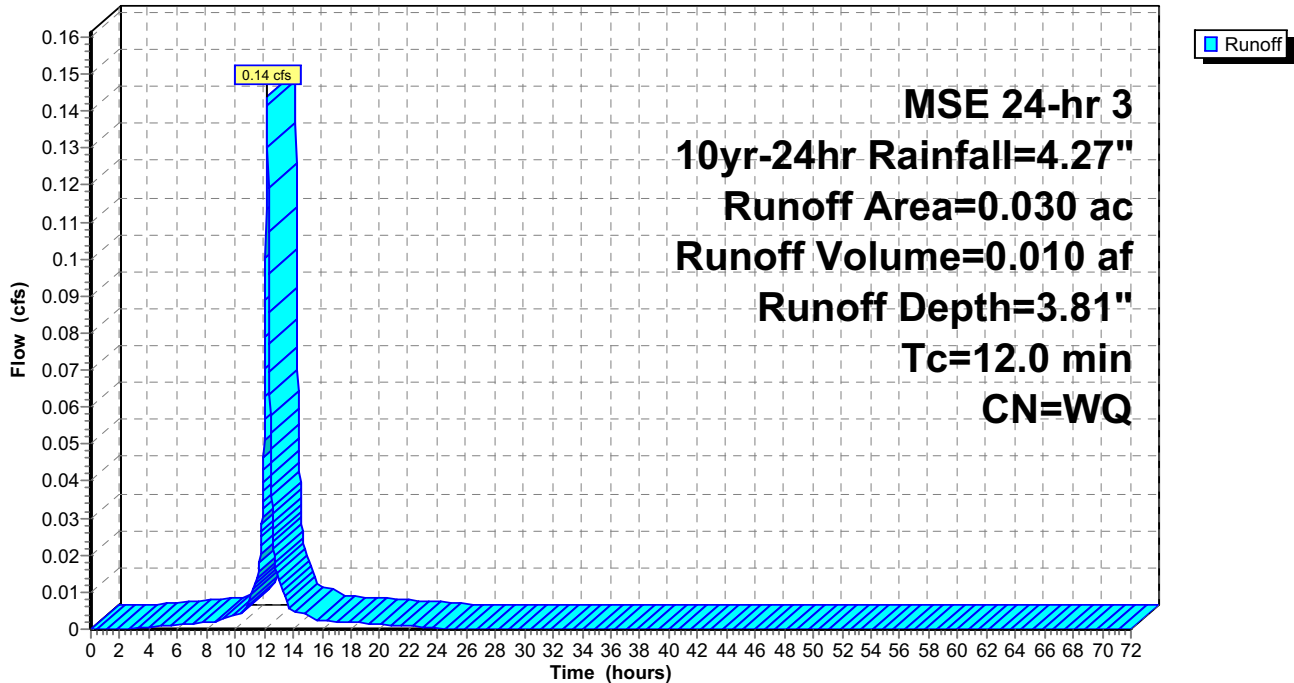
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.003	74	>75% Grass cover, Good, HSG C
* 0.027	98	Impervious
0.030		Weighted Average
0.003		10.00% Pervious Area
0.027		90.00% Impervious Area

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

Subcatchment A9_100: A9_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C10: C10

Runoff = 4.31 cfs @ 12.20 hrs, Volume= 0.258 af, Depth= 2.04"

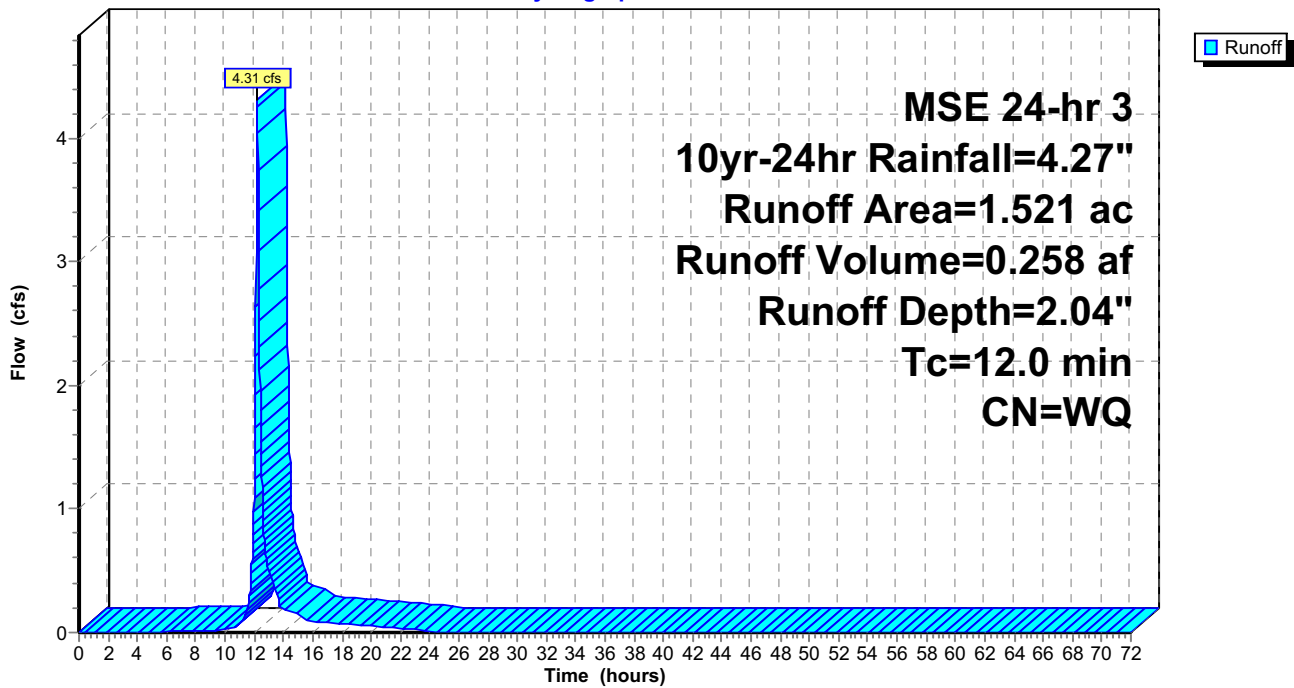
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.036	98	Impervious
1.278	74	>75% Grass cover, Good, HSG C
0.080	74	>75% Grass cover, Good, HSG C
* 0.078	98	Impervious
* 0.049	98	Impervious
1.521		Weighted Average
1.358		89.28% Pervious Area
0.163		10.72% Impervious Area

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

Subcatchment C10: C10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C10_100: C10_100

Runoff = 2.21 cfs @ 12.20 hrs, Volume= 0.143 af, Depth= 3.13"

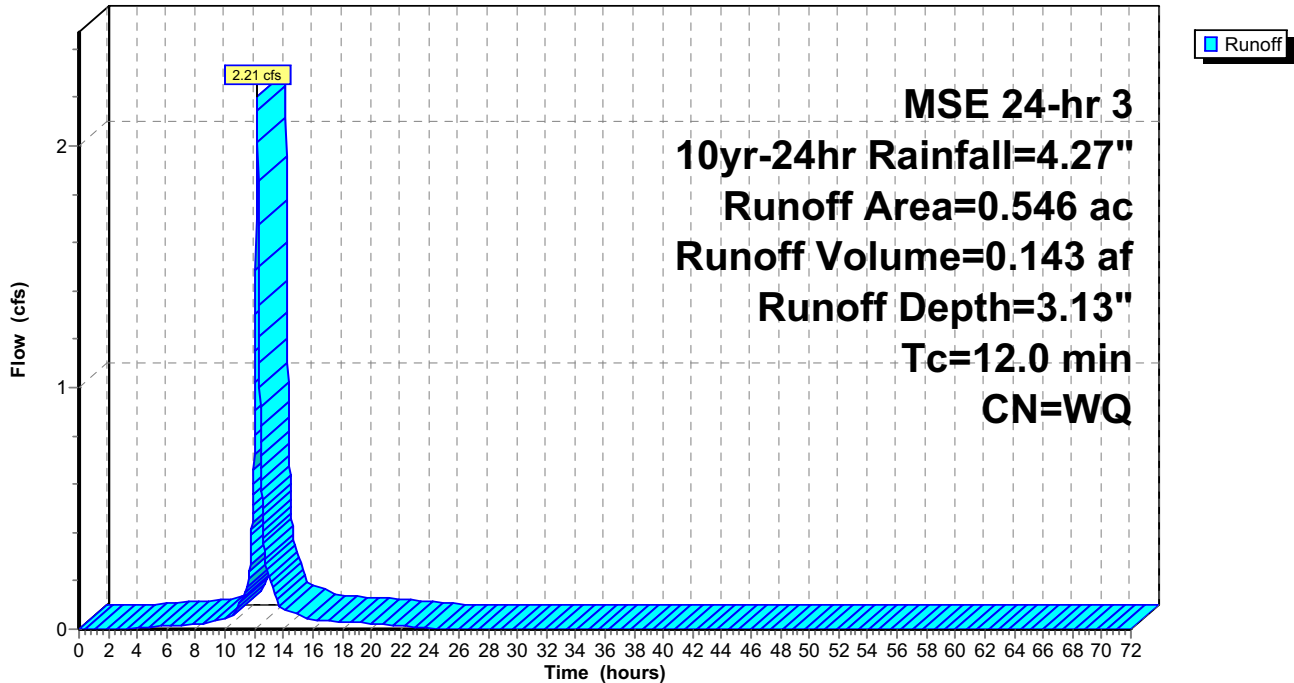
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.220	74	>75% Grass cover, Good, HSG C
* 0.326	98	Impervious
0.546		Weighted Average
0.220		40.29% Pervious Area
0.326		59.71% Impervious Area

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

Subcatchment C10_100: C10_100

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C7: C7

Runoff = 4.19 cfs @ 12.20 hrs, Volume= 0.252 af, Depth= 2.10"

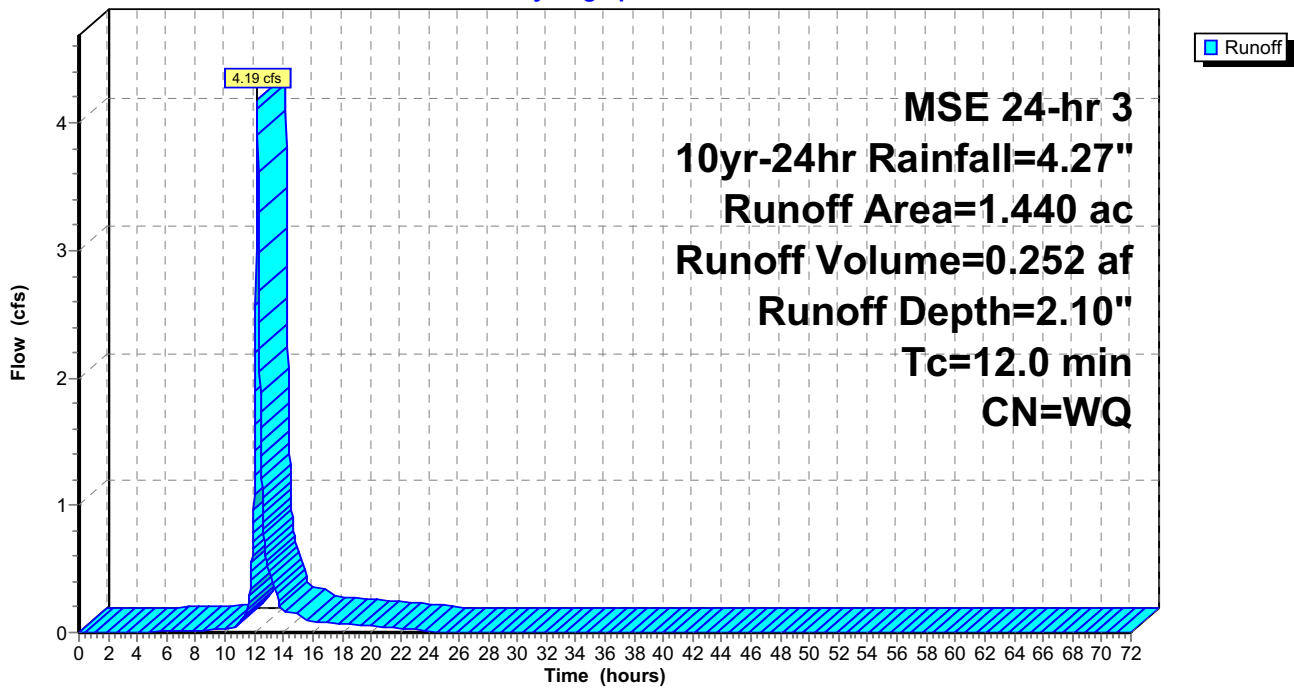
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.018	98	Impervious
1.011	74	>75% Grass cover, Good, HSG C
0.233	74	>75% Grass cover, Good, HSG C
* 0.128	98	Impervious
* 0.050	98	Impervious
1.440		Weighted Average
1.244		86.39% Pervious Area
0.196		13.61% Impervious Area

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

Subcatchment C7: C7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C7_100: C7_100

Runoff = 1.03 cfs @ 12.22 hrs, Volume= 0.071 af, Depth= 3.19"

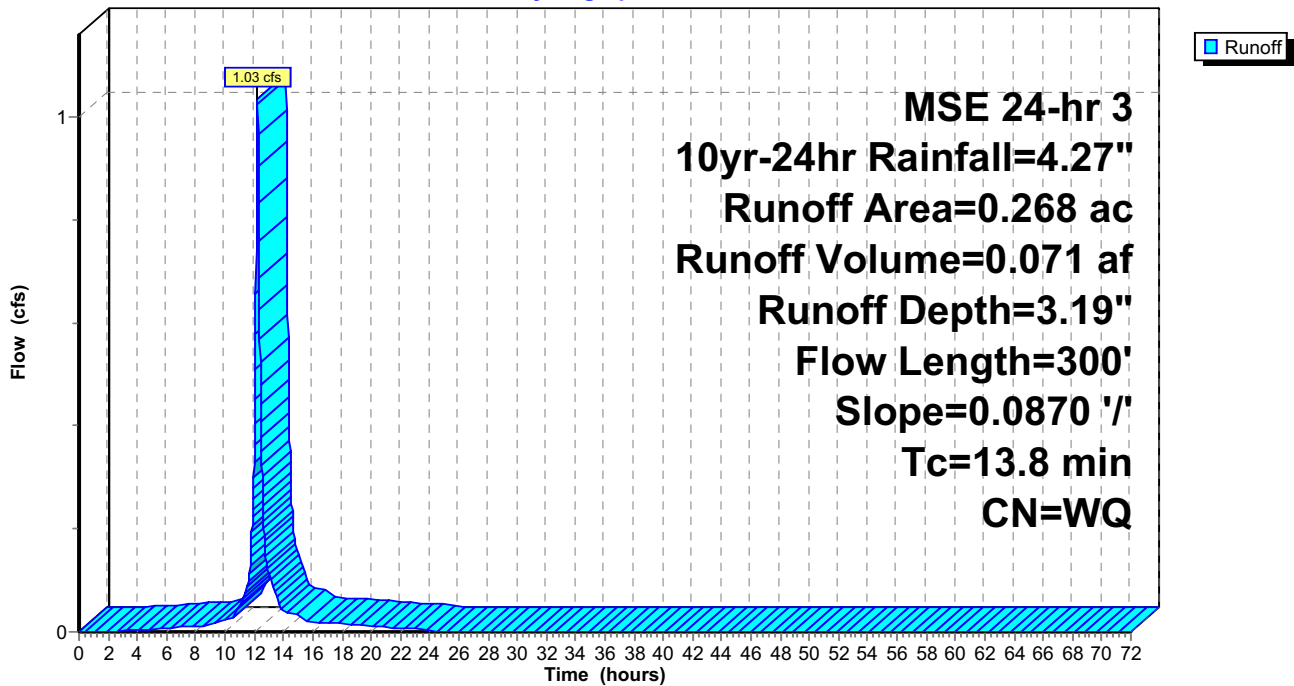
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.101	74	>75% Grass cover, Good, HSG C
* 0.167	98	Impervious
0.268		Weighted Average
0.101		37.69% Pervious Area
0.167		62.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C7_100: C7_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C8: C8

Runoff = 4.21 cfs @ 12.20 hrs, Volume= 0.254 af, Depth= 2.09"

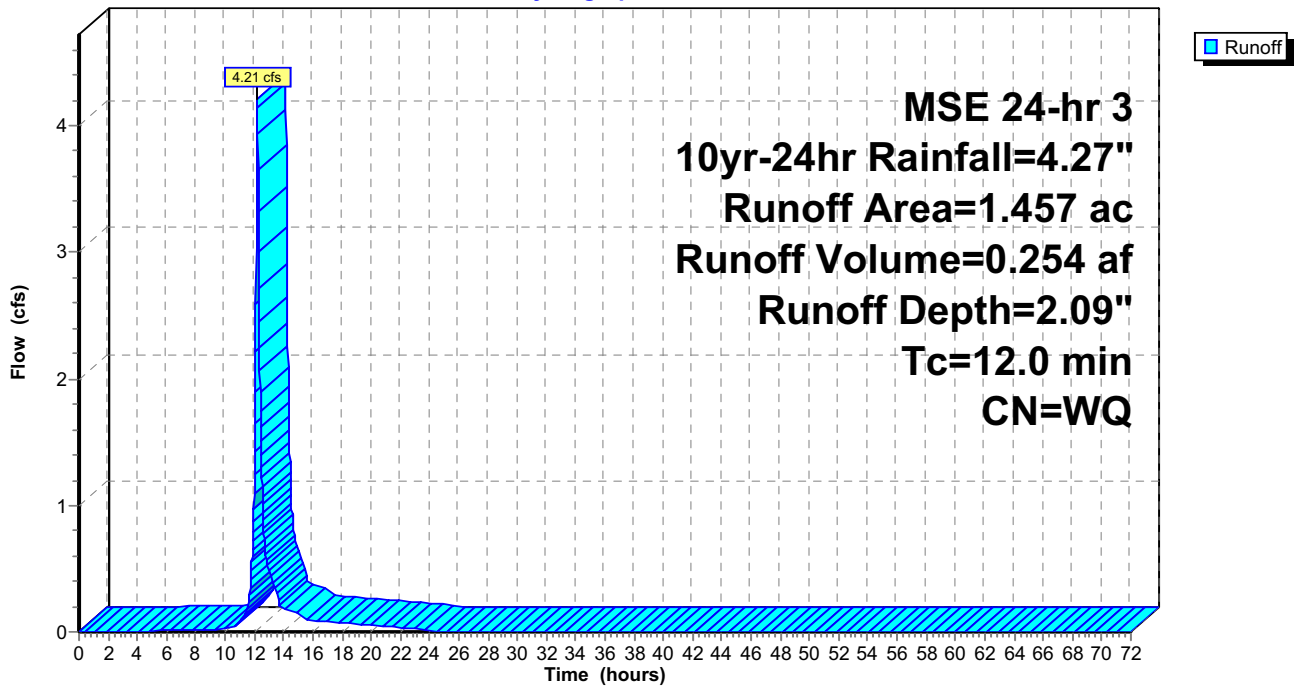
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

	Area (ac)	CN	Description
*	0.138	98	Impervious
	1.267	74	>75% Grass cover, Good, HSG C
*	0.052	98	Impervious
	1.457		Weighted Average
	1.267		86.96% Pervious Area
	0.190		13.04% Impervious Area

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

Subcatchment C8: C8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C8_100: C8_100

Runoff = 1.82 cfs @ 12.22 hrs, Volume= 0.125 af, Depth= 3.20"

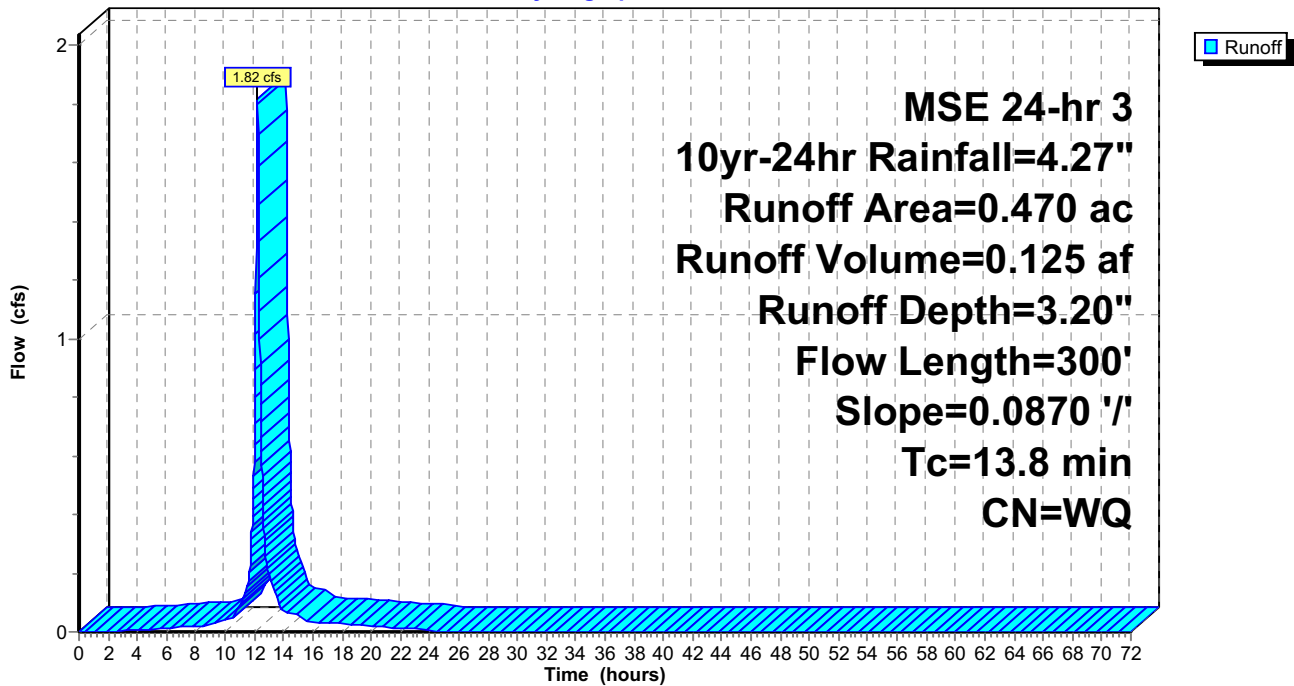
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.175	74	>75% Grass cover, Good, HSG C
* 0.295	98	Impervious
0.470		Weighted Average
0.175		37.23% Pervious Area
0.295		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C8_100: C8_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C9: C9

Runoff = 5.01 cfs @ 12.20 hrs, Volume= 0.300 af, Depth= 2.04"

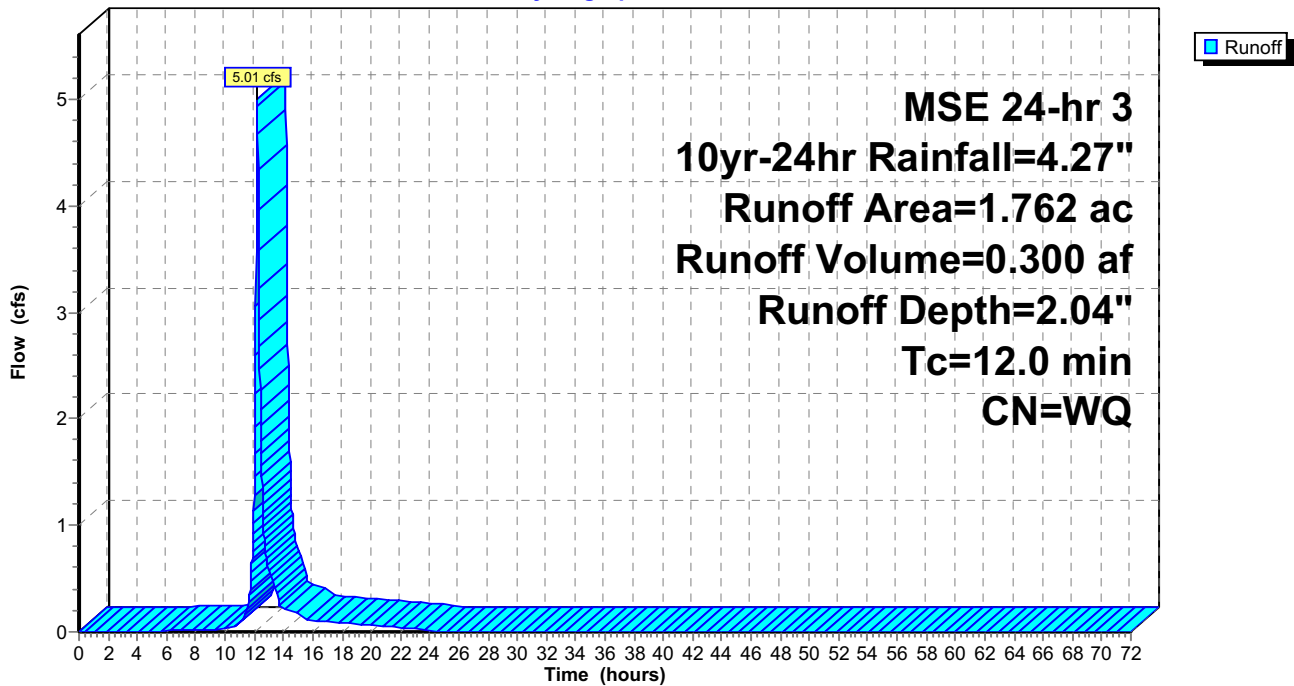
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

	Area (ac)	CN	Description
*	0.132	98	Impervious
	1.569	74	>75% Grass cover, Good, HSG C
*	0.061	98	Impervious
	1.762		Weighted Average
	1.569		89.05% Pervious Area
	0.193		10.95% Impervious Area

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

Subcatchment C9: C9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C9_100: C9_100

Runoff = 1.26 cfs @ 12.20 hrs, Volume= 0.082 af, Depth= 3.25"

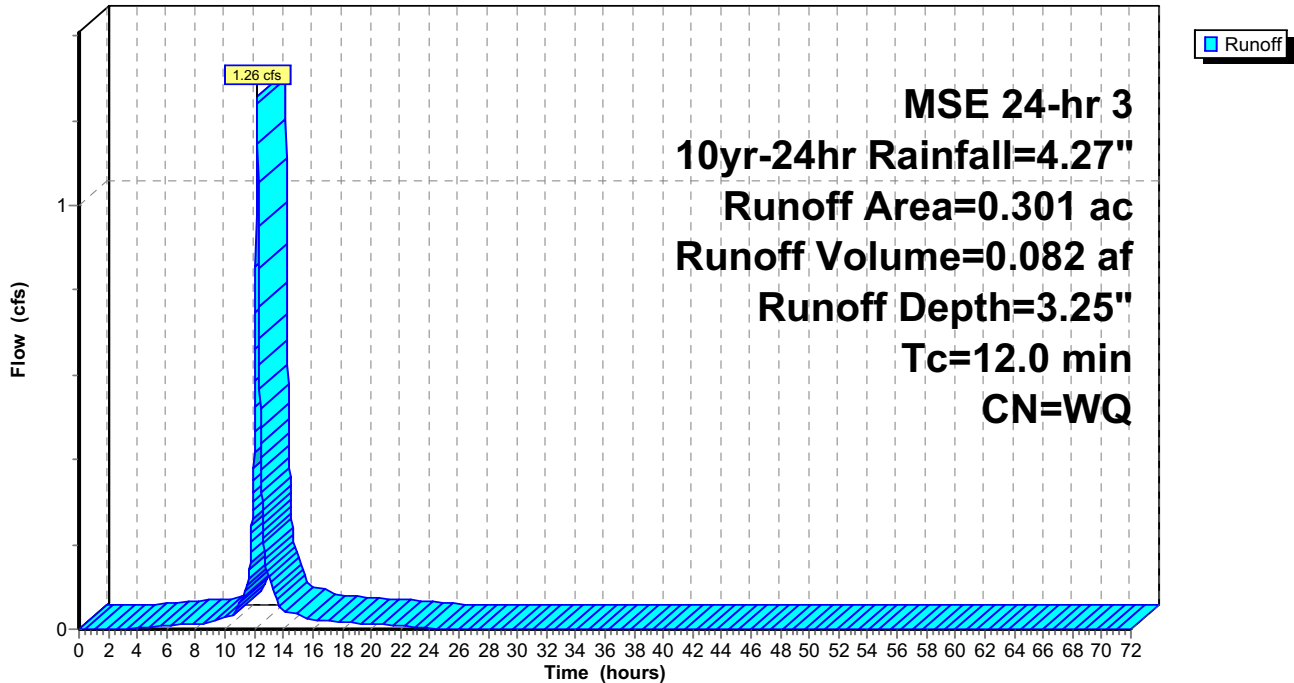
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.105	74	>75% Grass cover, Good, HSG C
* 0.196	98	Impervious
0.301		Weighted Average
0.105		34.88% Pervious Area
0.196		65.12% Impervious Area

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

Subcatchment C9_100: C9_100

Hydrograph



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Summary for Subcatchment E13: E13

Runoff = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af, Depth= 2.42"

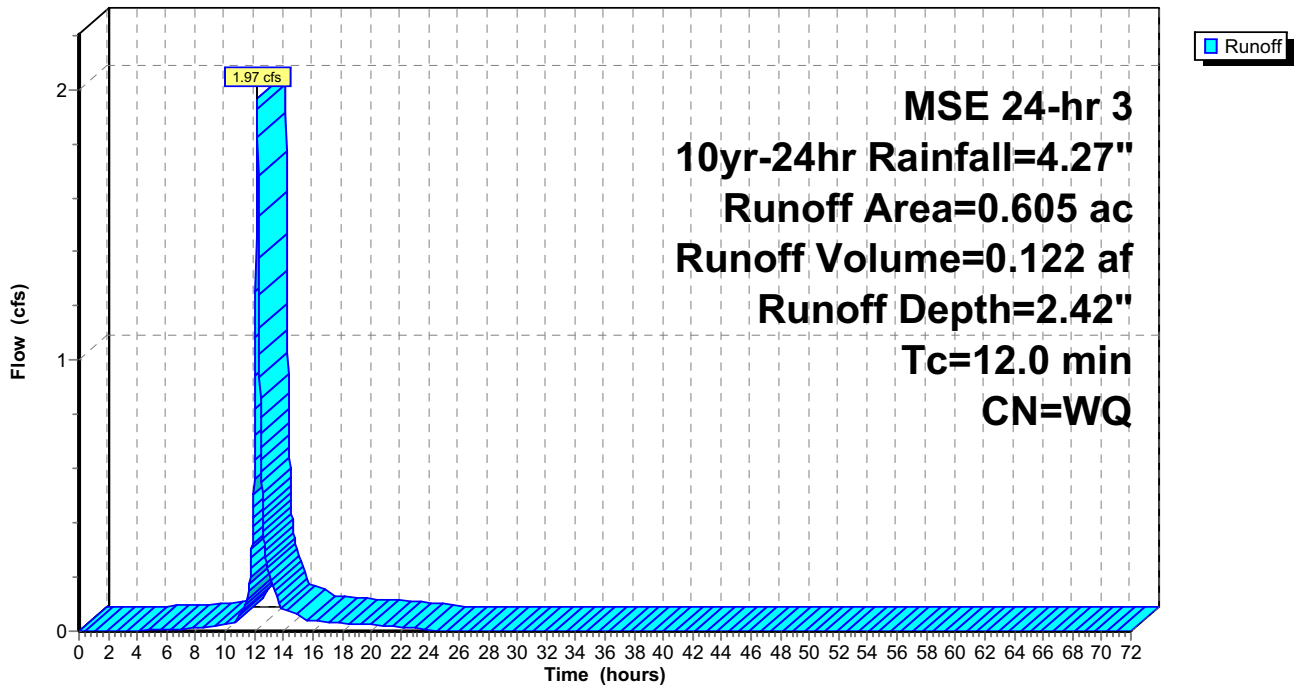
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.168	98	Impervious
0.437	74	>75% Grass cover, Good, HSG C
0.605		Weighted Average
0.437		72.23% Pervious Area
0.168		27.77% Impervious Area

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

Subcatchment E13: E13

Hydrograph



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Summary for Subcatchment E15: E15

Runoff = 6.23 cfs @ 12.20 hrs, Volume= 0.385 af, Depth= 2.40"

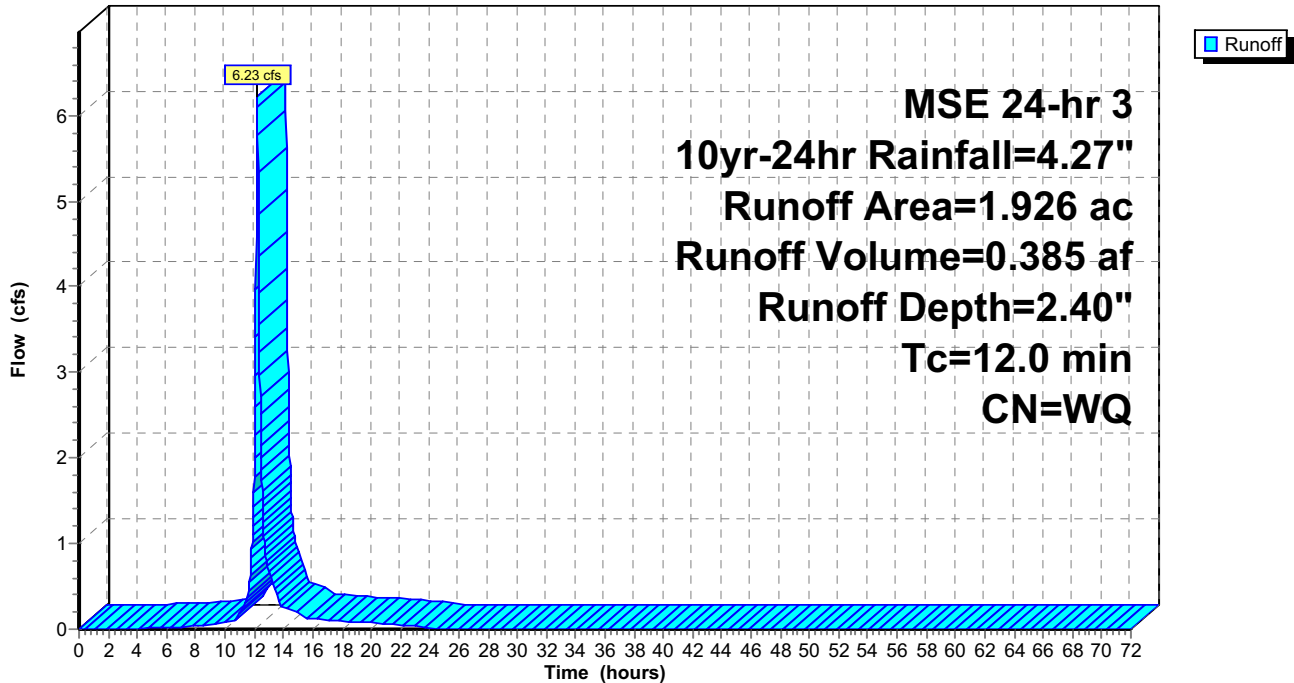
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.518	98	Impervious
1.408	74	>75% Grass cover, Good, HSG C
1.926		Weighted Average
1.408		73.10% Pervious Area
0.518		26.90% Impervious Area

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

Subcatchment E15: E15

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E16: E16

Runoff = 4.41 cfs @ 12.20 hrs, Volume= 0.272 af, Depth= 2.38"

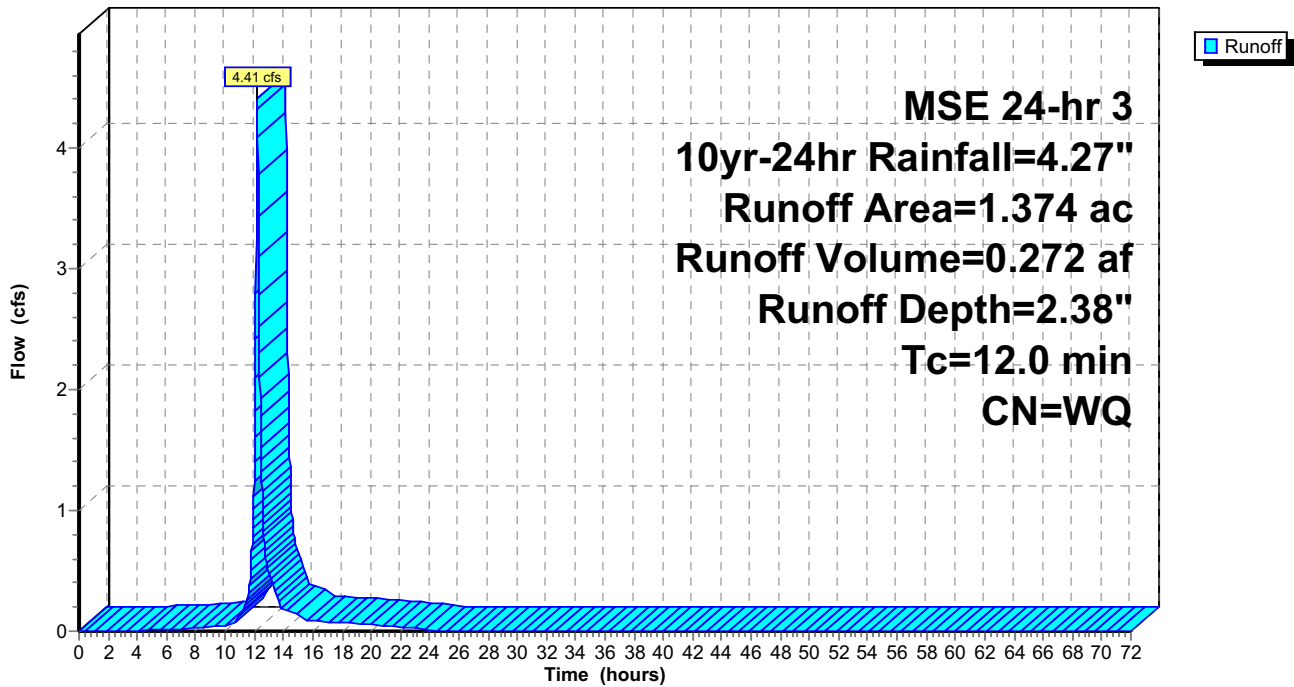
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.355	98	Impervious
1.019	74	>75% Grass cover, Good, HSG C
1.374		Weighted Average
1.019		74.16% Pervious Area
0.355		25.84% Impervious Area

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

Subcatchment E16: E16

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E17: E17

Runoff = 3.05 cfs @ 12.20 hrs, Volume= 0.186 af, Depth= 2.26"

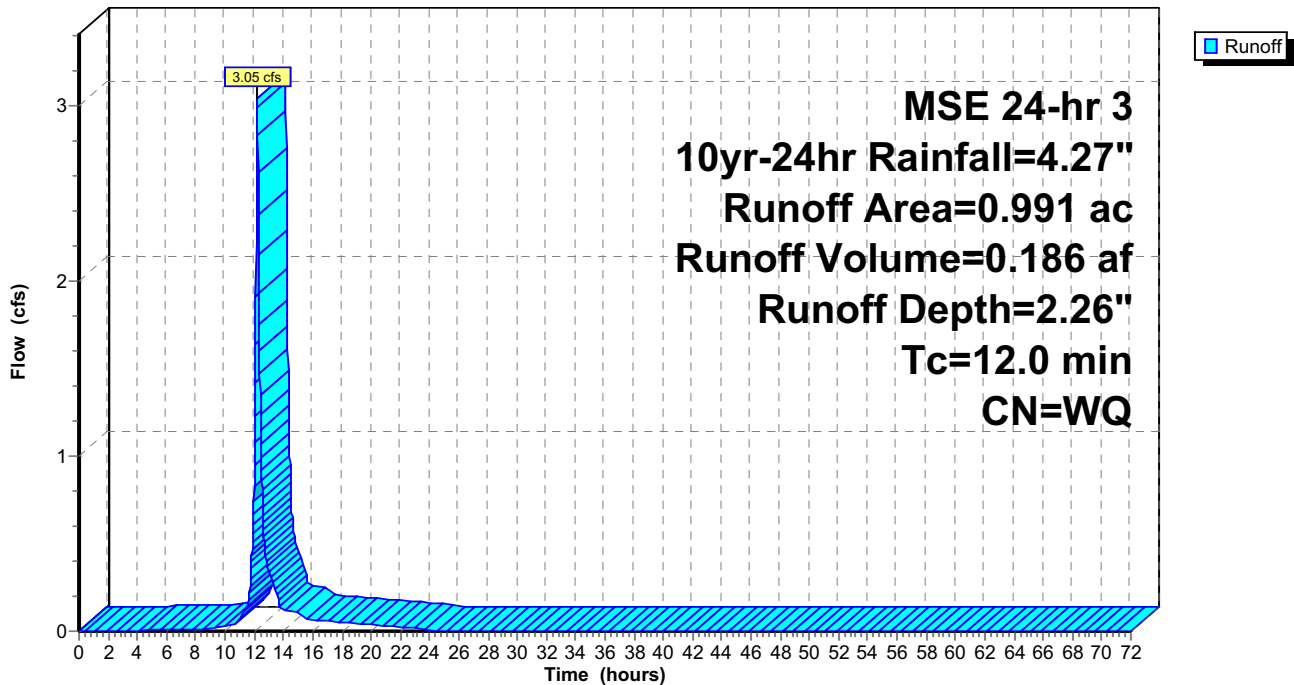
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.788	74	>75% Grass cover, Good, HSG C
0.991		Weighted Average
0.788		79.52% Pervious Area
0.203		20.48% Impervious Area

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

Subcatchment E17: E17

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Summary for Subcatchment E18: E18

Runoff = 4.41 cfs @ 12.24 hrs, Volume= 0.292 af, Depth= 2.02"

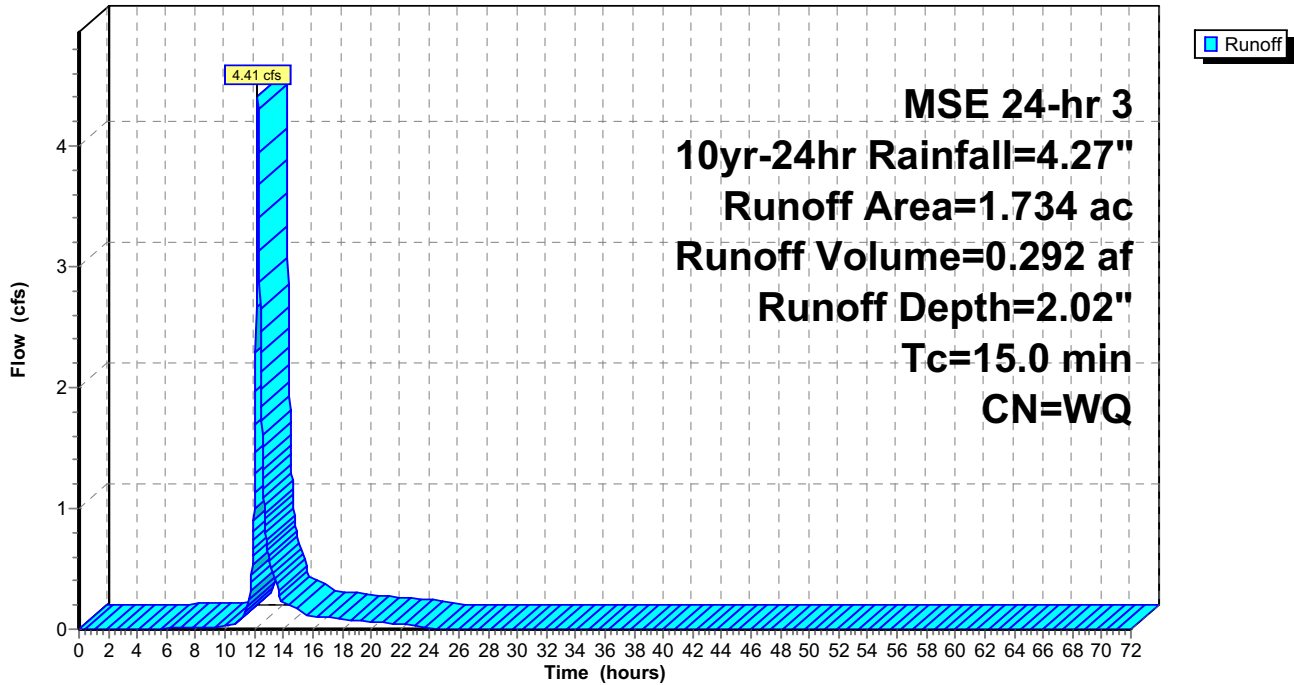
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.171	98	Impervious
1.563	74	>75% Grass cover, Good, HSG C
1.734		Weighted Average
1.563		90.14% Pervious Area
0.171		9.86% Impervious Area

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

Subcatchment E18: E18

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E21: E21

Runoff = 1.00 cfs @ 12.20 hrs, Volume= 0.059 af, Depth= 1.87"

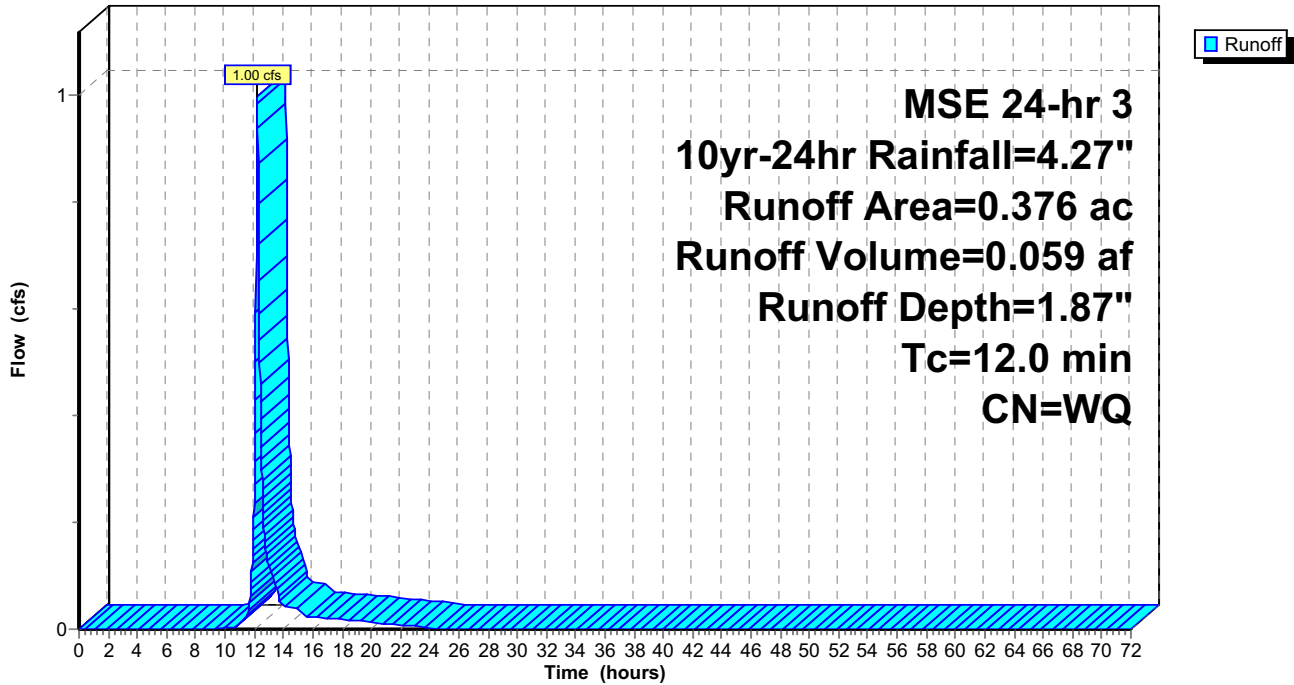
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.013	98	Impervious
0.363	74	>75% Grass cover, Good, HSG C
0.376		Weighted Average
0.363		96.54% Pervious Area
0.013		3.46% Impervious Area

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

Subcatchment E21: E21

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E22: E22

Runoff = 1.46 cfs @ 12.20 hrs, Volume= 0.088 af, Depth= 2.06"

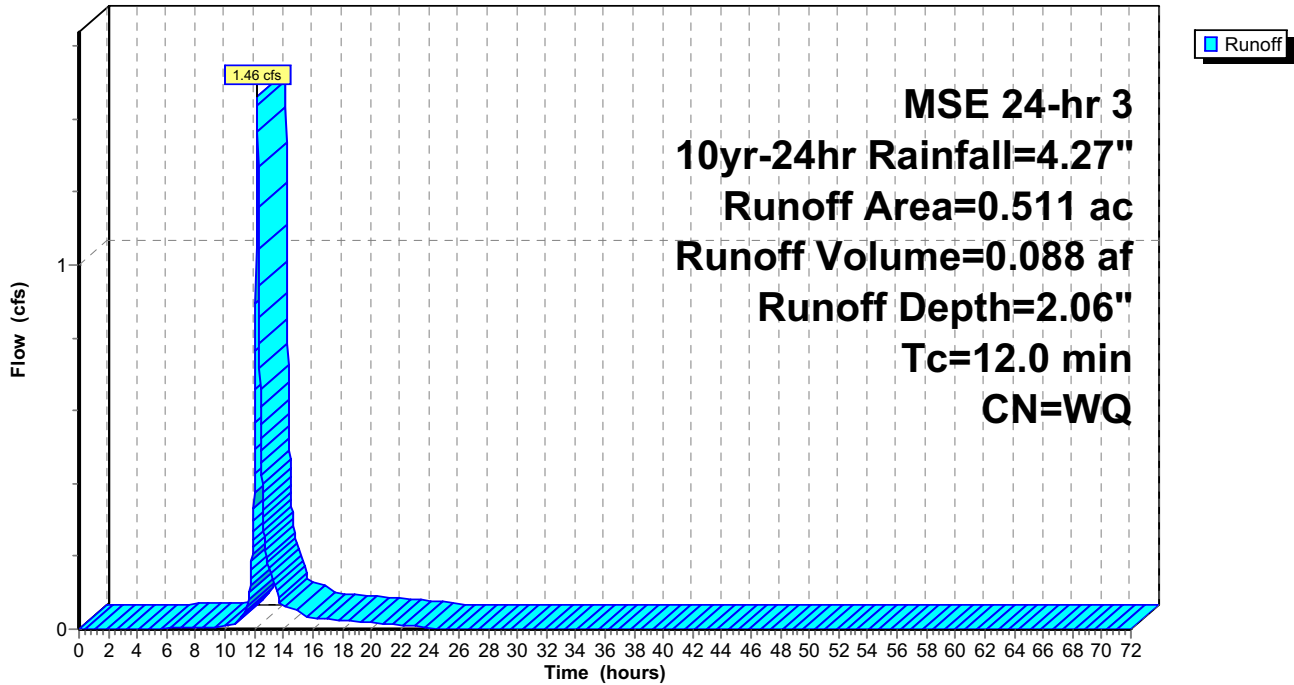
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.061	98	Impervious
0.450	74	>75% Grass cover, Good, HSG C
0.511		Weighted Average
0.450		88.06% Pervious Area
0.061		11.94% Impervious Area

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

Subcatchment E22: E22

Hydrograph



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Summary for Subcatchment E22_100: E22_100

Runoff = 0.30 cfs @ 12.20 hrs, Volume= 0.019 af, Depth= 3.05"

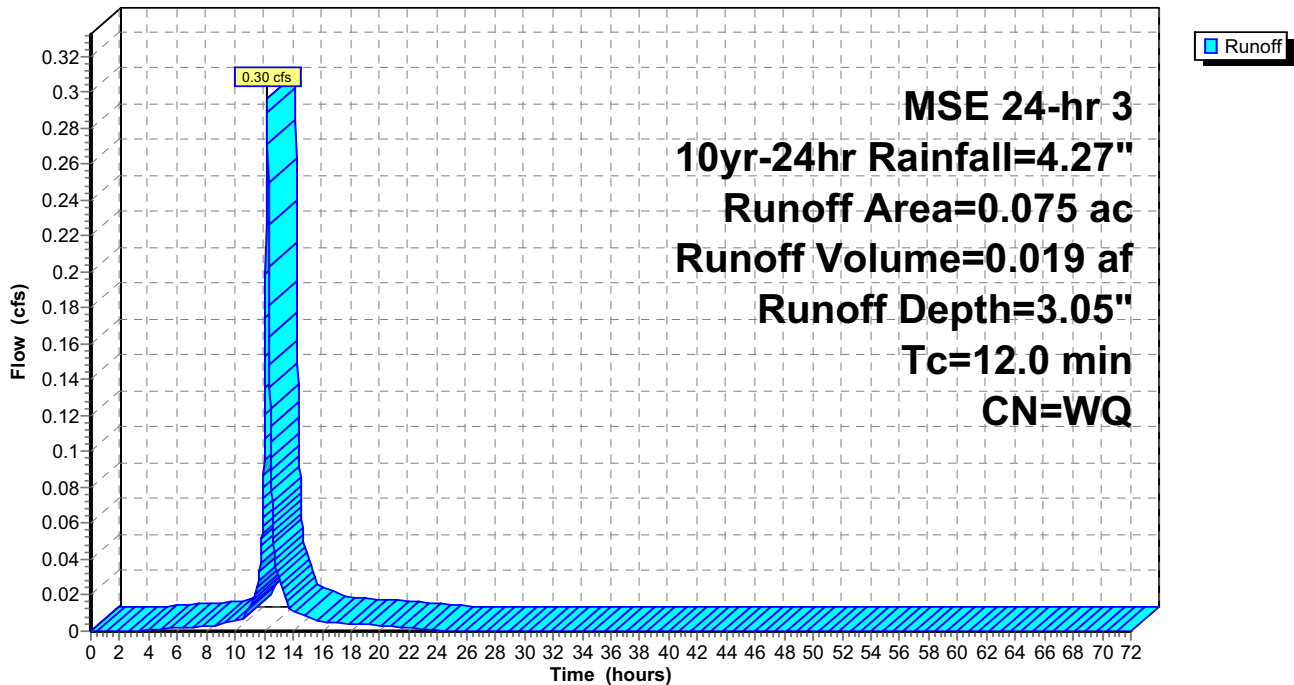
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.033	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
0.075		Weighted Average
0.033		44.00% Pervious Area
0.042		56.00% Impervious Area

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

Subcatchment E22_100: E22_100

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E23: E23

Runoff = 3.36 cfs @ 12.20 hrs, Volume= 0.200 af, Depth= 1.98"

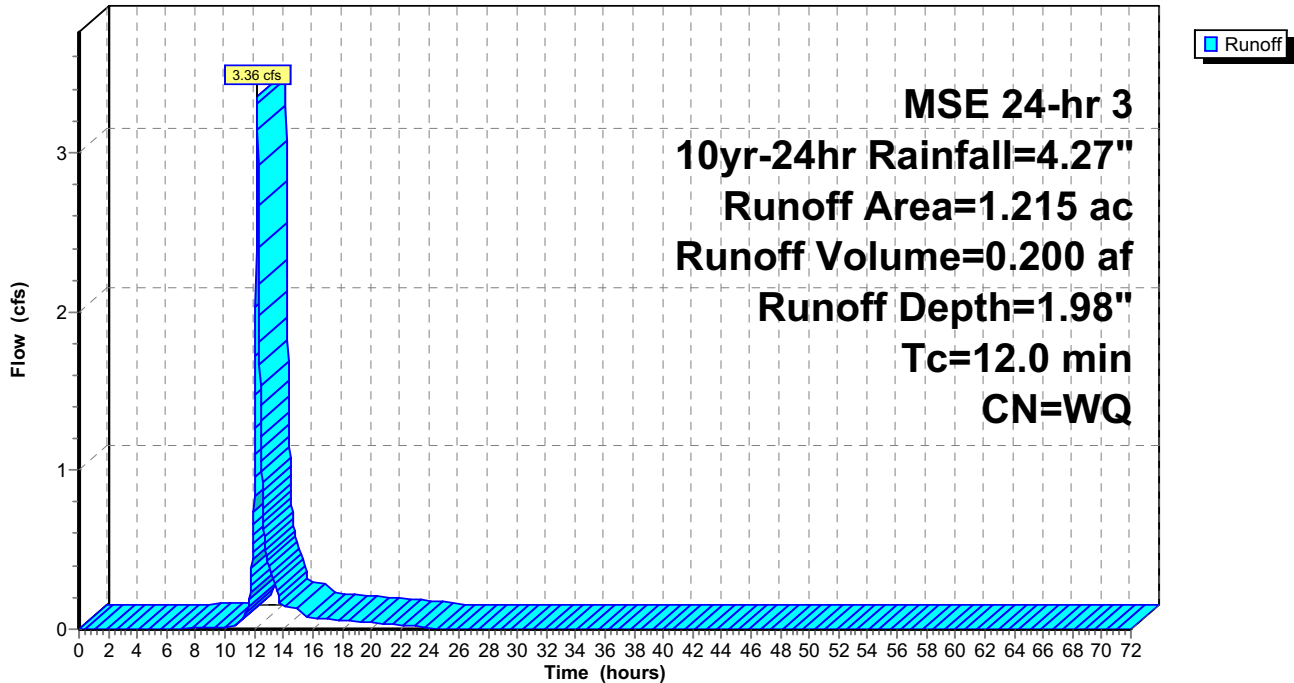
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.097	98	Impervious
1.118	74	>75% Grass cover, Good, HSG C
1.215		Weighted Average
1.118		92.02% Pervious Area
0.097		7.98% Impervious Area

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

Subcatchment E23: E23

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E29: E29

Runoff = 3.72 cfs @ 12.20 hrs, Volume= 0.225 af, Depth= 2.16"

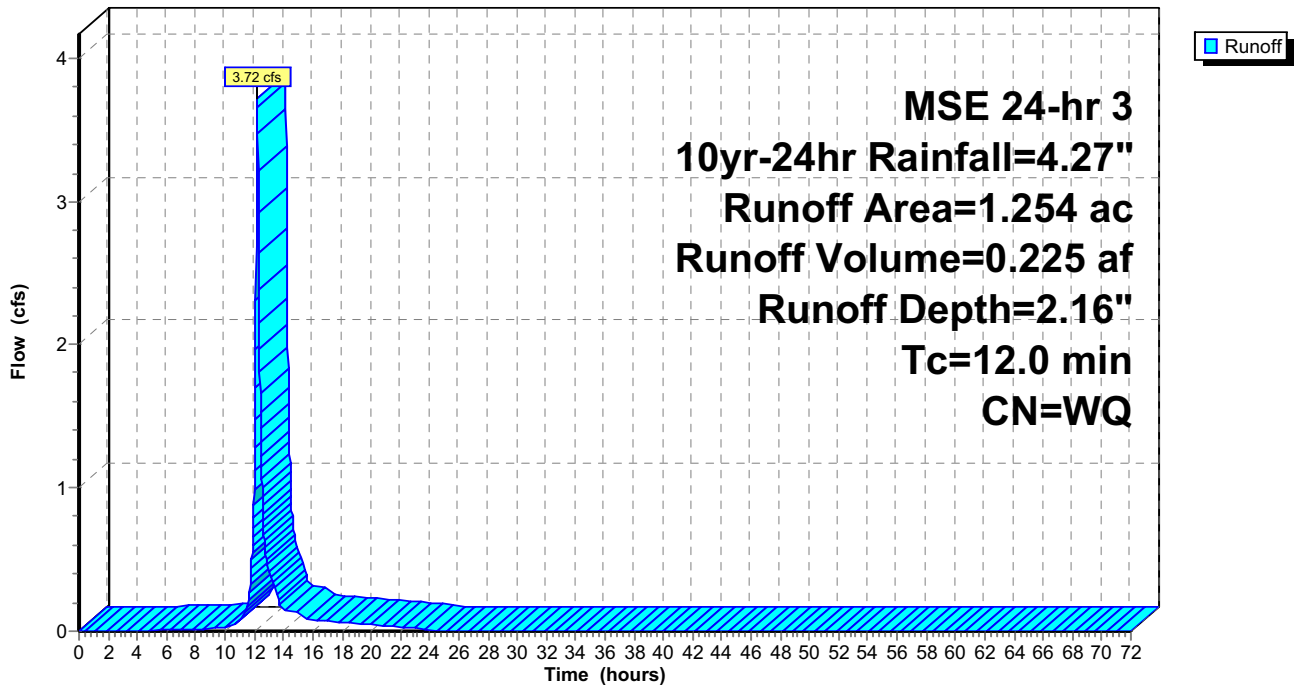
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.202	98	Impervious
1.052	74	>75% Grass cover, Good, HSG C
1.254		Weighted Average
1.052		83.89% Pervious Area
0.202		16.11% Impervious Area

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

Subcatchment E29: E29

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F5: F5

Runoff = 3.79 cfs @ 12.20 hrs, Volume= 0.232 af, Depth= 2.27"

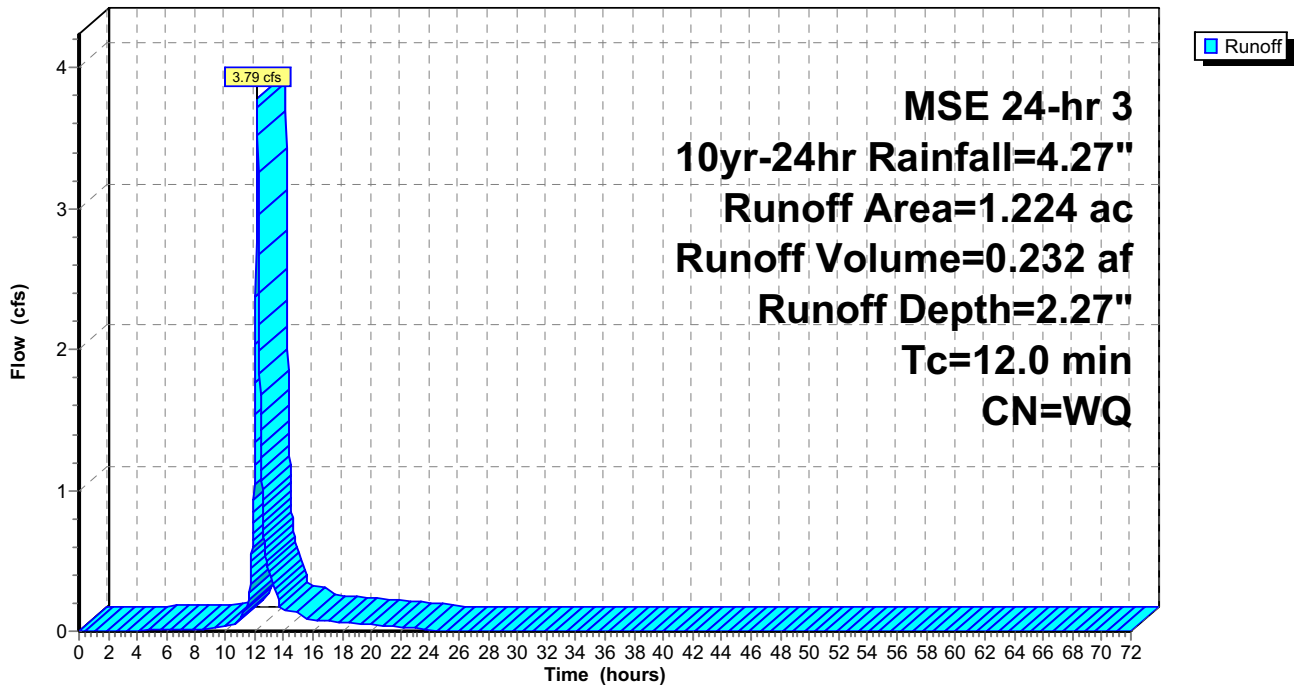
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.260	98	Impervious
0.964	74	>75% Grass cover, Good, HSG C
1.224		Weighted Average
0.964		78.76% Pervious Area
0.260		21.24% Impervious Area

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

Subcatchment F5: F5

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F6: F6

Runoff = 2.85 cfs @ 12.20 hrs, Volume= 0.174 af, Depth= 2.27"

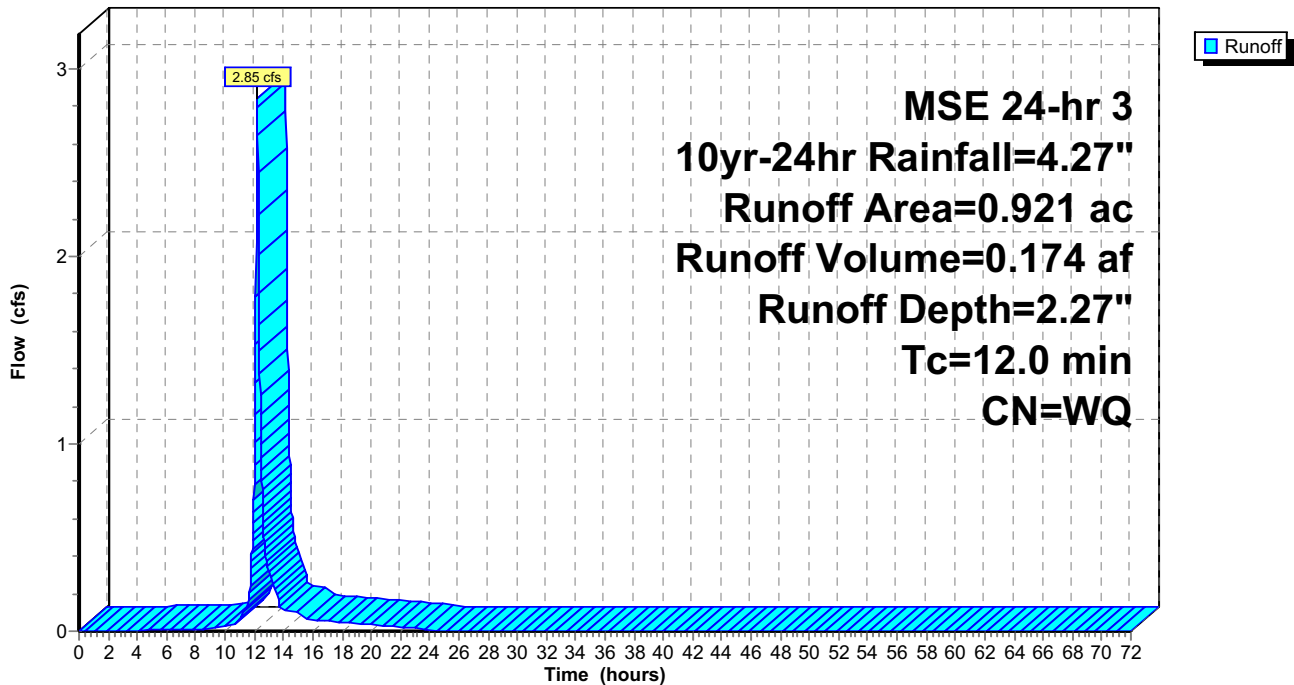
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.194	98	Impervious
0.727	74	>75% Grass cover, Good, HSG C
0.921		Weighted Average
0.727		78.94% Pervious Area
0.194		21.06% Impervious Area

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

Subcatchment F6: F6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F7: F7

Runoff = 1.91 cfs @ 12.20 hrs, Volume= 0.114 af, Depth= 2.06"

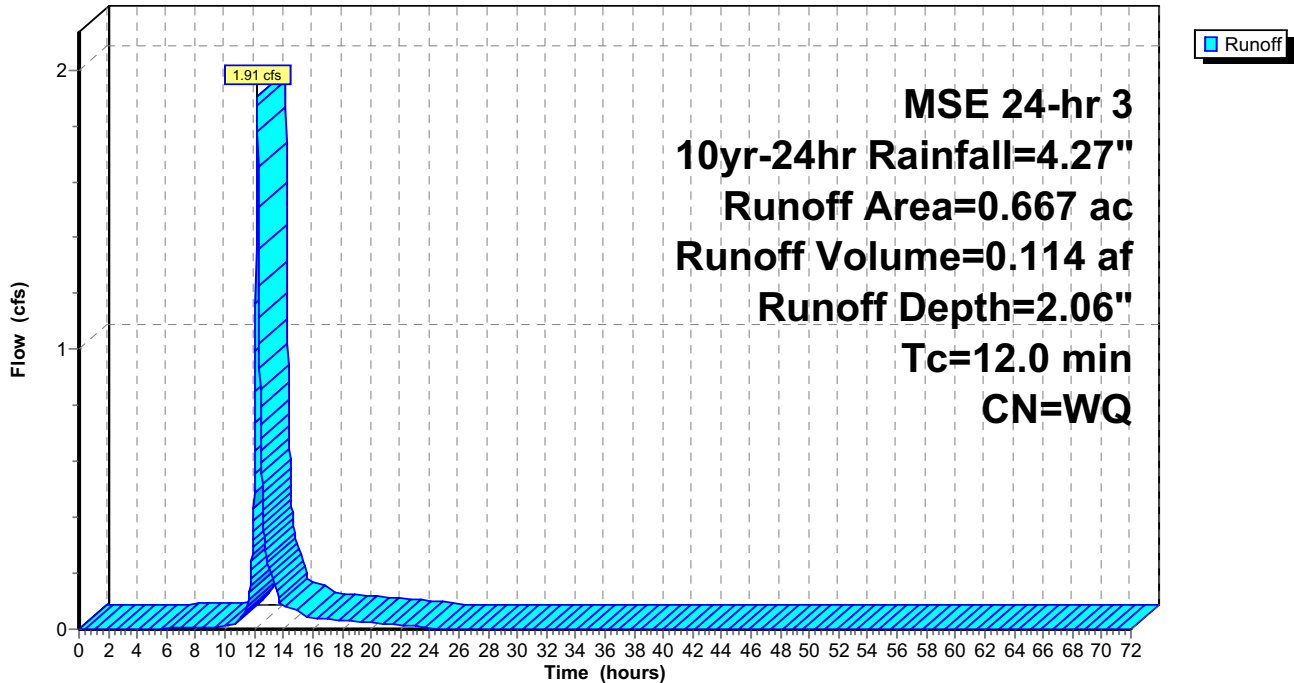
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.589	74	>75% Grass cover, Good, HSG C
0.667		Weighted Average
0.589		88.31% Pervious Area
0.078		11.69% Impervious Area

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

Subcatchment F7: F7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F8: F8

Runoff = 5.11 cfs @ 12.24 hrs, Volume= 0.342 af, Depth= 2.16"

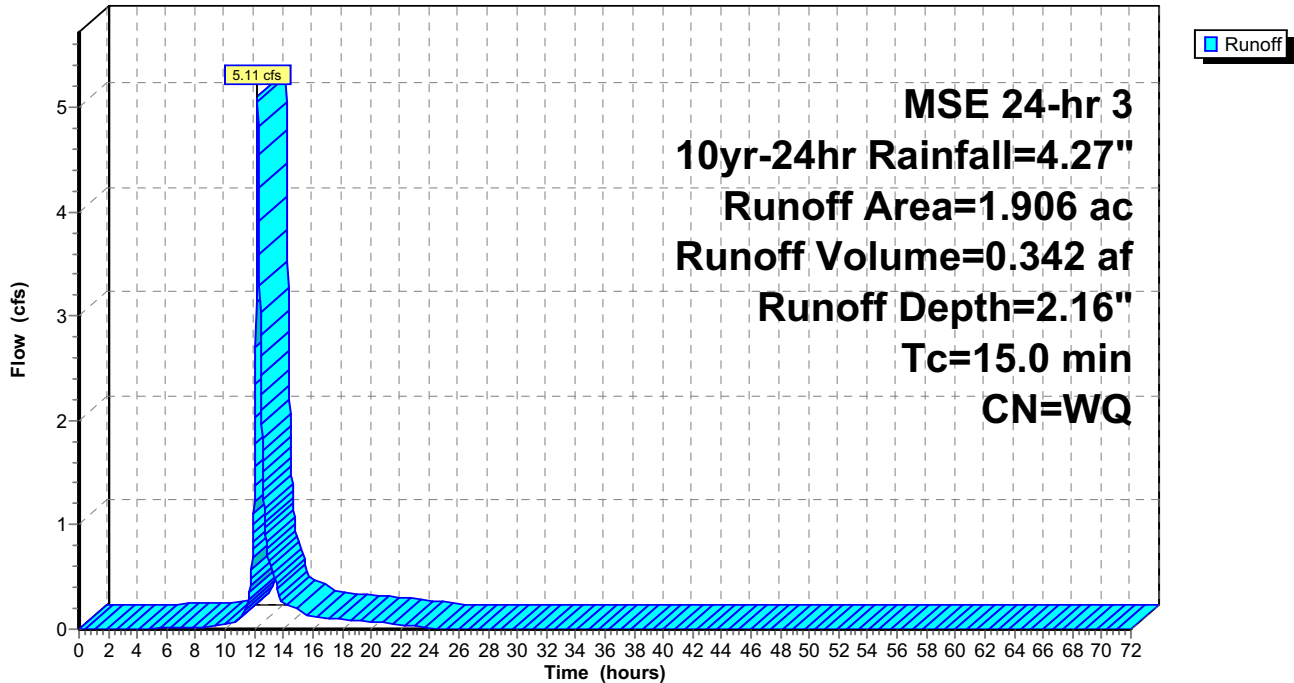
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.305	98	Impervious
1.601	74	>75% Grass cover, Good, HSG C
1.906		Weighted Average
1.601		84.00% Pervious Area
0.305		16.00% Impervious Area

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

Subcatchment F8: F8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment H5: H5

Runoff = 6.31 cfs @ 12.20 hrs, Volume= 0.398 af, Depth= 2.20"

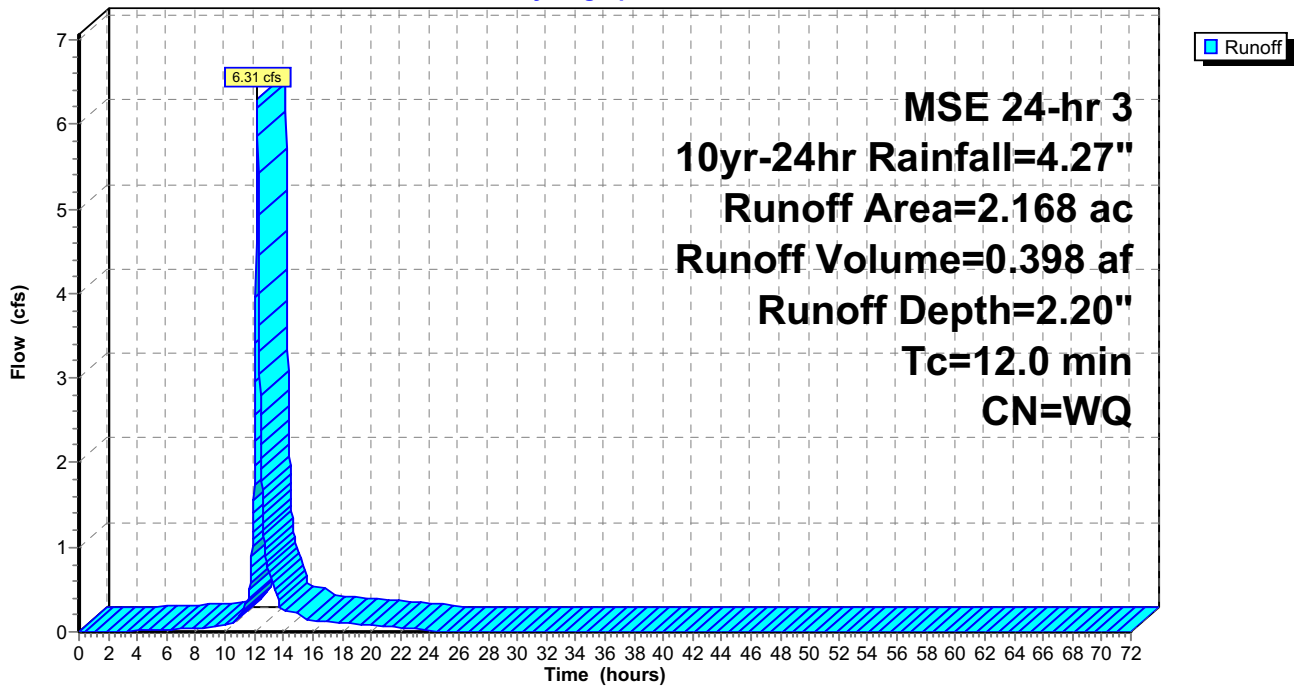
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.590	98	Impervious
0.526	61	>75% Grass cover, Good, HSG B
1.052	74	>75% Grass cover, Good, HSG C
2.168		Weighted Average
1.578		72.79% Pervious Area
0.590		27.21% Impervious Area

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

Subcatchment H5: H5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment H6: H6

Runoff = 2.20 cfs @ 12.20 hrs, Volume= 0.143 af, Depth= 1.70"

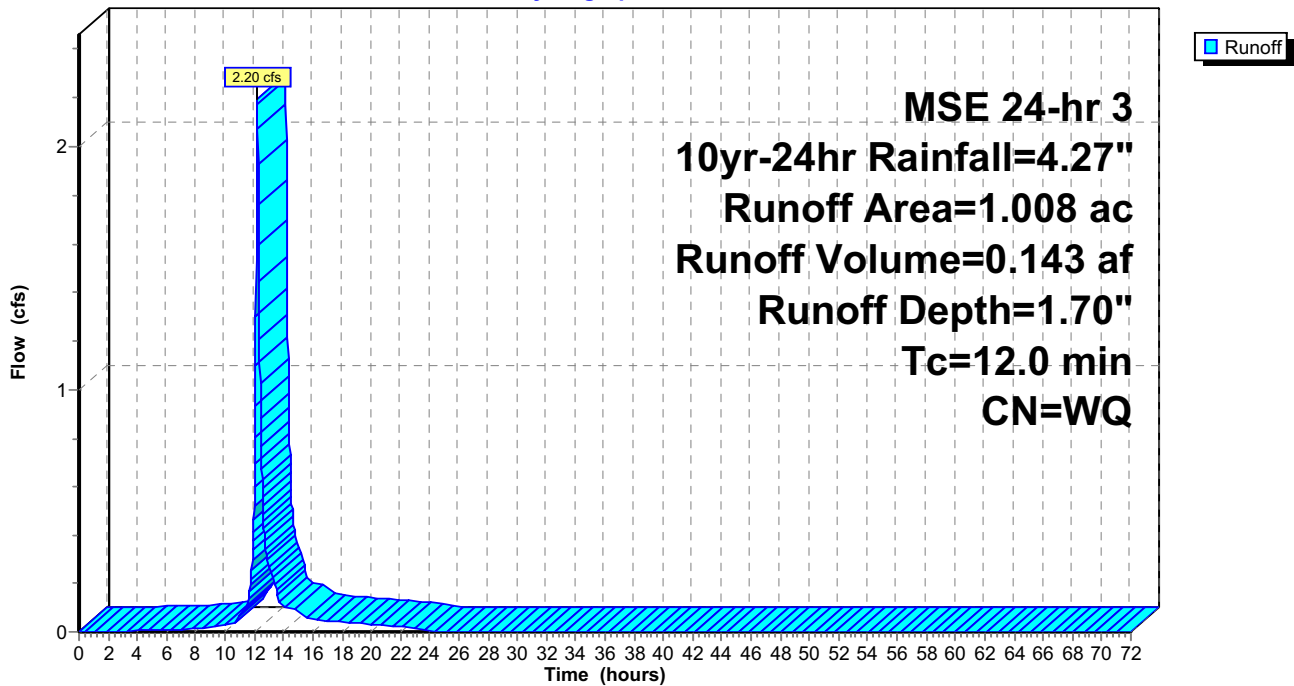
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.197	98	Impervious
0.640	61	>75% Grass cover, Good, HSG B
0.171	74	>75% Grass cover, Good, HSG C
1.008		Weighted Average
0.811		80.46% Pervious Area
0.197		19.54% Impervious Area

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

Subcatchment H6: H6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment H7: H7

Runoff = 2.78 cfs @ 12.20 hrs, Volume= 0.178 af, Depth= 1.81"

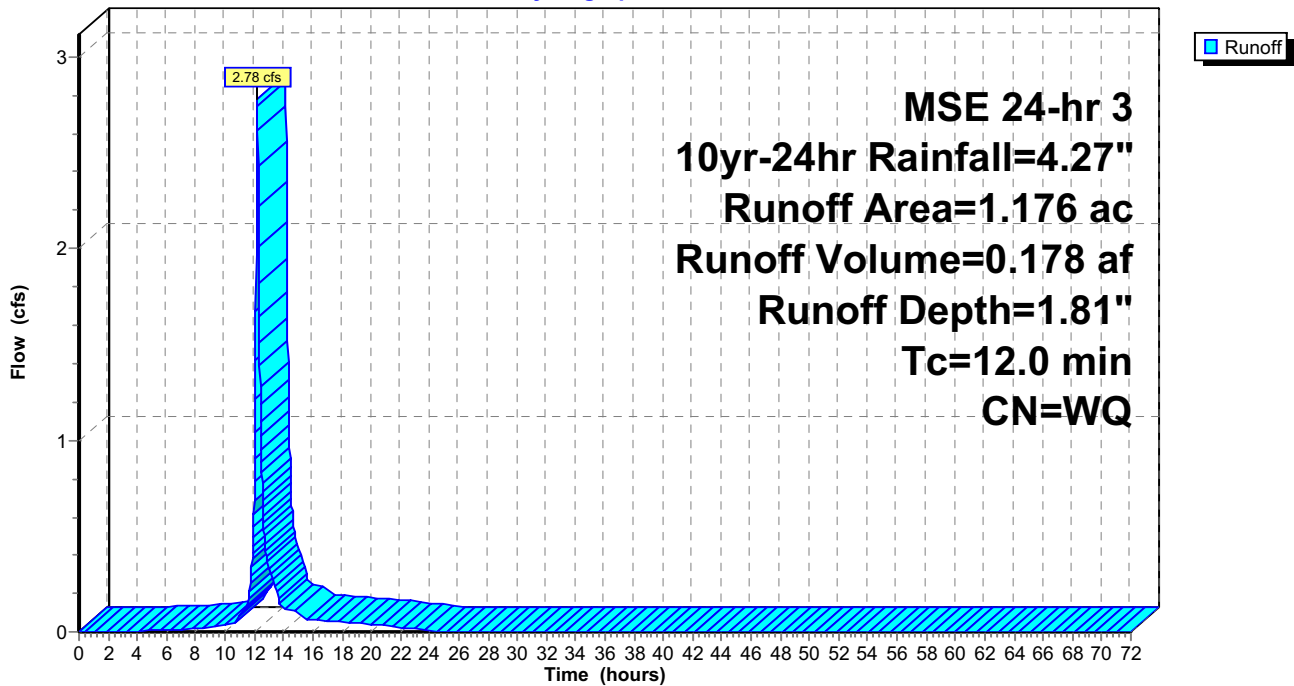
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.231	98	Impervious
0.591	61	>75% Grass cover, Good, HSG B
0.354	74	>75% Grass cover, Good, HSG C
1.176		Weighted Average
0.945		80.36% Pervious Area
0.231		19.64% Impervious Area

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

Subcatchment H7: H7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I14: I14

Runoff = 0.88 cfs @ 12.20 hrs, Volume= 0.054 af, Depth= 2.42"

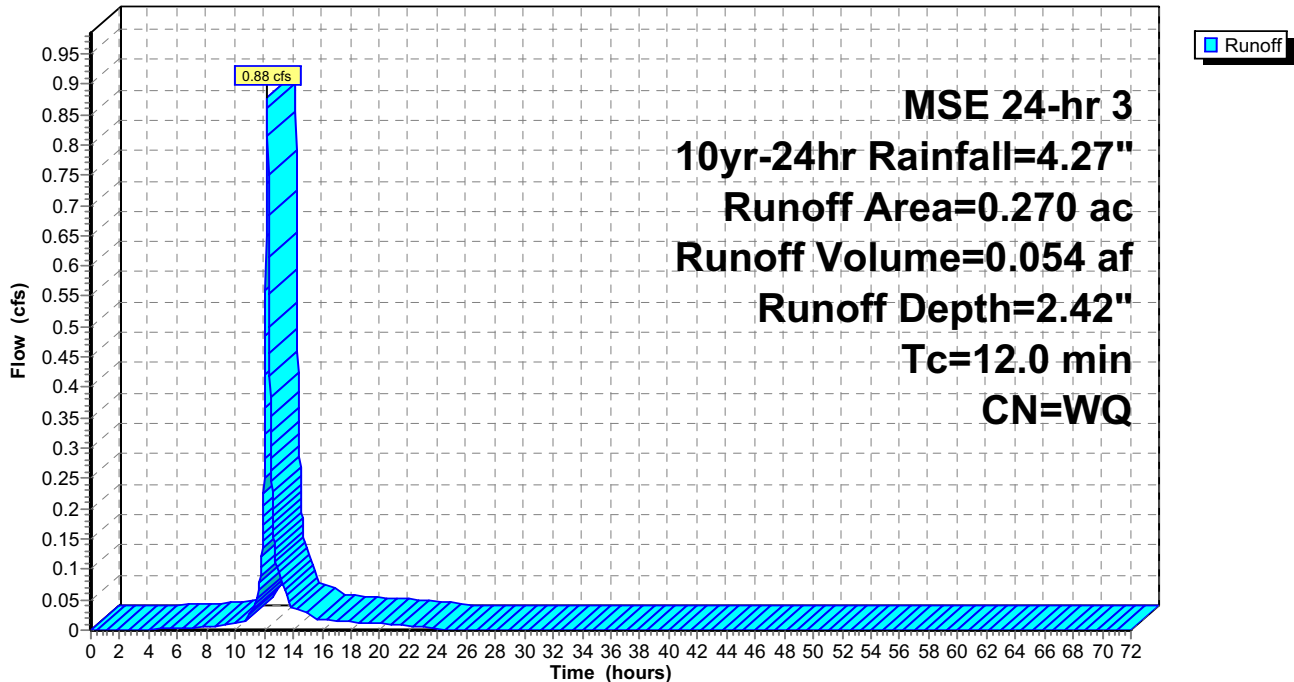
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

	Area (ac)	CN	Description
*	0.050	98	impervious
	0.124	74	>75% Grass cover, Good, HSG C
*	0.025	98	impervious
	0.071	74	>75% Grass cover, Good, HSG C
	0.270		Weighted Average
	0.195		72.22% Pervious Area
	0.075		27.78% Impervious Area

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

Subcatchment I14: I14

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I7: I7

Runoff = 1.91 cfs @ 12.20 hrs, Volume= 0.117 af, Depth= 2.30"

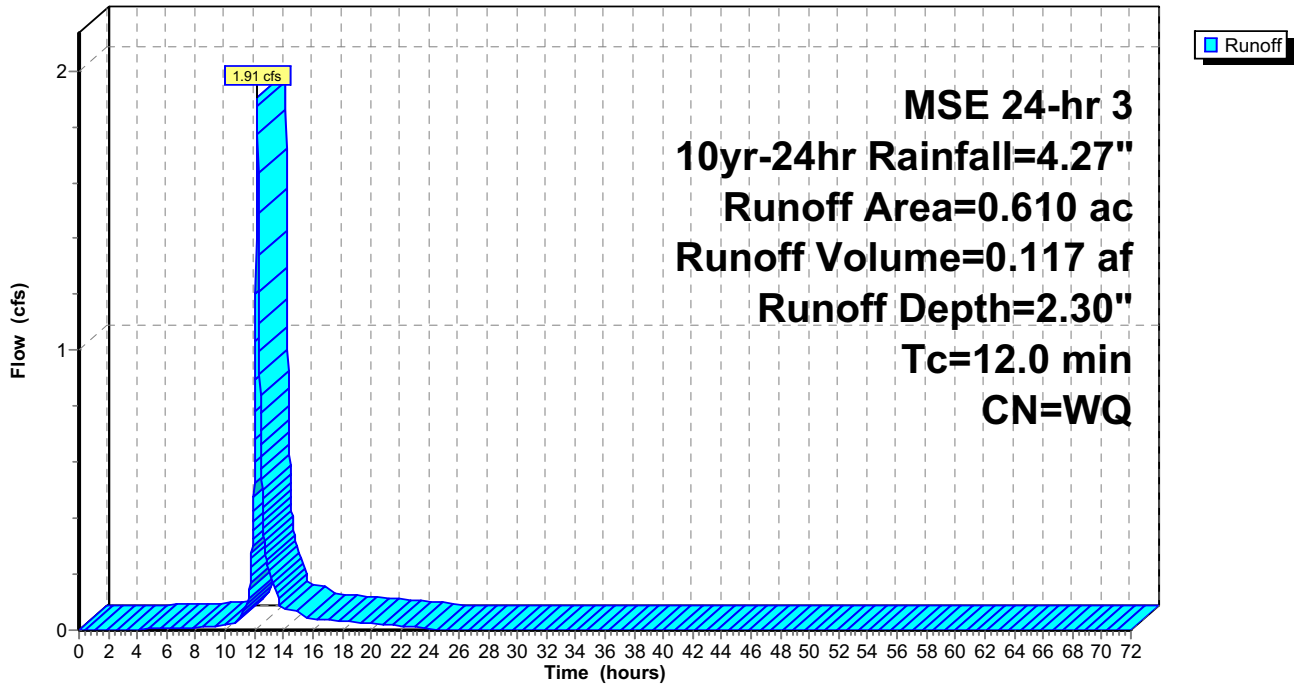
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.066	98	Impervious
0.252	74	>75% Grass cover, Good, HSG C
* 0.072	98	Impervious
0.220	74	>75% Grass cover, Good, HSG C
0.610		Weighted Average
0.472		77.38% Pervious Area
0.138		22.62% Impervious Area

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

Subcatchment I7: I7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I7_100: I7_100

Runoff = 0.56 cfs @ 12.20 hrs, Volume= 0.033 af, Depth= 1.96"

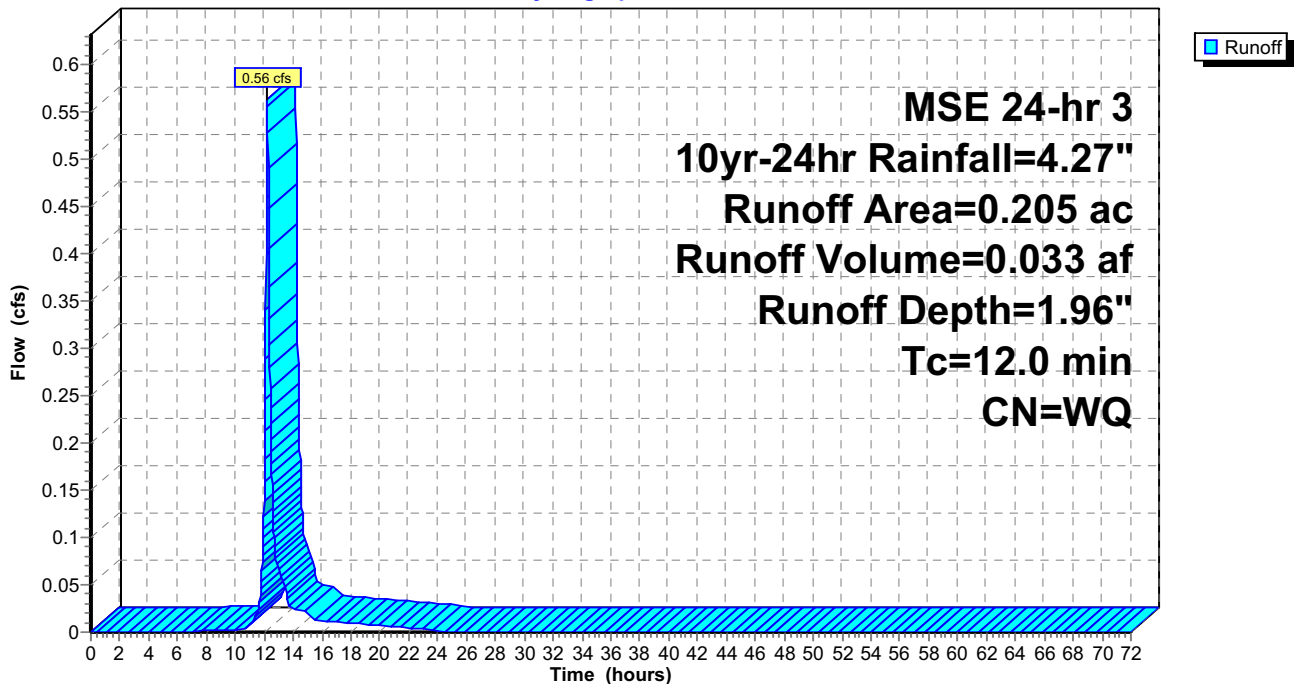
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
* 0.008	98	Impervious
* 0.007	98	Impervious
0.166	74	>75% Grass cover, Good, HSG C
0.205		Weighted Average
0.190		92.68% Pervious Area
0.015		7.32% Impervious Area

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

Subcatchment I7_100: I7_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I8: I8

Runoff = 3.20 cfs @ 12.20 hrs, Volume= 0.197 af, Depth= 2.36"

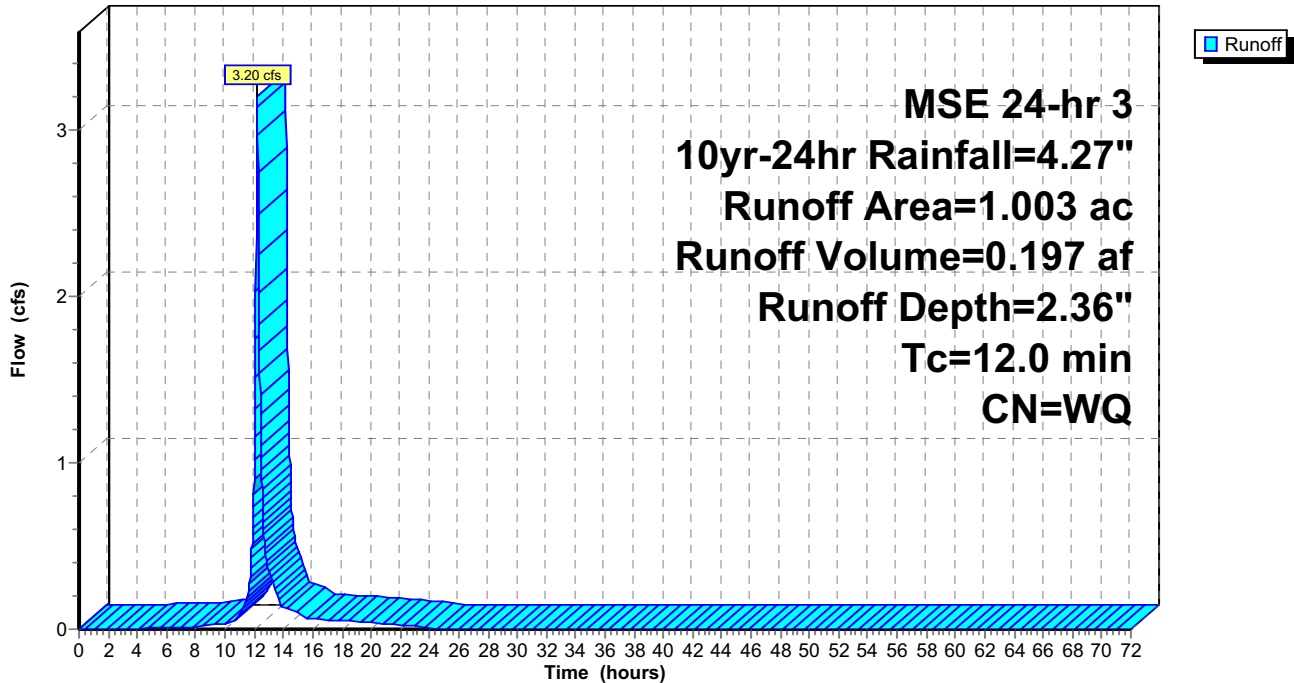
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.252	98	Impervious
0.751	74	>75% Grass cover, Good, HSG C
1.003		Weighted Average
0.751		74.88% Pervious Area
0.252		25.12% Impervious Area

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

Subcatchment I8: I8

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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I8_100: I8_100

Runoff = 0.55 cfs @ 12.20 hrs, Volume= 0.034 af, Depth= 2.38"

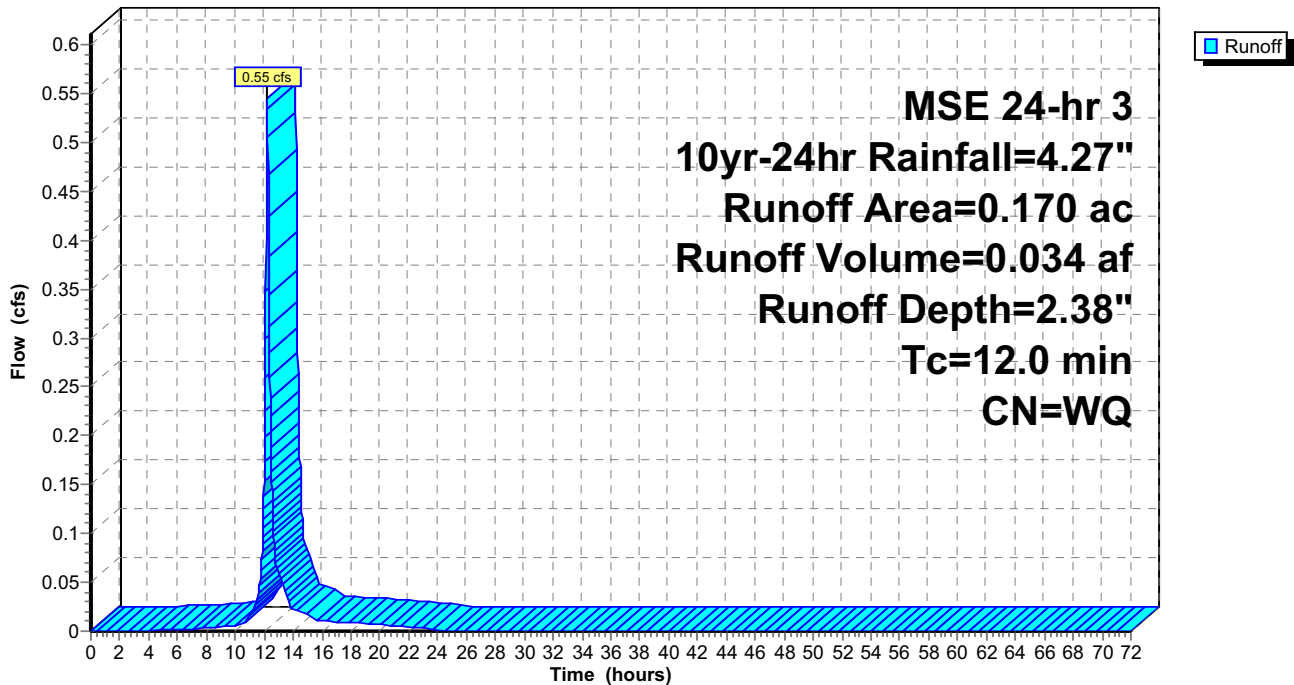
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.126	74	>75% Grass cover, Good, HSG C
* 0.044	98	Impervious
0.170		Weighted Average
0.126		74.12% Pervious Area
0.044		25.88% Impervious Area

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

Subcatchment I8_100: I8_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I9: I9

Runoff = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af, Depth= 2.42"

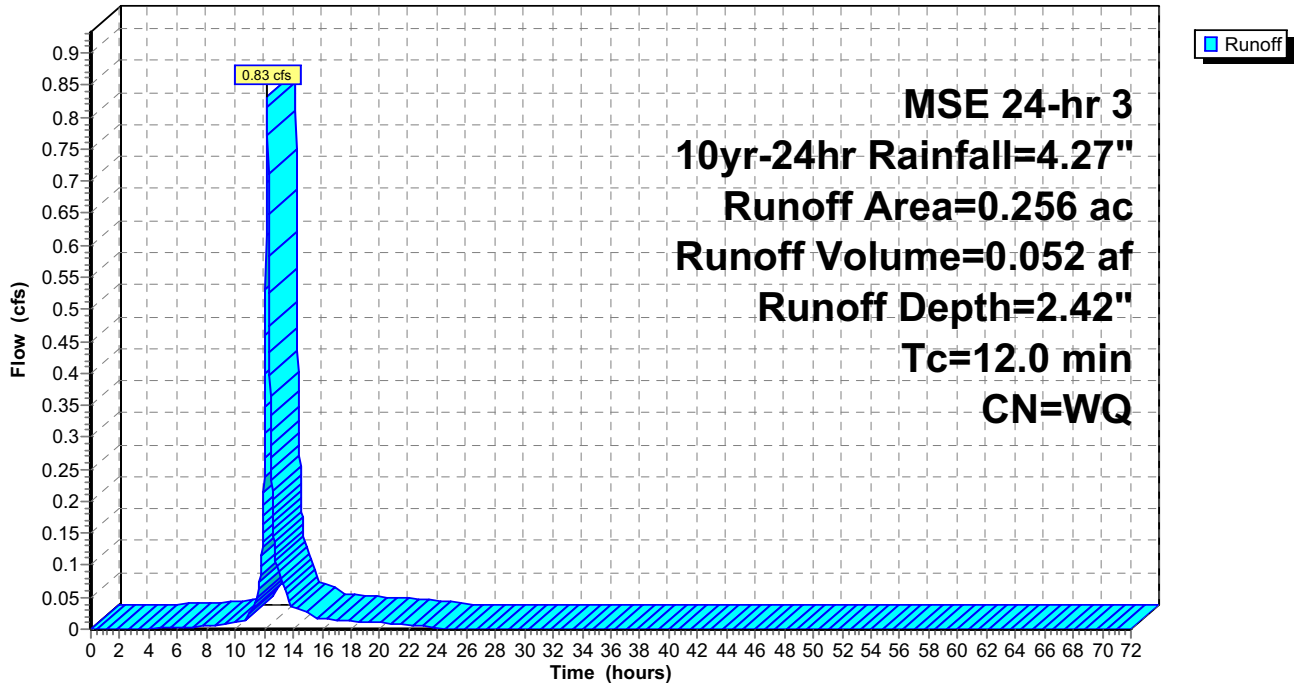
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.071	98	Impervious
0.185	74	>75% Grass cover, Good, HSG C
0.256		Weighted Average
0.185		72.27% Pervious Area
0.071		27.73% Impervious Area

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

Subcatchment I9: I9

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Summary for Subcatchment J3: J3

Runoff = 4.60 cfs @ 12.20 hrs, Volume= 0.281 af, Depth= 2.25"

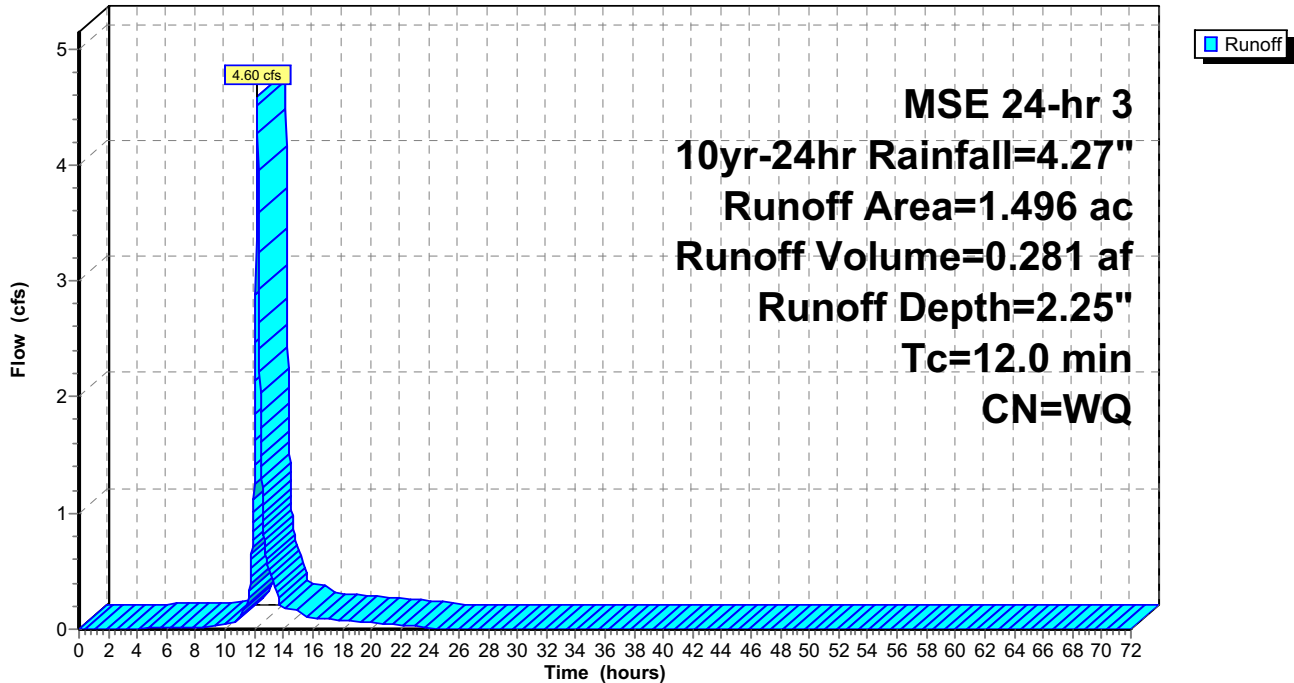
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.304	98	Impervious
1.192	74	>75% Grass cover, Good, HSG C
1.496		Weighted Average
1.192		79.68% Pervious Area
0.304		20.32% Impervious Area

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

Subcatchment J3: J3

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment J4: J4

Runoff = 0.80 cfs @ 12.20 hrs, Volume= 0.046 af, Depth= 1.80"

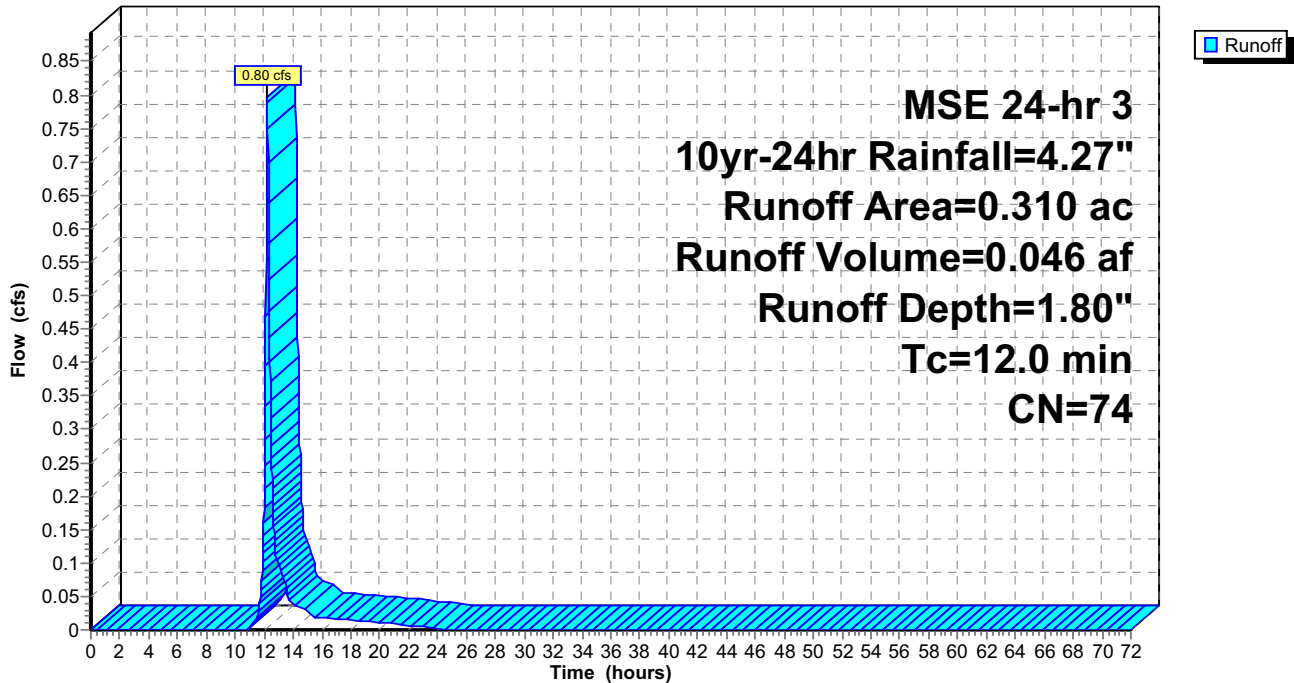
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.310	74	>75% Grass cover, Good, HSG C
0.310		100.00% Pervious Area

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

Subcatchment J4: J4

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment J5: J5

Runoff = 2.05 cfs @ 12.20 hrs, Volume= 0.125 af, Depth= 2.19"

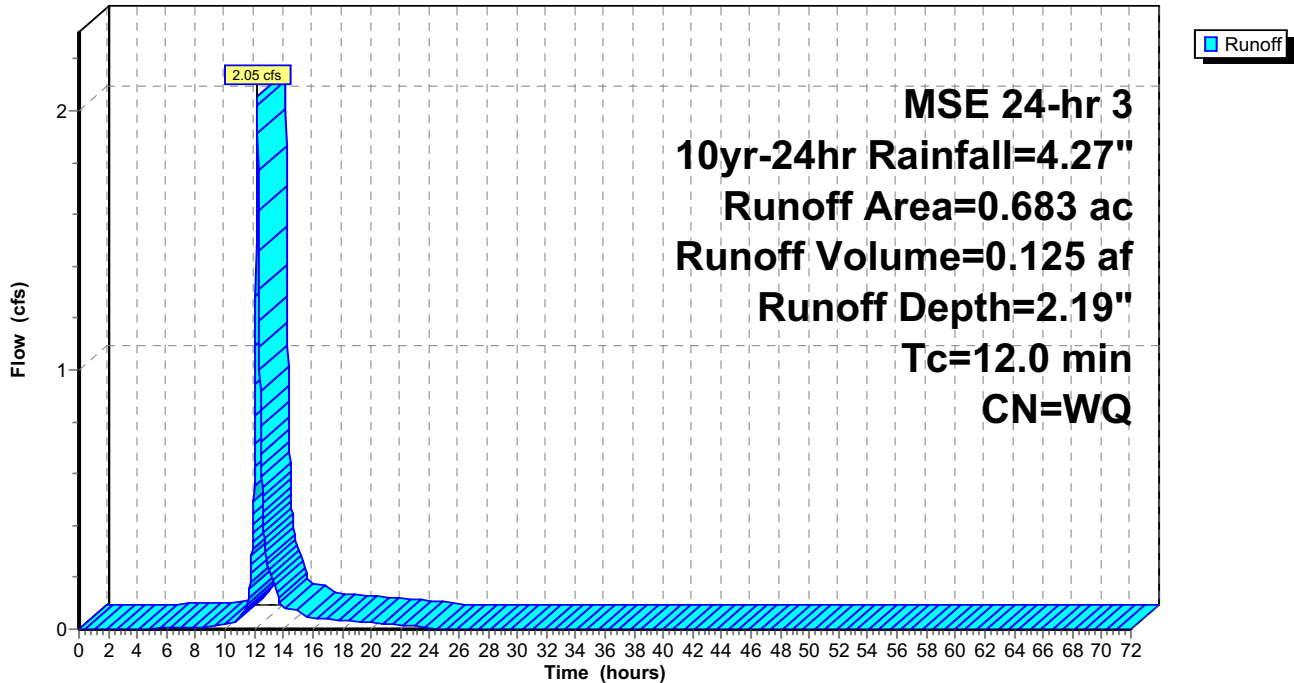
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.121	98	Impervious
0.562	74	>75% Grass cover, Good, HSG C
0.683		Weighted Average
0.562		82.28% Pervious Area
0.121		17.72% Impervious Area

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

Subcatchment J5: J5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L10: L10

Runoff = 3.48 cfs @ 12.20 hrs, Volume= 0.211 af, Depth= 2.19"

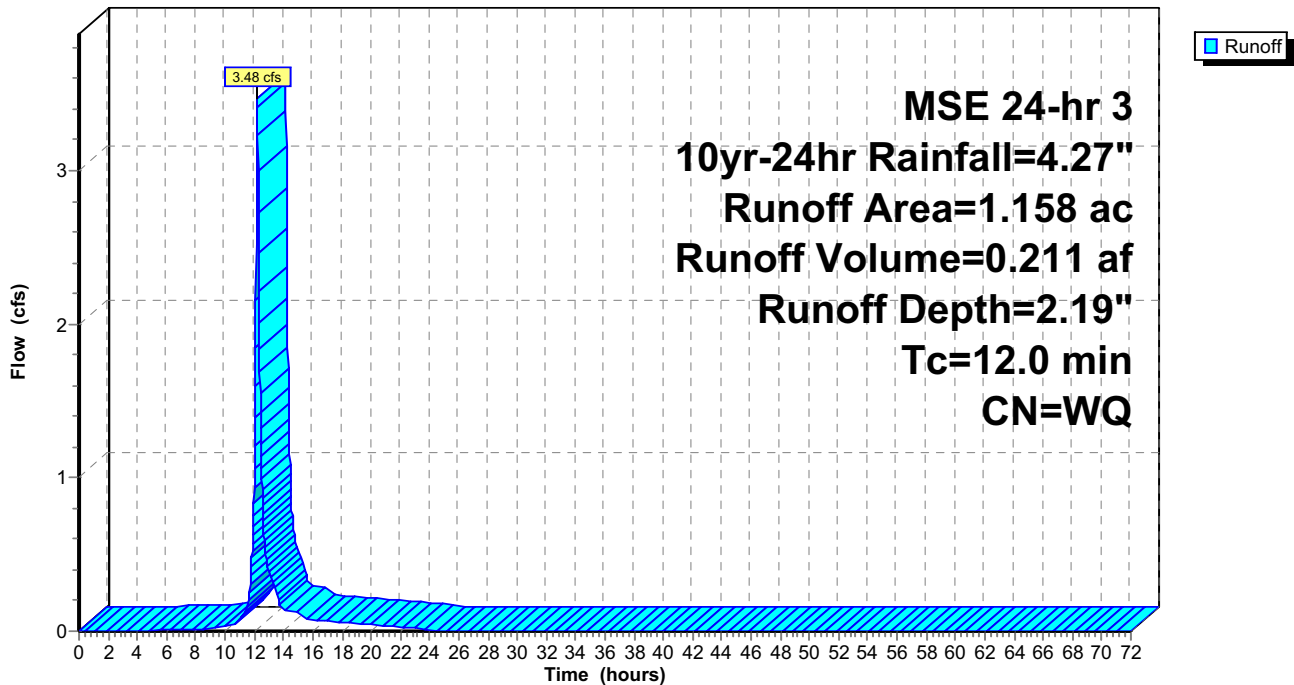
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.955	74	>75% Grass cover, Good, HSG C
1.158		Weighted Average
0.955		82.47% Pervious Area
0.203		17.53% Impervious Area

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

Subcatchment L10: L10

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L4: L4

Runoff = 0.51 cfs @ 12.20 hrs, Volume= 0.031 af, Depth= 2.24"

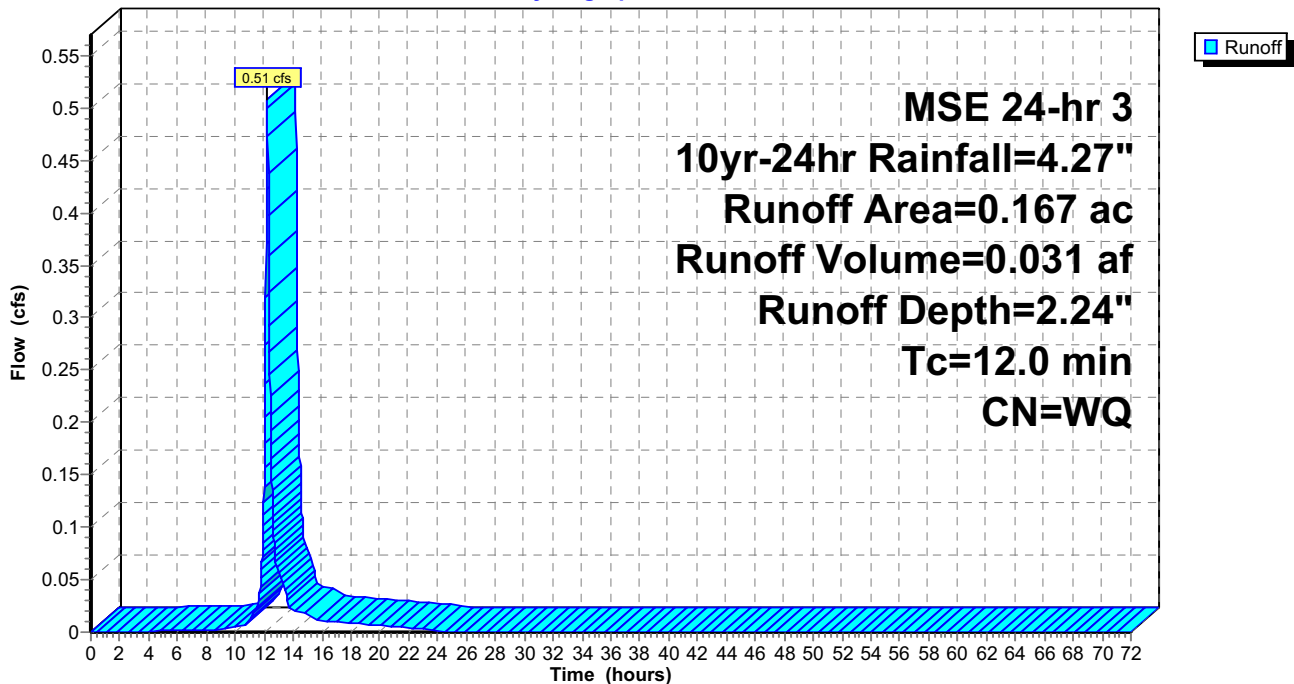
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.002	98	Impervious
0.005	61	>75% Grass cover, Good, HSG B
0.127	74	>75% Grass cover, Good, HSG C
* 0.033	98	Impervious
0.167		Weighted Average
0.132		79.04% Pervious Area
0.035		20.96% Impervious Area

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

Subcatchment L4: L4

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L5: L5

Runoff = 2.38 cfs @ 12.20 hrs, Volume= 0.146 af, Depth= 2.29"

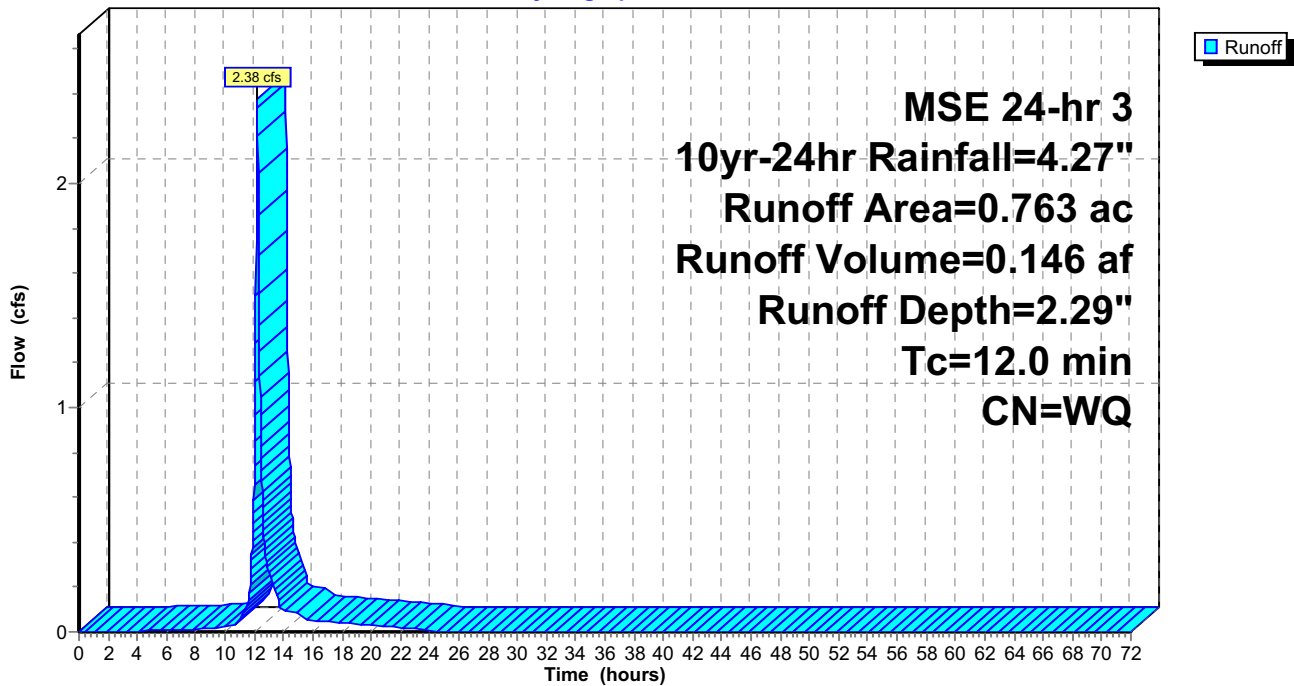
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

	Area (ac)	CN	Description
*	0.101	98	Impervious
	0.595	74	>75% Grass cover, Good, HSG C
*	0.067	98	Impervious
	0.763		Weighted Average
	0.595		77.98% Pervious Area
	0.168		22.02% Impervious Area

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

Subcatchment L5: L5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L6: L6

Runoff = 3.34 cfs @ 12.20 hrs, Volume= 0.204 af, Depth= 2.24"

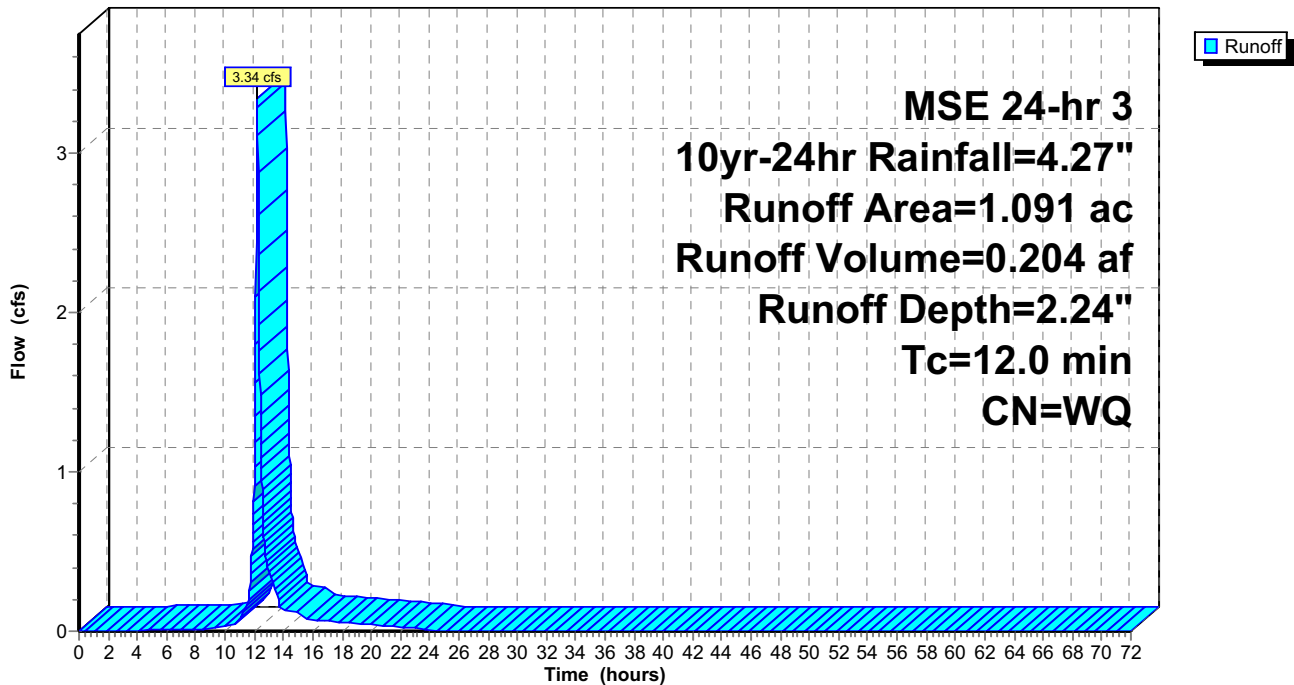
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.218	98	Impervious
0.873	74	>75% Grass cover, Good, HSG C
1.091		Weighted Average
0.873		80.02% Pervious Area
0.218		19.98% Impervious Area

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

Subcatchment L6: L6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L7: L7

Runoff = 2.35 cfs @ 12.20 hrs, Volume= 0.144 af, Depth= 2.27"

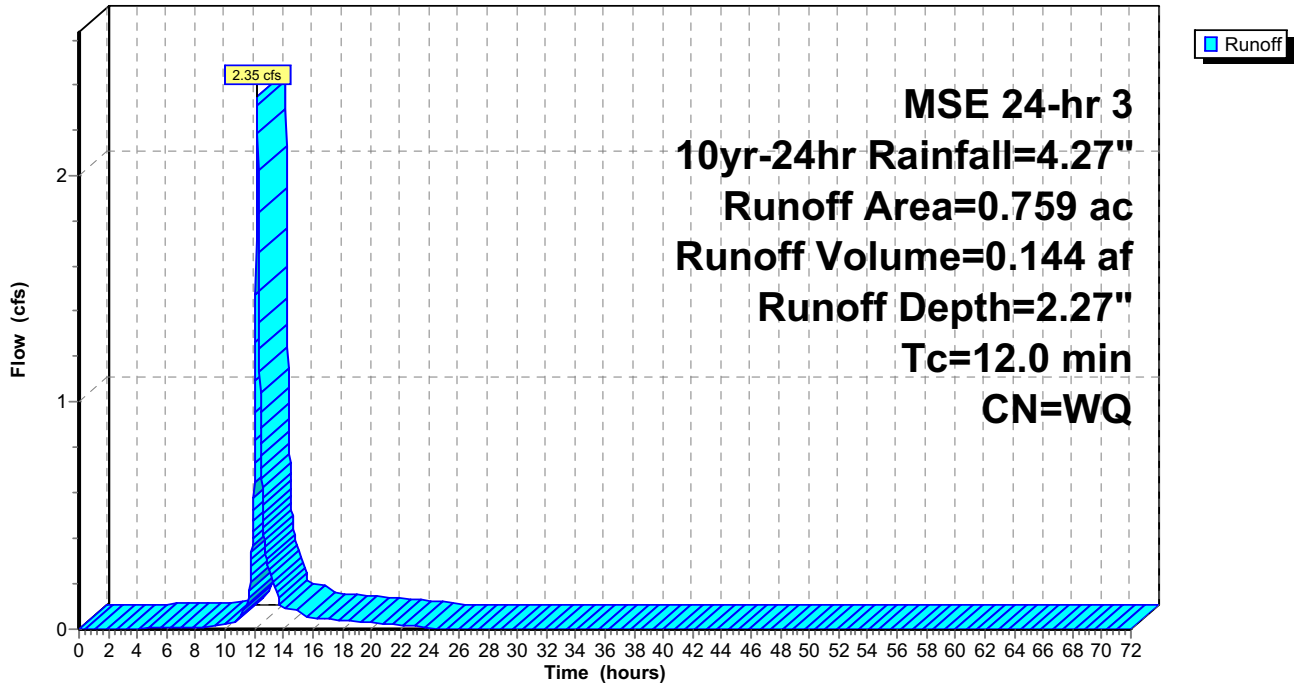
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.161	98	Impervious
0.598	74	>75% Grass cover, Good, HSG C
0.759		Weighted Average
0.598		78.79% Pervious Area
0.161		21.21% Impervious Area

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

Subcatchment L7: L7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L8: L8

Runoff = 4.27 cfs @ 12.20 hrs, Volume= 0.263 af, Depth= 2.19"

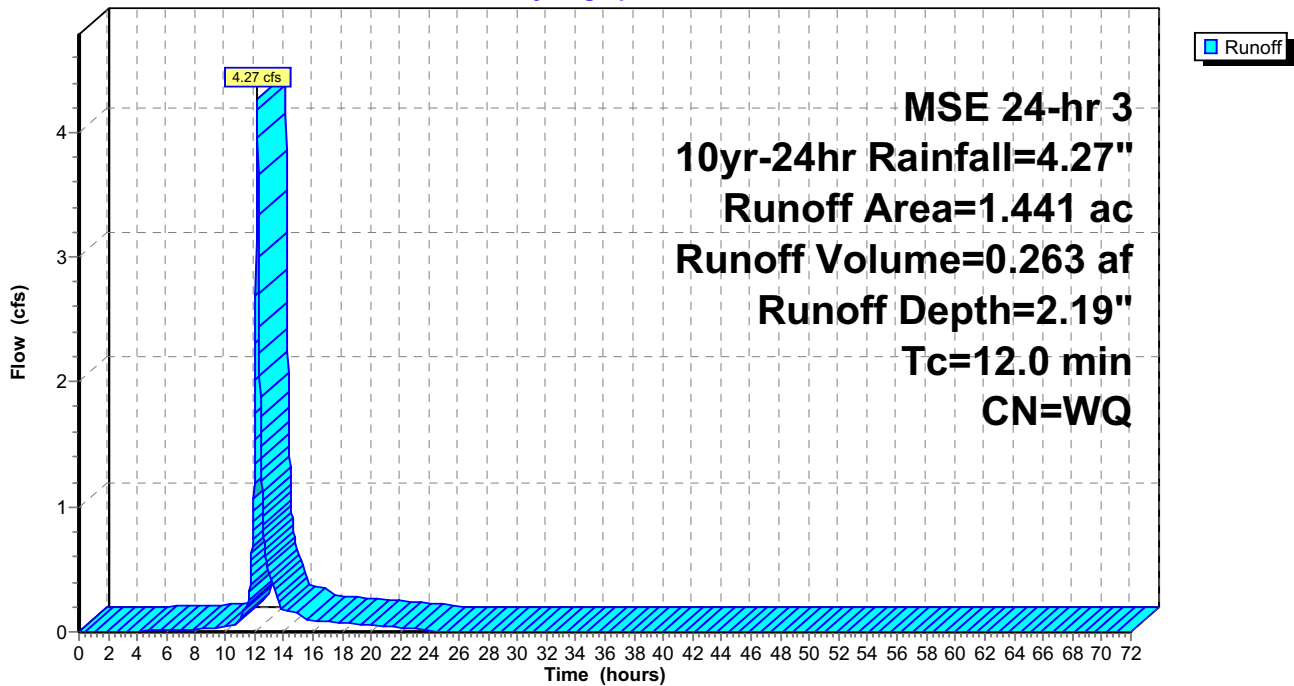
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.318	98	Impervious
0.086	39	>75% Grass cover, Good, HSG A
1.037	74	>75% Grass cover, Good, HSG C
1.441		Weighted Average
1.123		77.93% Pervious Area
0.318		22.07% Impervious Area

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

Subcatchment L8: L8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L9: L9

Runoff = 2.99 cfs @ 12.20 hrs, Volume= 0.183 af, Depth= 2.26"

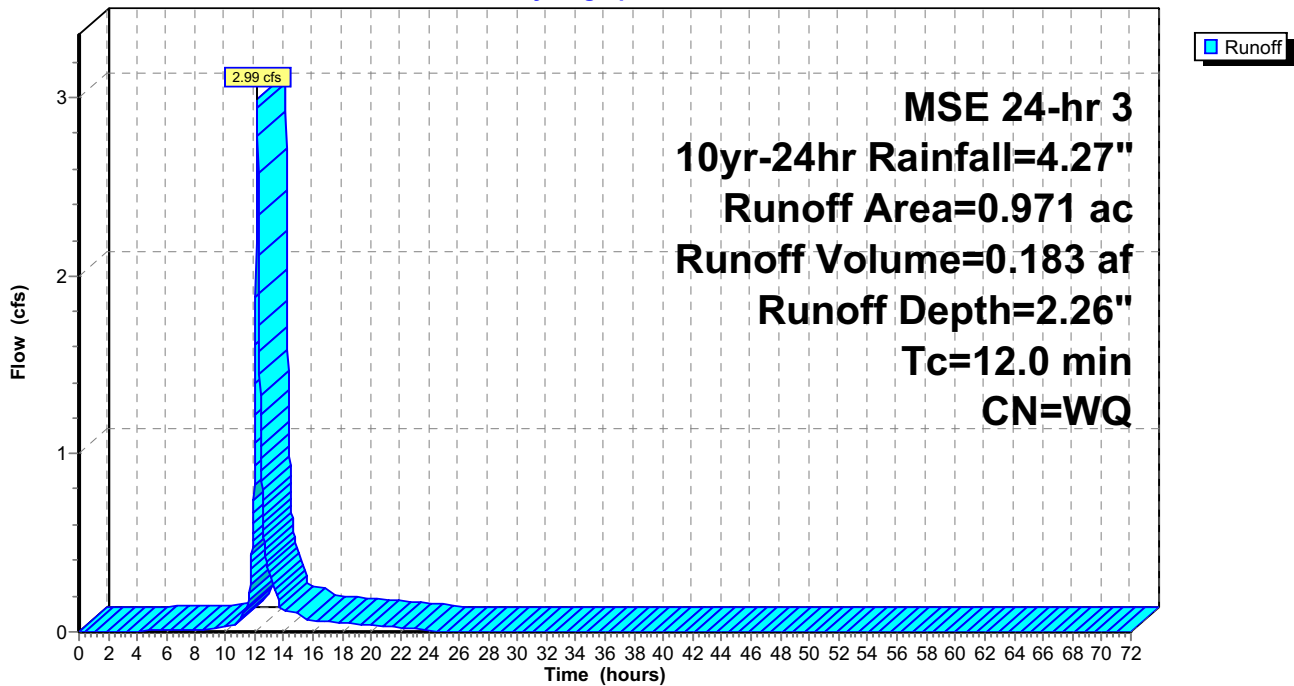
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.205	98	Impervious
0.003	39	>75% Grass cover, Good, HSG A
0.763	74	>75% Grass cover, Good, HSG C
0.971		Weighted Average
0.766		78.89% Pervious Area
0.205		21.11% Impervious Area

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

Subcatchment L9: L9

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment O10: O10

Runoff = 1.80 cfs @ 12.20 hrs, Volume= 0.109 af, Depth= 2.14"

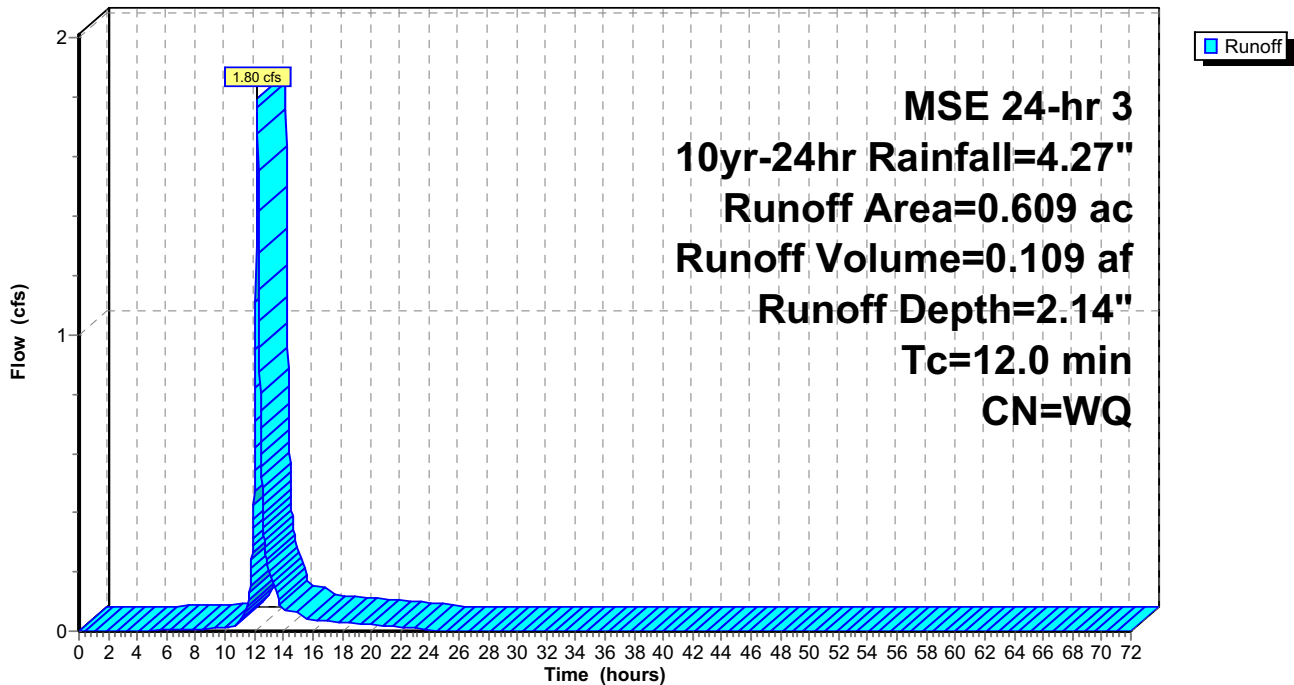
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.094	98	Impervious
0.515	74	>75% Grass cover, Good, HSG C
0.609		Weighted Average
0.515		84.56% Pervious Area
0.094		15.44% Impervious Area

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

Subcatchment O10: O10

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment O8: O8

Runoff = 1.41 cfs @ 12.20 hrs, Volume= 0.085 af, Depth= 2.07"

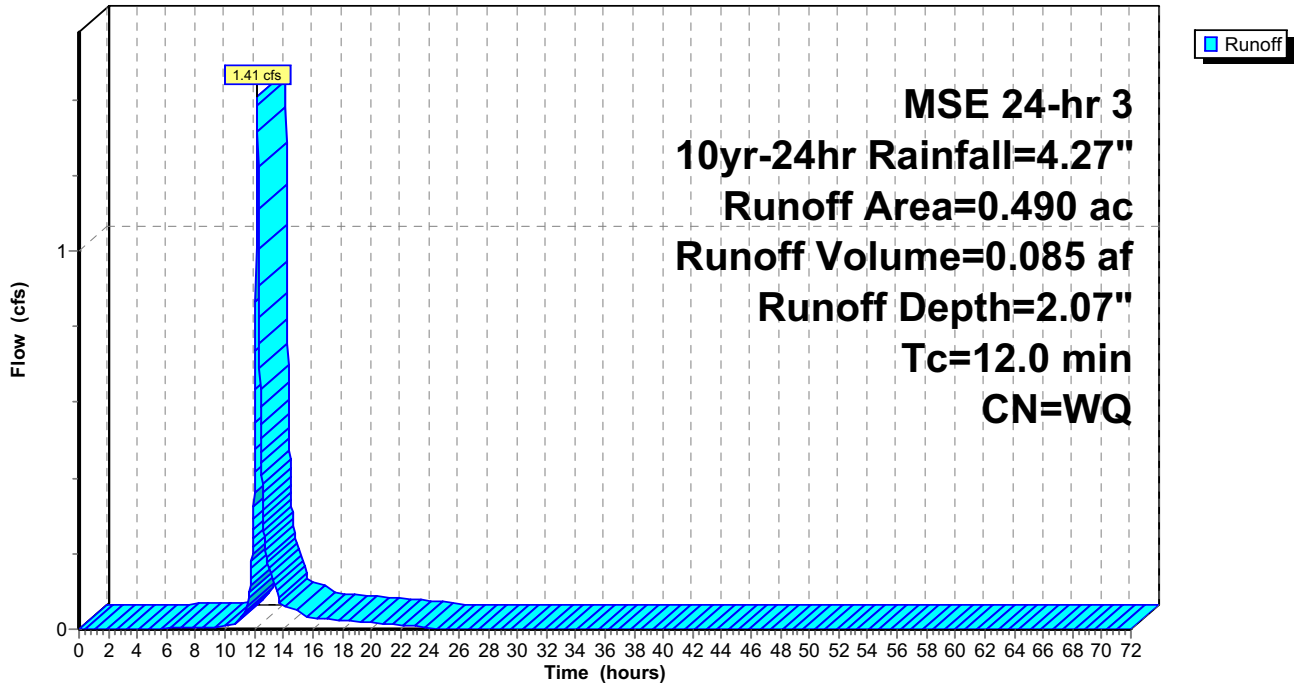
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.060	98	Impervious
0.430	74	>75% Grass cover, Good, HSG C
0.490		Weighted Average
0.430		87.76% Pervious Area
0.060		12.24% Impervious Area

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

Subcatchment O8: O8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment O9: O9

Runoff = 3.50 cfs @ 12.20 hrs, Volume= 0.214 af, Depth= 2.24"

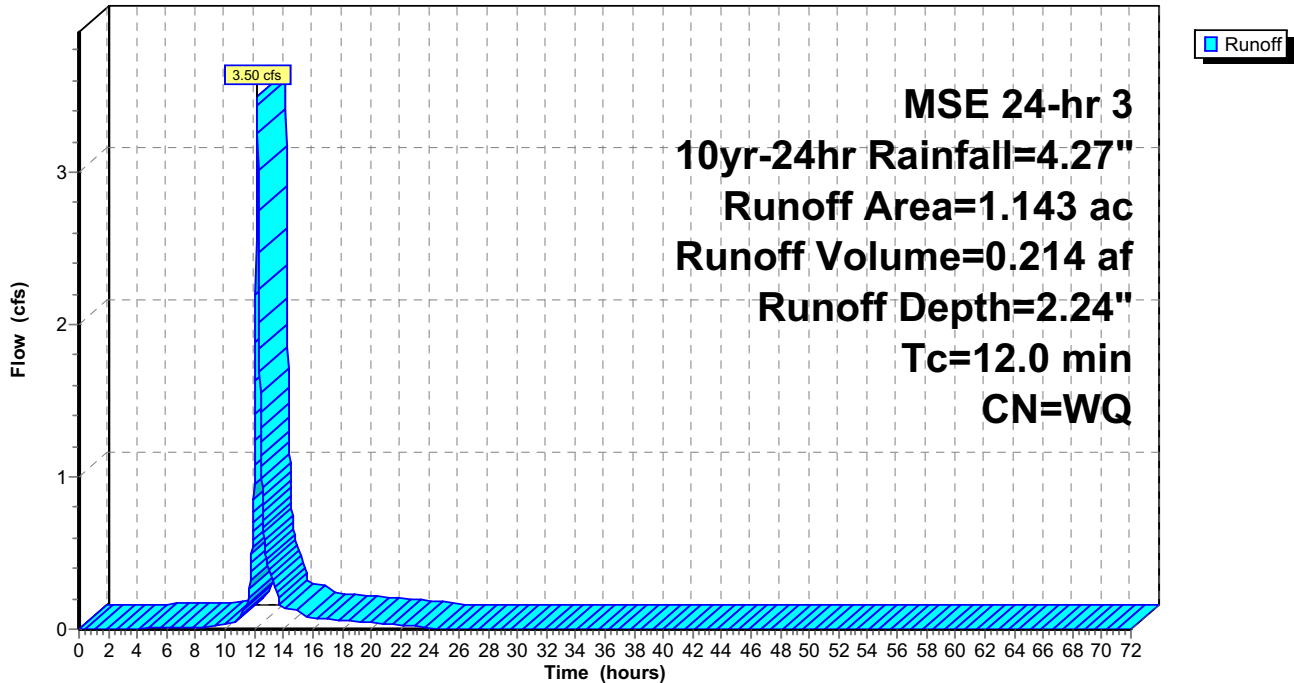
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.227	98	Impervious
0.916	74	>75% Grass cover, Good, HSG C
1.143		Weighted Average
0.916		80.14% Pervious Area
0.227		19.86% Impervious Area

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

Subcatchment O9: O9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W6: W6

Runoff = 18.37 cfs @ 12.39 hrs, Volume= 1.665 af, Depth= 2.00"

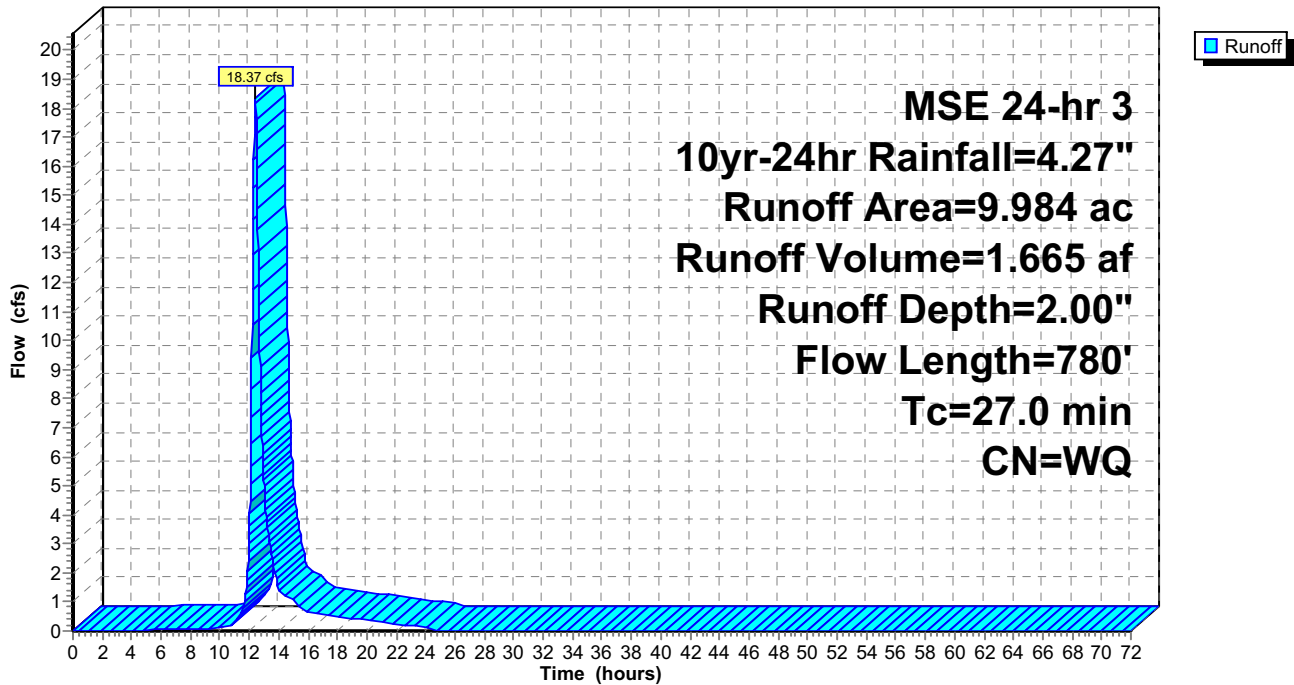
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.983	98	Impervious
6.862	74	>75% Grass cover, Good, HSG C
2.139	73	Woods, Fair, HSG C
9.984		Weighted Average
9.001		90.15% Pervious Area
0.983		9.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	300	0.0330	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
6.6	480	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.0	780	Total			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W6_100: W6_100

Runoff = 0.27 cfs @ 12.61 hrs, Volume= 0.032 af, Depth= 1.76"

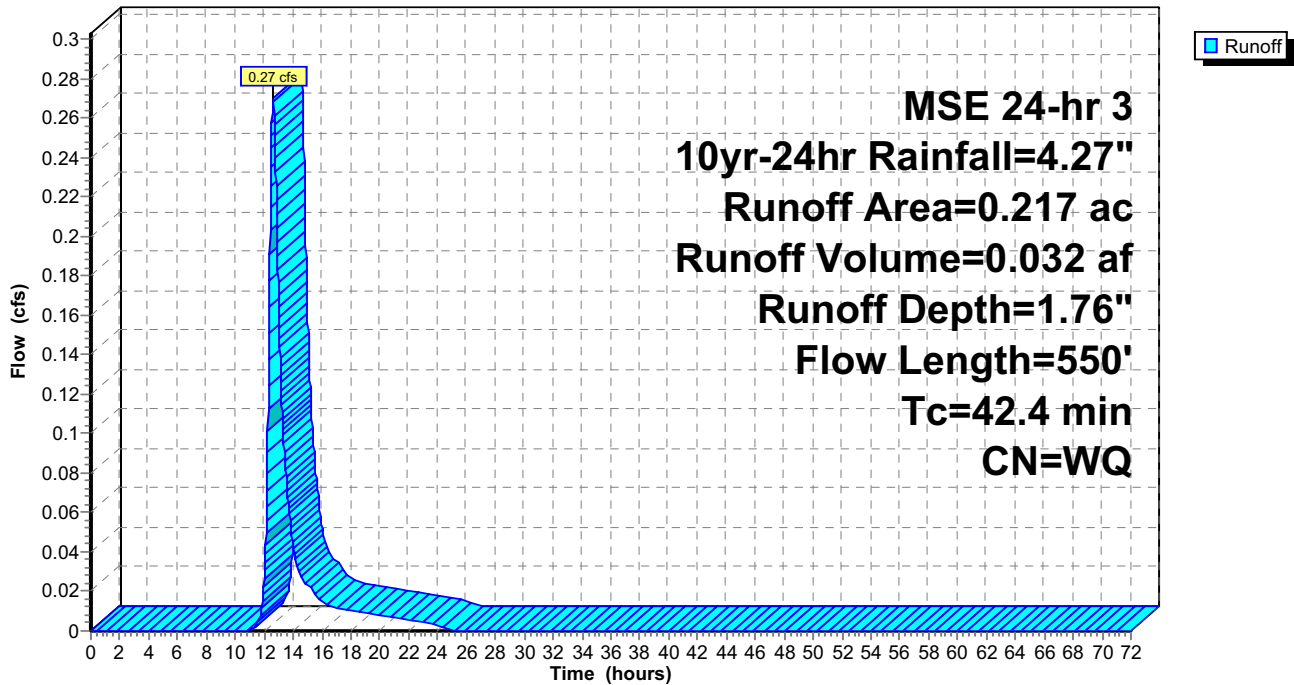
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.094	74	>75% Grass cover, Good, HSG C
0.123	73	Woods, Fair, HSG C
0.217		Weighted Average
0.217		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.8	300	0.0470	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
3.6	250	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
42.4	550	Total			

Subcatchment W6_100: W6_100

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Summary for Subcatchment W6_101: W6_101

Runoff = 4.95 cfs @ 12.29 hrs, Volume= 0.374 af, Depth= 2.08"

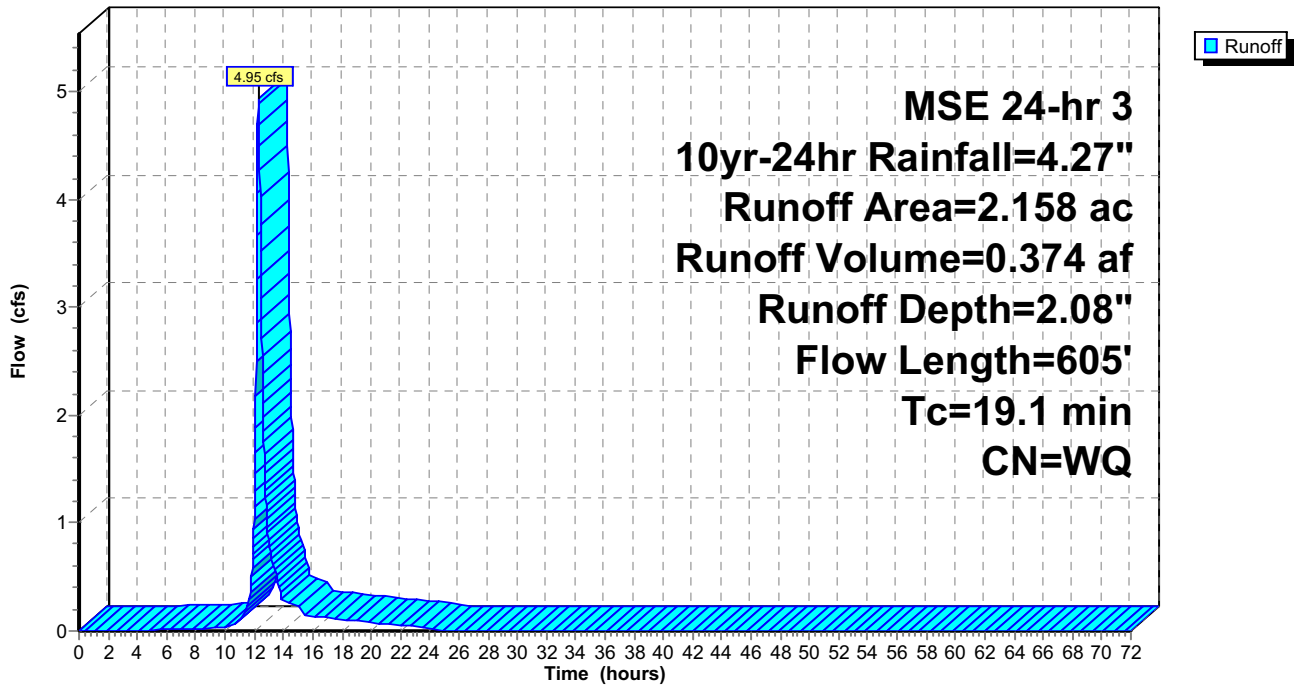
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
1.405	74	>75% Grass cover, Good, HSG C
* 0.290	98	Impervious
0.463	73	Woods, Fair, HSG C
2.158		Weighted Average
1.868		86.56% Pervious Area
0.290		13.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	295	0.0680	0.33		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
4.0	310	0.0340	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
19.1	605	Total			

Subcatchment W6_101: W6_101

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Summary for Subcatchment W6_102: W6_102

Runoff = 0.59 cfs @ 12.25 hrs, Volume= 0.039 af, Depth= 1.80"

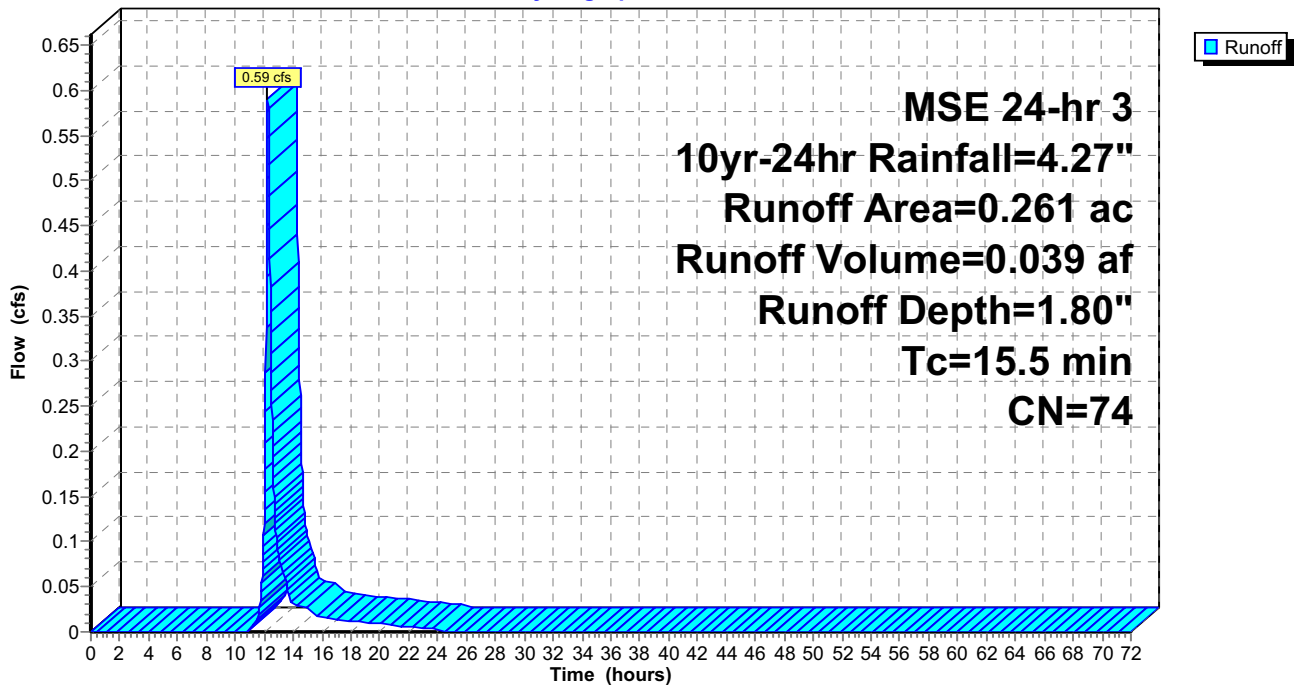
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
0.261		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5					Direct Entry, From Existing Conditions (EX_5)

Subcatchment W6_102: W6_102

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W9: W9

Runoff = 5.11 cfs @ 12.20 hrs, Volume= 0.307 af, Depth= 2.06"

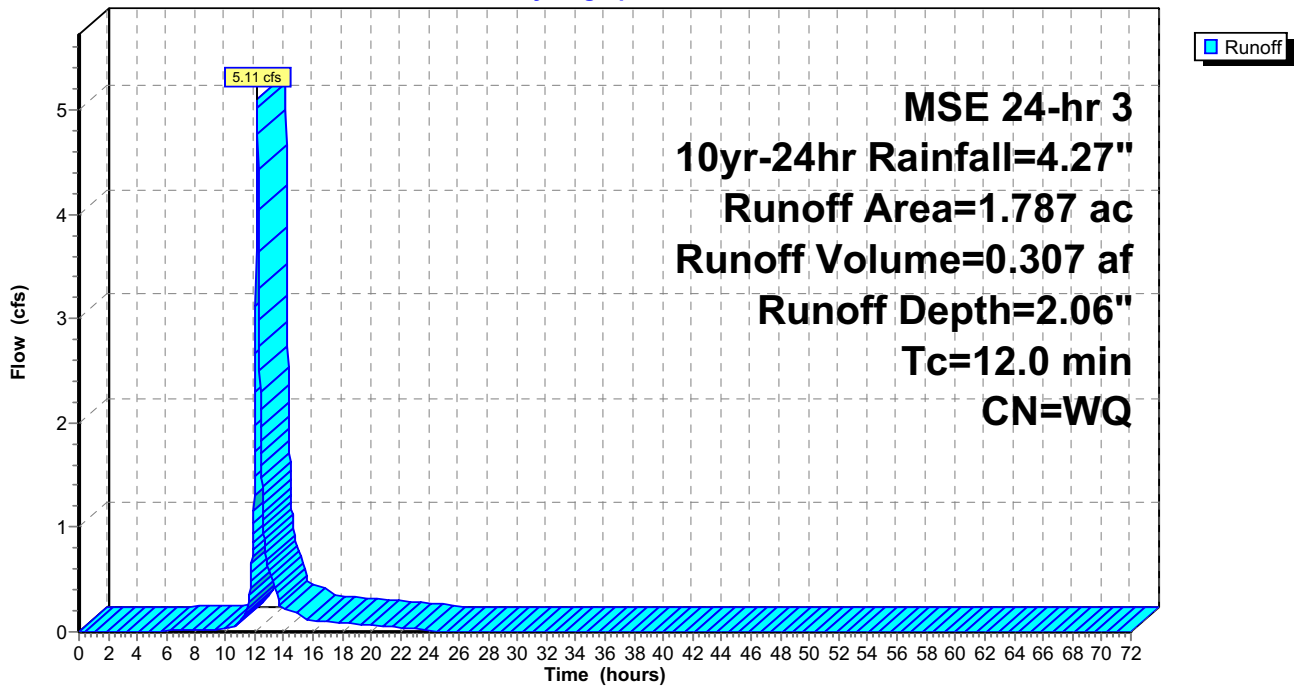
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
1.416	74	>75% Grass cover, Good, HSG C
* 0.217	98	Pond
0.154	73	Woods, Fair, HSG C
1.787		Weighted Average
1.570		87.86% Pervious Area
0.217		12.14% Impervious Area

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

Subcatchment W9: W9

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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W9_100: W9_100

Runoff = 4.51 cfs @ 12.49 hrs, Volume= 0.478 af, Depth= 2.30"

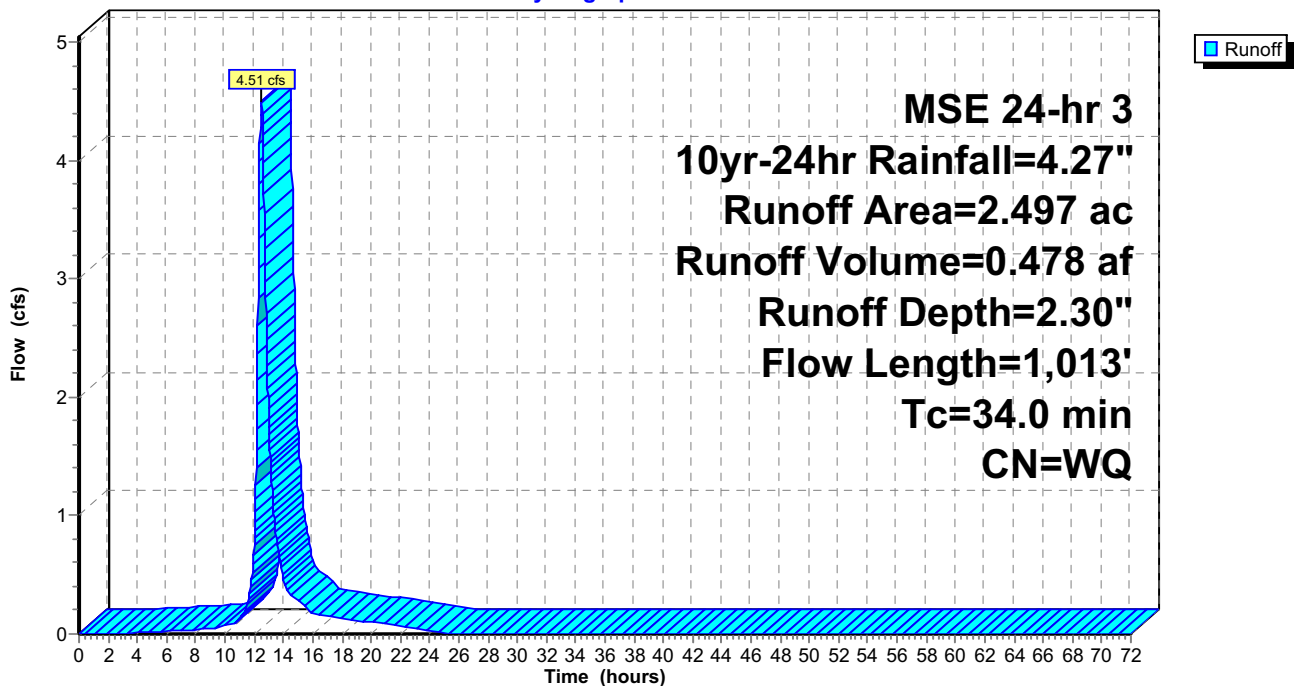
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
1.912	74	>75% Grass cover, Good, HSG C
* 0.557	98	Impervious
0.028	73	Woods, Fair, HSG C
2.497		Weighted Average
1.940		77.69% Pervious Area
0.557		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	223	0.0450	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
19.8	790	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
34.0	1,013	Total			

Subcatchment W9_100: W9_100

Hydrograph



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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W9_101: W9_101

Runoff = 1.77 cfs @ 12.25 hrs, Volume= 0.130 af, Depth= 2.90"

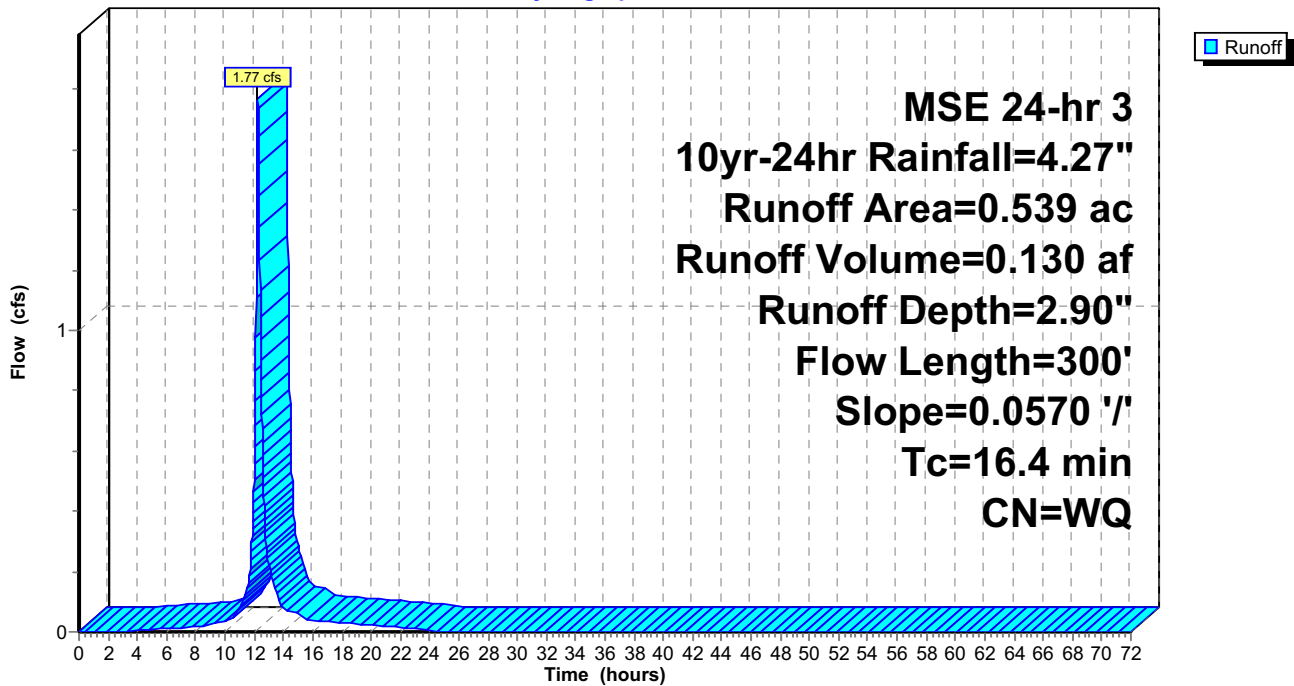
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.274	74	>75% Grass cover, Good, HSG C
* 0.265	98	Impervious
0.539		Weighted Average
0.274		50.83% Pervious Area
0.265		49.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	300	0.0570	0.31		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment W9_101: W9_101

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 1R: Bassett Creek Watershed

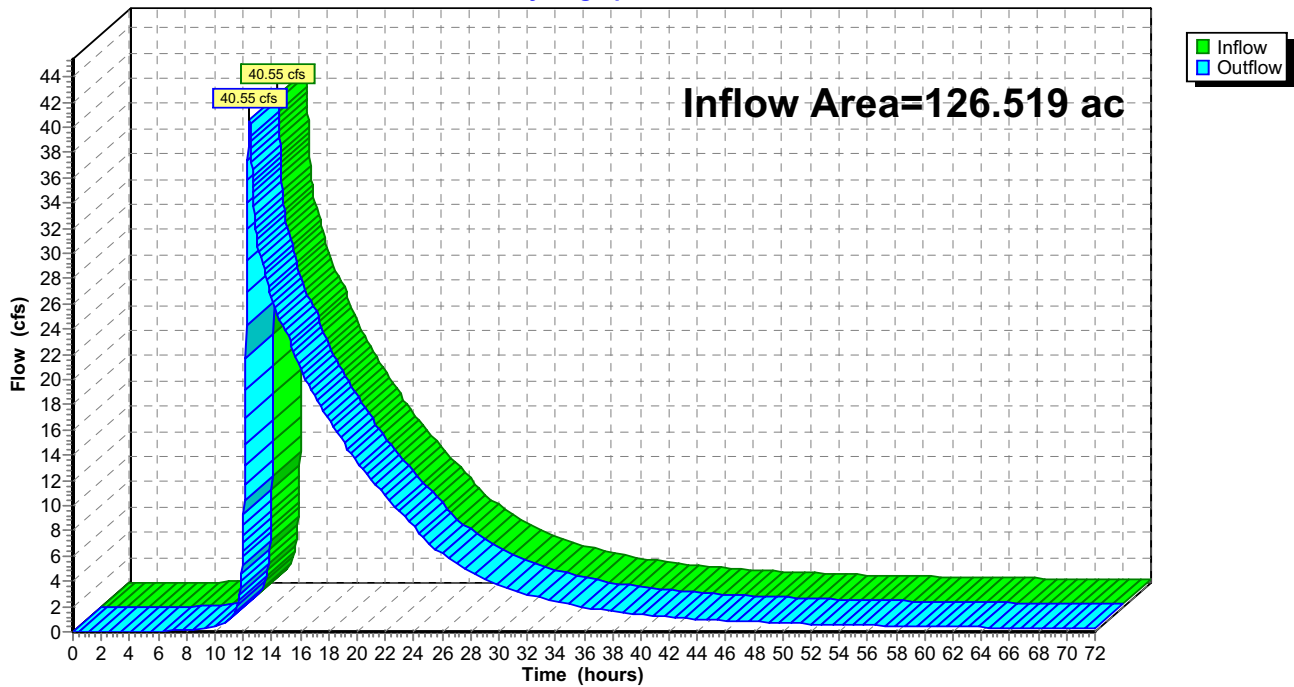
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.519 ac, 32.48% Impervious, Inflow Depth > 2.33" for 10yr-24hr event
Inflow = 40.55 cfs @ 12.43 hrs, Volume= 24.570 af
Outflow = 40.55 cfs @ 12.43 hrs, Volume= 24.570 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 5R: Elm Creek Watershed

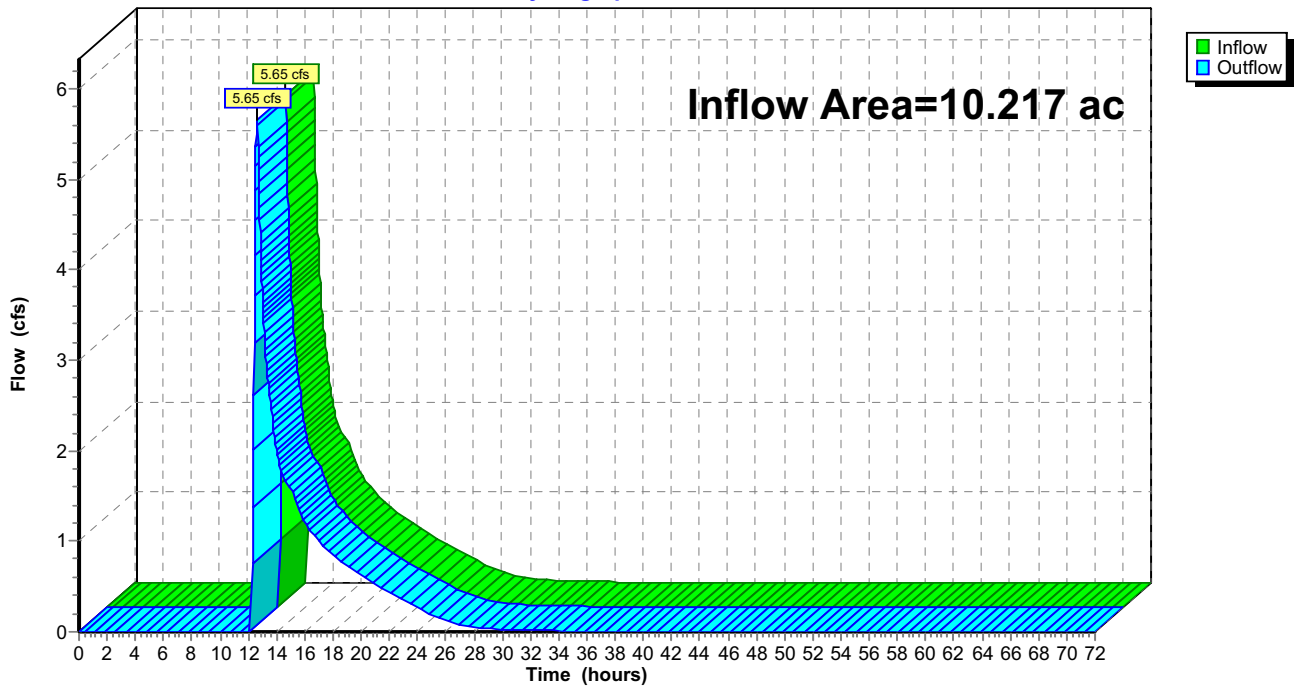
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 1.43" for 10yr-24hr event
Inflow = 5.65 cfs @ 12.61 hrs, Volume= 1.216 af
Outflow = 5.65 cfs @ 12.61 hrs, Volume= 1.216 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 5R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 8R: Offsite

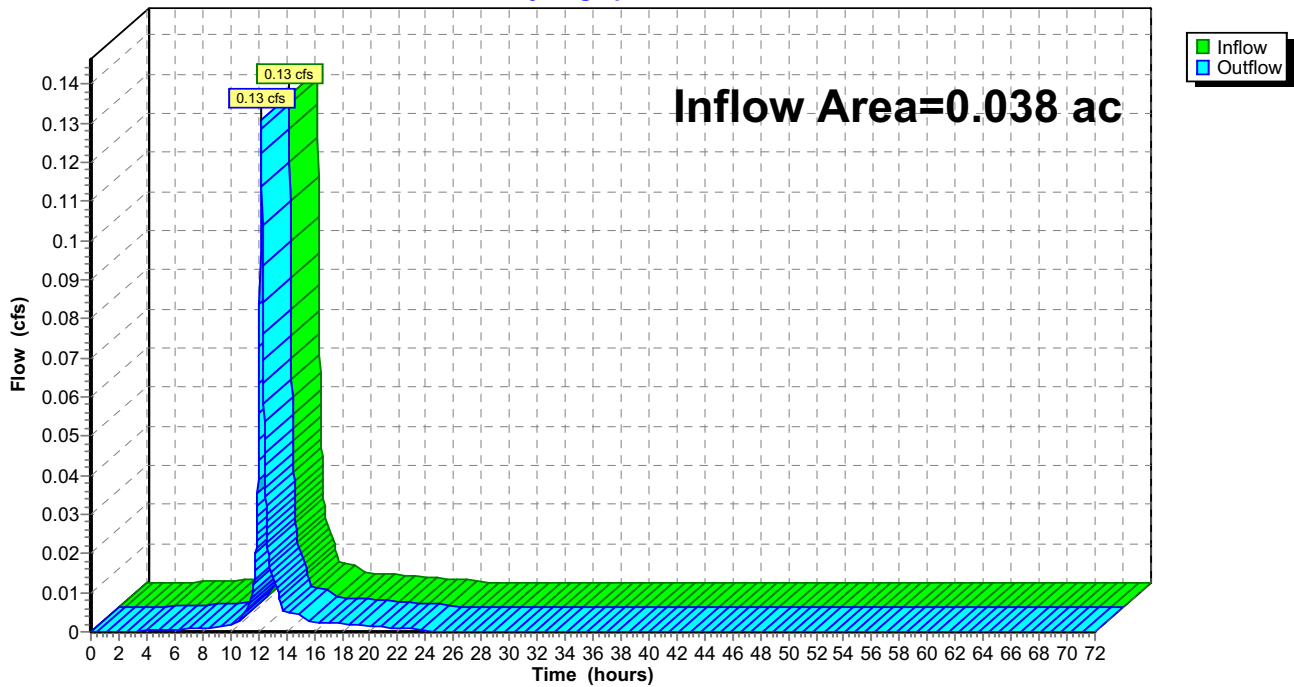
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.038 ac, 36.84% Impervious, Inflow Depth = 2.62" for 10yr-24hr event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 0.008 af
Outflow = 0.13 cfs @ 12.20 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 8R: Offsite

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach Wetland: Wetland 6

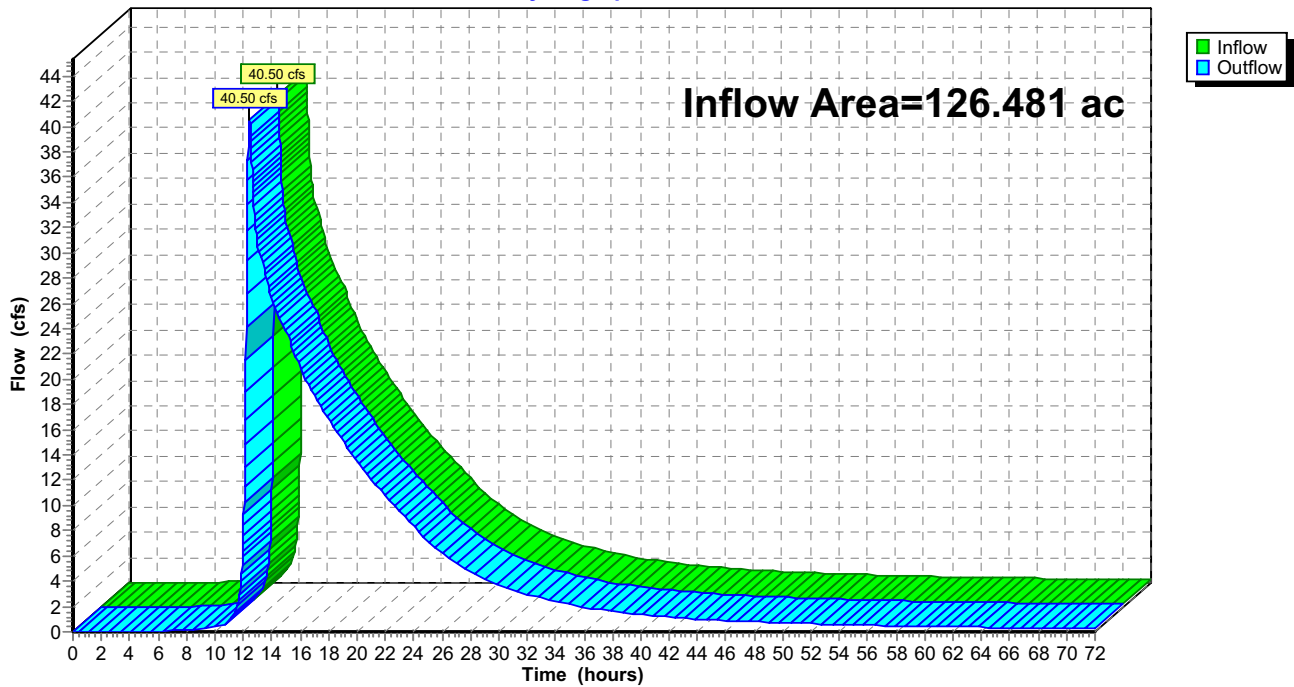
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.481 ac, 32.48% Impervious, Inflow Depth > 2.33" for 10yr-24hr event
Inflow = 40.50 cfs @ 12.43 hrs, Volume= 24.562 af
Outflow = 40.50 cfs @ 12.43 hrs, Volume= 24.562 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach Wetland: Wetland 6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond 4P: CB_22 pipe

[57] Hint: Peaked at 970.33' (Flood elevation advised)

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
 Inflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af
 Outflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Peak Elev= 970.33' @ 12.49 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	969.20'	24.0" Round Structure I2 to I1 L= 40.7' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.20' / 969.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	969.50'	21.0" Round Structure I9 to I2 L= 87.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

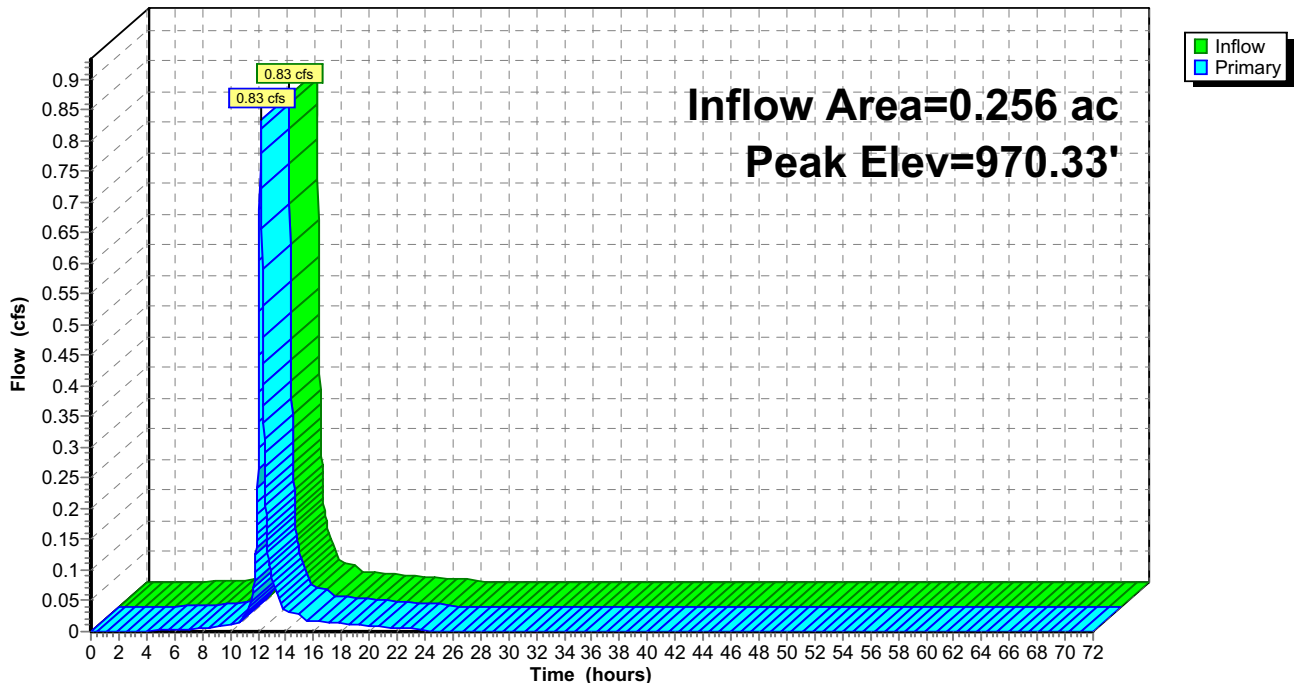
Primary OutFlow Max=0.68 cfs @ 12.20 hrs HW=970.08' TW=969.96' (Dynamic Tailwater)

1=Structure I2 to I1 (Passes 0.68 cfs of 1.84 cfs potential flow)

2=Structure I9 to I2 (Outlet Controls 0.68 cfs @ 1.45 fps)

Pond 4P: CB_22 pipe

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond 4P: CB_22 pipe

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
969.20	0	970.22	0	971.24	0
969.22	0	970.24	0		
969.24	0	970.26	0		
969.26	0	970.28	0		
969.28	0	970.30	0		
969.30	0	970.32	0		
969.32	0	970.34	0		
969.34	0	970.36	0		
969.36	0	970.38	0		
969.38	0	970.40	0		
969.40	0	970.42	0		
969.42	0	970.44	0		
969.44	0	970.46	0		
969.46	0	970.48	0		
969.48	0	970.50	0		
969.50	0	970.52	0		
969.52	0	970.54	0		
969.54	0	970.56	0		
969.56	0	970.58	0		
969.58	0	970.60	0		
969.60	0	970.62	0		
969.62	0	970.64	0		
969.64	0	970.66	0		
969.66	0	970.68	0		
969.68	0	970.70	0		
969.70	0	970.72	0		
969.72	0	970.74	0		
969.74	0	970.76	0		
969.76	0	970.78	0		
969.78	0	970.80	0		
969.80	0	970.82	0		
969.82	0	970.84	0		
969.84	0	970.86	0		
969.86	0	970.88	0		
969.88	0	970.90	0		
969.90	0	970.92	0		
969.92	0	970.94	0		
969.94	0	970.96	0		
969.96	0	970.98	0		
969.98	0	971.00	0		
970.00	0	971.02	0		
970.02	0	971.04	0		
970.04	0	971.06	0		
970.06	0	971.08	0		
970.08	0	971.10	0		
970.10	0	971.12	0		
970.12	0	971.14	0		
970.14	0	971.16	0		
970.16	0	971.18	0		
970.18	0	971.20	0		
970.20	0	971.22	0		

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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A10: CB_A10

Inflow Area = 0.552 ac, 11.05% Impervious, Inflow Depth = 2.02" for 10yr-24hr event
 Inflow = 1.55 cfs @ 12.20 hrs, Volume= 0.093 af
 Outflow = 1.54 cfs @ 12.21 hrs, Volume= 0.093 af, Atten= 1%, Lag= 0.7 min
 Primary = 1.54 cfs @ 12.21 hrs, Volume= 0.093 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.16' @ 12.21 hrs Surf.Area= 601 sf Storage= 53 cf

Plug-Flow detention time= 0.5 min calculated for 0.093 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (807.6 - 807.1)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	8,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
999.00	3,400	1,725	1,725
1,001.00	3,400	6,800	8,525

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	999.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.53 cfs @ 12.21 hrs HW=998.16' TW=978.94' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.53 cfs @ 1.32 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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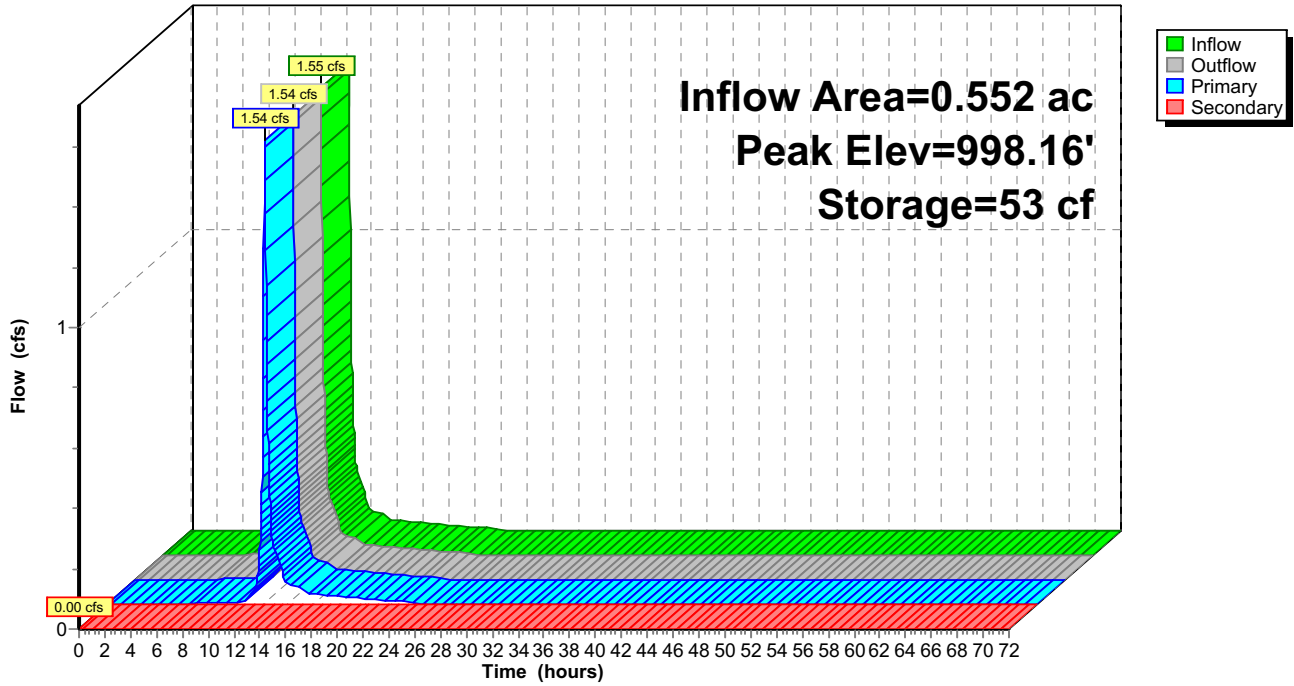
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A10: CB_A10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_A10: CB_A10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	3,400	6,995
998.05	217	7	1,000.60	3,400	7,165
998.10	385	22	1,000.65	3,400	7,335
998.15	552	45	1,000.70	3,400	7,505
998.20	720	77	1,000.75	3,400	7,675
998.25	888	117	1,000.80	3,400	7,845
998.30	1,055	166	1,000.85	3,400	8,015
998.35	1,223	223	1,000.90	3,400	8,185
998.40	1,390	288	1,000.95	3,400	8,355
998.45	1,558	362	1,001.00	3,400	8,525
998.50	1,725	444			
998.55	1,892	534			
998.60	2,060	633			
998.65	2,227	740			
998.70	2,395	856			
998.75	2,563	980			
998.80	2,730	1,112			
998.85	2,898	1,253			
998.90	3,065	1,402			
998.95	3,233	1,559			
999.00	3,400	1,725			
999.05	3,400	1,895			
999.10	3,400	2,065			
999.15	3,400	2,235			
999.20	3,400	2,405			
999.25	3,400	2,575			
999.30	3,400	2,745			
999.35	3,400	2,915			
999.40	3,400	3,085			
999.45	3,400	3,255			
999.50	3,400	3,425			
999.55	3,400	3,595			
999.60	3,400	3,765			
999.65	3,400	3,935			
999.70	3,400	4,105			
999.75	3,400	4,275			
999.80	3,400	4,445			
999.85	3,400	4,615			
999.90	3,400	4,785			
999.95	3,400	4,955			
1,000.00	3,400	5,125			
1,000.05	3,400	5,295			
1,000.10	3,400	5,465			
1,000.15	3,400	5,635			
1,000.20	3,400	5,805			
1,000.25	3,400	5,975			
1,000.30	3,400	6,145			
1,000.35	3,400	6,315			
1,000.40	3,400	6,485			
1,000.45	3,400	6,655			
1,000.50	3,400	6,825			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A11: CB_A11

Inflow Area = 1.508 ac, 12.07% Impervious, Inflow Depth = 2.59" for 10yr-24hr event
Inflow = 5.38 cfs @ 12.20 hrs, Volume= 0.325 af
Outflow = 5.29 cfs @ 12.22 hrs, Volume= 0.325 af, Atten= 2%, Lag= 1.2 min
Primary = 5.29 cfs @ 12.22 hrs, Volume= 0.325 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 996.37' @ 12.22 hrs Surf.Area= 1,499 sf Storage= 290 cf

Plug-Flow detention time= 0.6 min calculated for 0.325 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (805.3 - 804.7)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	7,850 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	7,800	7,850	7,850

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.60'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.27 cfs @ 12.22 hrs HW=996.37' TW=978.96' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 5.27 cfs @ 2.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=996.00' TW=994.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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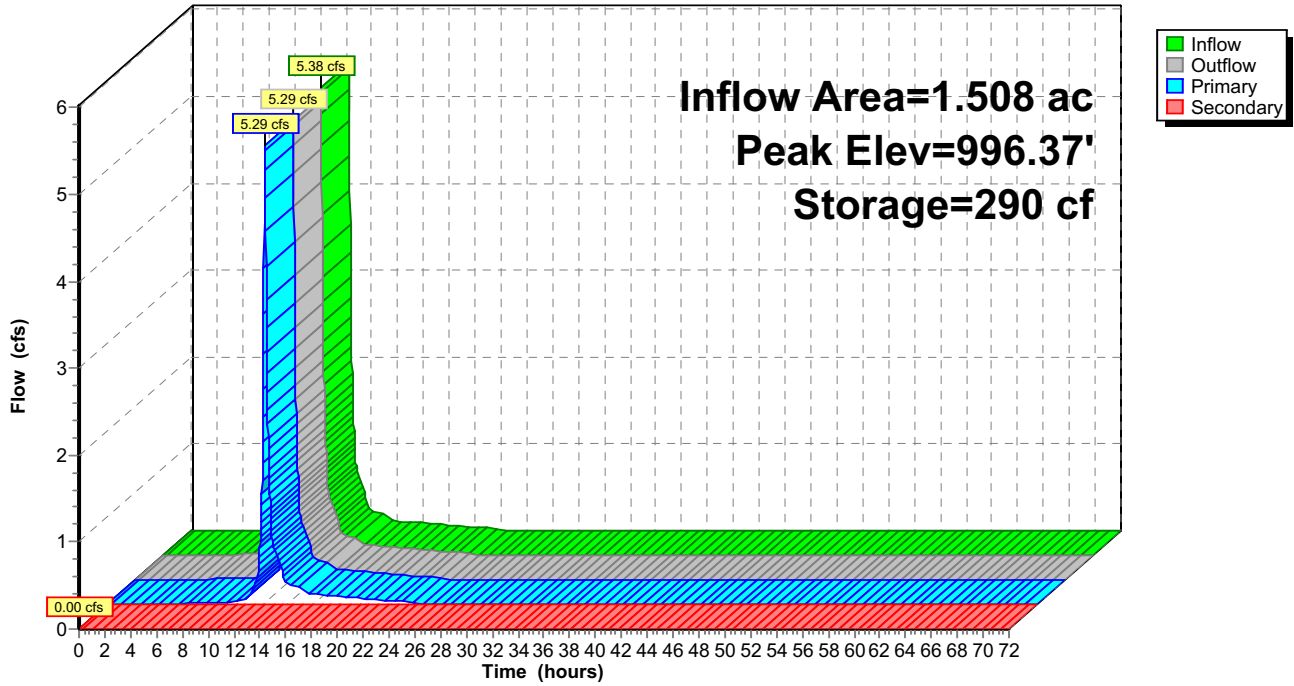
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A11: CB_A11

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_A11: CB_A11

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
996.00	50	0	997.02	4,002	2,067
996.02	127	2	997.04	4,080	2,148
996.04	205	5	997.06	4,157	2,230
996.06	282	10	997.08	4,235	2,314
996.08	360	16	997.10	4,313	2,399
996.10	438	24	997.12	4,390	2,486
996.12	515	34	997.14	4,467	2,575
996.14	592	45	997.16	4,545	2,665
996.16	670	58	997.18	4,622	2,757
996.18	747	72	997.20	4,700	2,850
996.20	825	88	997.22	4,778	2,945
996.22	903	105	997.24	4,855	3,041
996.24	980	124	997.26	4,932	3,139
996.26	1,057	144	997.28	5,010	3,238
996.28	1,135	166	997.30	5,087	3,339
996.30	1,212	189	997.32	5,165	3,442
996.32	1,290	214	997.34	5,243	3,546
996.34	1,368	241	997.36	5,320	3,652
996.36	1,445	269	997.38	5,397	3,759
996.38	1,522	299	997.40	5,475	3,867
996.40	1,600	330	997.42	5,552	3,978
996.42	1,677	363	997.44	5,630	4,090
996.44	1,755	397	997.46	5,708	4,203
996.46	1,833	433	997.48	5,785	4,318
996.48	1,910	470	997.50	5,863	4,434
996.50	1,988	509	997.52	5,940	4,552
996.52	2,065	550	997.54	6,017	4,672
996.54	2,142	592	997.56	6,095	4,793
996.56	2,220	636	997.58	6,173	4,916
996.58	2,298	681	997.60	6,250	5,040
996.60	2,375	728	997.62	6,328	5,166
996.62	2,453	776	997.64	6,405	5,293
996.64	2,530	826	997.66	6,482	5,422
996.66	2,607	877	997.68	6,560	5,552
996.68	2,685	930	997.70	6,638	5,684
996.70	2,763	984	997.72	6,715	5,818
996.72	2,840	1,040	997.74	6,793	5,953
996.74	2,918	1,098	997.76	6,870	6,090
996.76	2,995	1,157	997.78	6,947	6,228
996.78	3,072	1,218	997.80	7,025	6,367
996.80	3,150	1,280	997.82	7,103	6,509
996.82	3,228	1,344	997.84	7,180	6,652
996.84	3,305	1,409	997.86	7,258	6,796
996.86	3,383	1,476	997.88	7,335	6,942
996.88	3,460	1,544	997.90	7,412	7,089
996.90	3,537	1,614	997.92	7,490	7,238
996.92	3,615	1,686	997.94	7,568	7,389
996.94	3,693	1,759	997.96	7,645	7,541
996.96	3,770	1,834	997.98	7,723	7,695
996.98	3,848	1,910	998.00	7,800	7,850
997.00	3,925	1,988			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A12: CB_A12

Inflow Area = 0.993 ac, 19.54% Impervious, Inflow Depth = 2.23" for 10yr-24hr event
Inflow = 3.03 cfs @ 12.20 hrs, Volume= 0.185 af
Outflow = 3.00 cfs @ 12.22 hrs, Volume= 0.185 af, Atten= 1%, Lag= 0.9 min
Primary = 1.93 cfs @ 12.22 hrs, Volume= 0.119 af
Secondary = 1.06 cfs @ 12.22 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 998.19' @ 12.22 hrs Surf.Area= 1,240 sf Storage= 244 cf

Plug-Flow detention time= 3.9 min calculated for 0.185 af (100% of inflow)
Center-of-Mass det. time= 3.5 min (801.0 - 797.5)

Volume	Invert	Avail.Storage	Storage Description
#1	997.99'	1,246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.99	50	0	0
998.00	1,240	6	6
999.00	1,240	1,240	1,246

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	998.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=1.93 cfs @ 12.22 hrs HW=998.19' TW=978.94' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 1.93 cfs @ 1.43 fps)

Secondary OutFlow Max=1.06 cfs @ 12.22 hrs HW=998.19' TW=996.37' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Weir Controls 1.06 cfs @ 1.11 fps)

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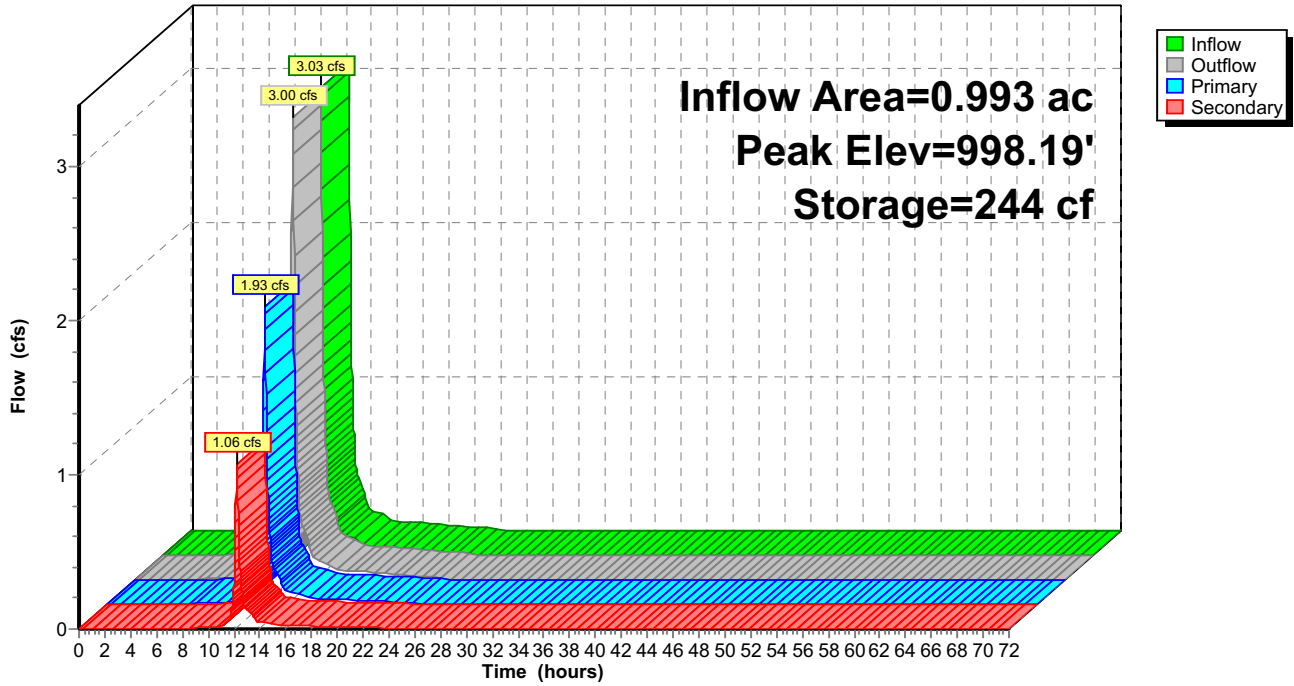
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A12: CB_A12

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Stage-Area-Storage for Pond CB_A12: CB_A12

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
997.99	50	0	998.50	1,240	626
998.00	1,240	6	998.51	1,240	639
998.01	1,240	19	998.52	1,240	651
998.02	1,240	31	998.53	1,240	664
998.03	1,240	44	998.54	1,240	676
998.04	1,240	56	998.55	1,240	688
998.05	1,240	68	998.56	1,240	701
998.06	1,240	81	998.57	1,240	713
998.07	1,240	93	998.58	1,240	726
998.08	1,240	106	998.59	1,240	738
998.09	1,240	118	998.60	1,240	750
998.10	1,240	130	998.61	1,240	763
998.11	1,240	143	998.62	1,240	775
998.12	1,240	155	998.63	1,240	788
998.13	1,240	168	998.64	1,240	800
998.14	1,240	180	998.65	1,240	812
998.15	1,240	192	998.66	1,240	825
998.16	1,240	205	998.67	1,240	837
998.17	1,240	217	998.68	1,240	850
998.18	1,240	230	998.69	1,240	862
998.19	1,240	242	998.70	1,240	874
998.20	1,240	254	998.71	1,240	887
998.21	1,240	267	998.72	1,240	899
998.22	1,240	279	998.73	1,240	912
998.23	1,240	292	998.74	1,240	924
998.24	1,240	304	998.75	1,240	936
998.25	1,240	316	998.76	1,240	949
998.26	1,240	329	998.77	1,240	961
998.27	1,240	341	998.78	1,240	974
998.28	1,240	354	998.79	1,240	986
998.29	1,240	366	998.80	1,240	998
998.30	1,240	378	998.81	1,240	1,011
998.31	1,240	391	998.82	1,240	1,023
998.32	1,240	403	998.83	1,240	1,036
998.33	1,240	416	998.84	1,240	1,048
998.34	1,240	428	998.85	1,240	1,060
998.35	1,240	440	998.86	1,240	1,073
998.36	1,240	453	998.87	1,240	1,085
998.37	1,240	465	998.88	1,240	1,098
998.38	1,240	478	998.89	1,240	1,110
998.39	1,240	490	998.90	1,240	1,122
998.40	1,240	502	998.91	1,240	1,135
998.41	1,240	515	998.92	1,240	1,147
998.42	1,240	527	998.93	1,240	1,160
998.43	1,240	540	998.94	1,240	1,172
998.44	1,240	552	998.95	1,240	1,184
998.45	1,240	564	998.96	1,240	1,197
998.46	1,240	577	998.97	1,240	1,209
998.47	1,240	589	998.98	1,240	1,222
998.48	1,240	602	998.99	1,240	1,234
998.49	1,240	614	999.00	1,240	1,246

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Summary for Pond CB_A20: CB_A20

Inflow Area = 0.766 ac, 20.23% Impervious, Inflow Depth = 2.25" for 10yr-24hr event
Inflow = 2.35 cfs @ 12.20 hrs, Volume= 0.144 af
Outflow = 2.21 cfs @ 12.24 hrs, Volume= 0.144 af, Atten= 6%, Lag= 2.2 min
Primary = 2.21 cfs @ 12.24 hrs, Volume= 0.144 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 1,000.74' @ 12.24 hrs Surf.Area= 754 sf Storage= 352 cf

Plug-Flow detention time= 5.6 min calculated for 0.144 af (100% of inflow)
Center-of-Mass det. time= 5.2 min (802.1 - 796.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	30,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	200	0	0
1,002.00	1,700	1,900	1,900
1,004.00	8,920	10,620	12,520
1,006.00	8,920	17,840	30,360

Device	Routing	Invert	Outlet Devices
#1	Primary	996.47'	18.0" Round Culvert L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 996.47' / 996.07' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	1,000.00'	15.0" Round Culvert L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,000.00' / 996.47' S= 0.0954 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#3	Secondary	1,004.00'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=2.21 cfs @ 12.24 hrs HW=1,000.74' TW=979.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 2.21 cfs of 13.05 cfs potential flow)

↑ **2=Culvert** (Inlet Controls 2.21 cfs @ 2.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=994.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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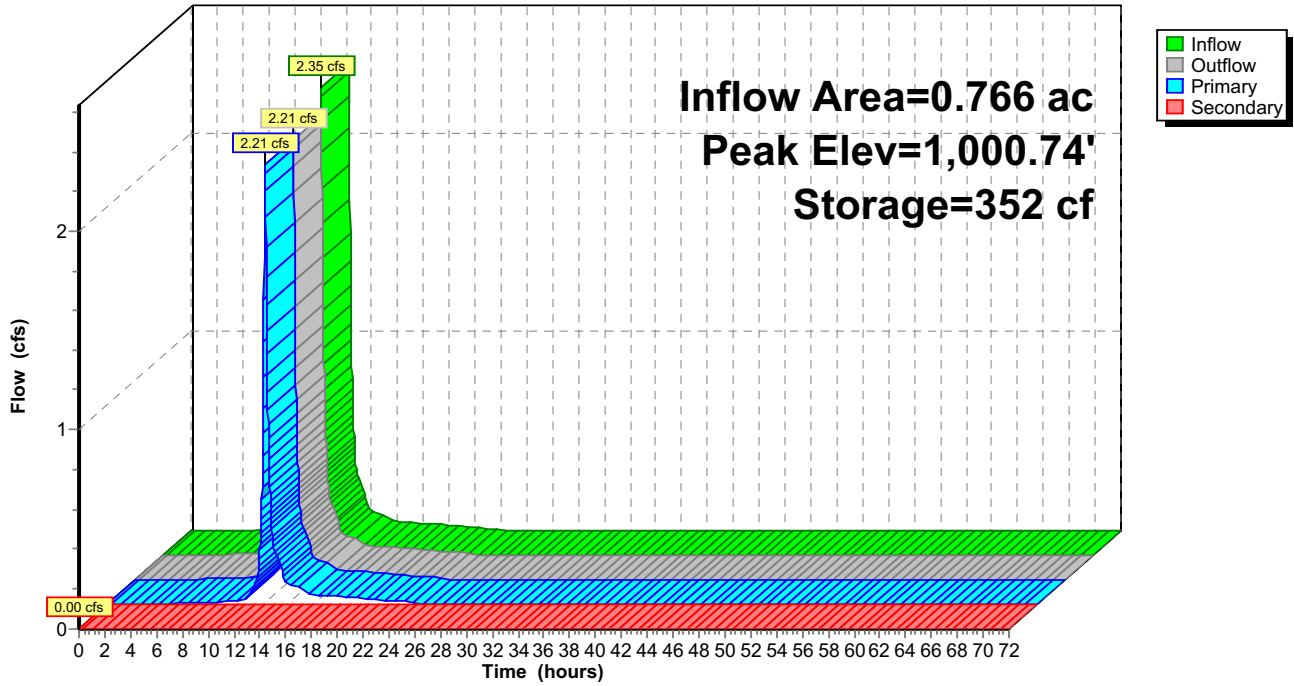
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A20: CB_A20

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_A20: CB_A20

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,000.00	200	0	1,005.10	8,920	22,332
1,000.10	275	24	1,005.20	8,920	23,224
1,000.20	350	55	1,005.30	8,920	24,116
1,000.30	425	94	1,005.40	8,920	25,008
1,000.40	500	140	1,005.50	8,920	25,900
1,000.50	575	194	1,005.60	8,920	26,792
1,000.60	650	255	1,005.70	8,920	27,684
1,000.70	725	324	1,005.80	8,920	28,576
1,000.80	800	400	1,005.90	8,920	29,468
1,000.90	875	484	1,006.00	8,920	30,360
1,001.00	950	575			
1,001.10	1,025	674			
1,001.20	1,100	780			
1,001.30	1,175	894			
1,001.40	1,250	1,015			
1,001.50	1,325	1,144			
1,001.60	1,400	1,280			
1,001.70	1,475	1,424			
1,001.80	1,550	1,575			
1,001.90	1,625	1,734			
1,002.00	1,700	1,900			
1,002.10	2,061	2,088			
1,002.20	2,422	2,312			
1,002.30	2,783	2,572			
1,002.40	3,144	2,869			
1,002.50	3,505	3,201			
1,002.60	3,866	3,570			
1,002.70	4,227	3,974			
1,002.80	4,588	4,415			
1,002.90	4,949	4,892			
1,003.00	5,310	5,405			
1,003.10	5,671	5,954			
1,003.20	6,032	6,539			
1,003.30	6,393	7,160			
1,003.40	6,754	7,818			
1,003.50	7,115	8,511			
1,003.60	7,476	9,241			
1,003.70	7,837	10,006			
1,003.80	8,198	10,808			
1,003.90	8,559	11,646			
1,004.00	8,920	12,520			
1,004.10	8,920	13,412			
1,004.20	8,920	14,304			
1,004.30	8,920	15,196			
1,004.40	8,920	16,088			
1,004.50	8,920	16,980			
1,004.60	8,920	17,872			
1,004.70	8,920	18,764			
1,004.80	8,920	19,656			
1,004.90	8,920	20,548			
1,005.00	8,920	21,440			

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Summary for Pond CB_A7: CB_A7

Inflow Area = 0.696 ac, 28.02% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
Inflow = 2.27 cfs @ 12.20 hrs, Volume= 0.141 af
Outflow = 2.25 cfs @ 12.21 hrs, Volume= 0.141 af, Atten= 1%, Lag= 0.8 min
Primary = 2.25 cfs @ 12.21 hrs, Volume= 0.141 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 998.21' @ 12.21 hrs Surf.Area= 810 sf Storage= 91 cf

Plug-Flow detention time= 0.5 min calculated for 0.141 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (790.2 - 789.7)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	29,010 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	7,240	7,290	7,290
1,003.00	7,240	21,720	29,010

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.24 cfs @ 12.21 hrs HW=998.21' TW=978.93' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 2.24 cfs @ 1.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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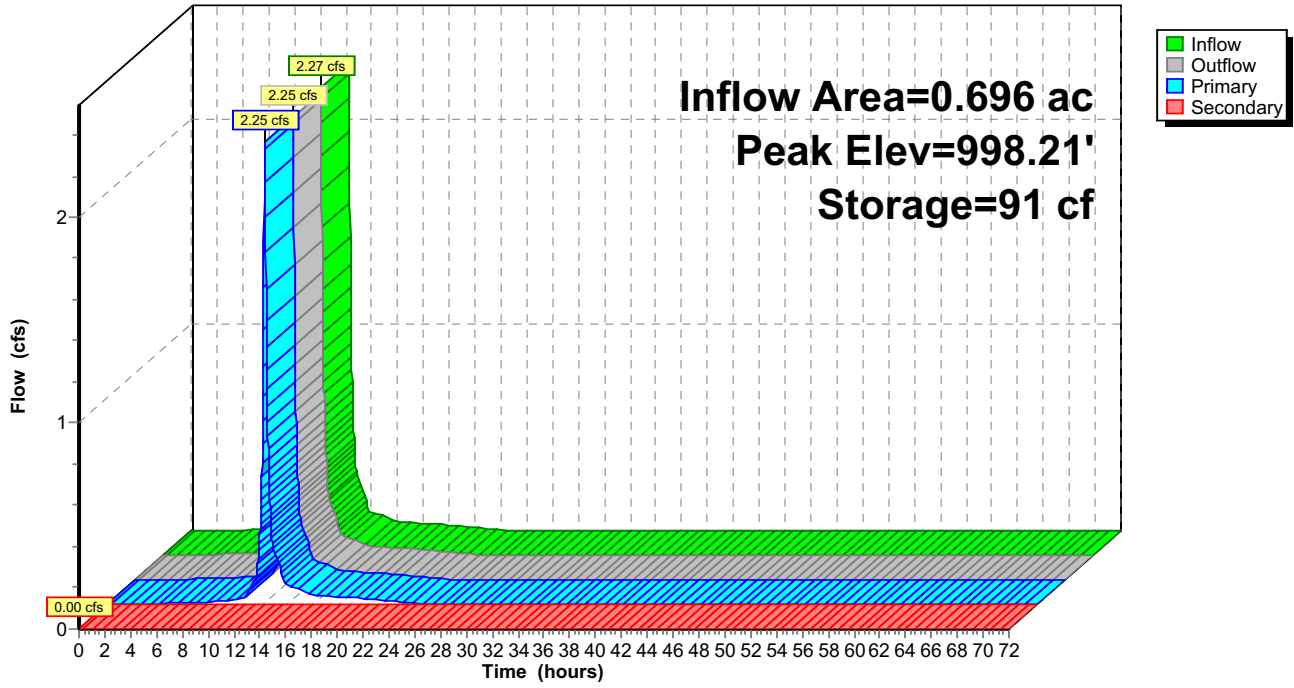
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A7: CB_A7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_A7: CB_A7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	7,240	11,272
998.05	230	7	1,000.60	7,240	11,634
998.10	410	23	1,000.65	7,240	11,996
998.15	589	48	1,000.70	7,240	12,358
998.20	769	82	1,000.75	7,240	12,720
998.25	949	125	1,000.80	7,240	13,082
998.30	1,128	177	1,000.85	7,240	13,444
998.35	1,308	238	1,000.90	7,240	13,806
998.40	1,488	308	1,000.95	7,240	14,168
998.45	1,668	386	1,001.00	7,240	14,530
998.50	1,848	474	1,001.05	7,240	14,892
998.55	2,027	571	1,001.10	7,240	15,254
998.60	2,207	677	1,001.15	7,240	15,616
998.65	2,387	792	1,001.20	7,240	15,978
998.70	2,567	916	1,001.25	7,240	16,340
998.75	2,746	1,049	1,001.30	7,240	16,702
998.80	2,926	1,190	1,001.35	7,240	17,064
998.85	3,106	1,341	1,001.40	7,240	17,426
998.90	3,285	1,501	1,001.45	7,240	17,788
998.95	3,465	1,670	1,001.50	7,240	18,150
999.00	3,645	1,848	1,001.55	7,240	18,512
999.05	3,825	2,034	1,001.60	7,240	18,874
999.10	4,005	2,230	1,001.65	7,240	19,236
999.15	4,184	2,435	1,001.70	7,240	19,598
999.20	4,364	2,648	1,001.75	7,240	19,960
999.25	4,544	2,871	1,001.80	7,240	20,322
999.30	4,723	3,103	1,001.85	7,240	20,684
999.35	4,903	3,343	1,001.90	7,240	21,046
999.40	5,083	3,593	1,001.95	7,240	21,408
999.45	5,263	3,852	1,002.00	7,240	21,770
999.50	5,443	4,119	1,002.05	7,240	22,132
999.55	5,622	4,396	1,002.10	7,240	22,494
999.60	5,802	4,682	1,002.15	7,240	22,856
999.65	5,982	4,976	1,002.20	7,240	23,218
999.70	6,162	5,280	1,002.25	7,240	23,580
999.75	6,341	5,592	1,002.30	7,240	23,942
999.80	6,521	5,914	1,002.35	7,240	24,304
999.85	6,701	6,244	1,002.40	7,240	24,666
999.90	6,880	6,584	1,002.45	7,240	25,028
999.95	7,060	6,932	1,002.50	7,240	25,390
1,000.00	7,240	7,290	1,002.55	7,240	25,752
1,000.05	7,240	7,652	1,002.60	7,240	26,114
1,000.10	7,240	8,014	1,002.65	7,240	26,476
1,000.15	7,240	8,376	1,002.70	7,240	26,838
1,000.20	7,240	8,738	1,002.75	7,240	27,200
1,000.25	7,240	9,100	1,002.80	7,240	27,562
1,000.30	7,240	9,462	1,002.85	7,240	27,924
1,000.35	7,240	9,824	1,002.90	7,240	28,286
1,000.40	7,240	10,186	1,002.95	7,240	28,648
1,000.45	7,240	10,548	1,003.00	7,240	29,010
1,000.50	7,240	10,910			

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Summary for Pond CB_A8: CB_A8

Inflow Area = 0.864 ac, 35.88% Impervious, Inflow Depth = 2.60" for 10yr-24hr event
Inflow = 2.99 cfs @ 12.20 hrs, Volume= 0.187 af
Outflow = 2.98 cfs @ 12.20 hrs, Volume= 0.187 af, Atten= 0%, Lag= 0.2 min
Primary = 2.98 cfs @ 12.20 hrs, Volume= 0.187 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 996.26' @ 12.20 hrs Surf.Area= 261 sf Storage= 40 cf

Plug-Flow detention time= 0.3 min calculated for 0.187 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (783.7 - 783.5)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	29,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	1,700	1,750	1,750
1,000.00	8,600	10,300	12,050
1,002.00	8,600	17,200	29,250

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.98 cfs @ 12.20 hrs HW=996.26' TW=978.90' (Dynamic Tailwater)
↑1=Grate (Weir Controls 2.98 cfs @ 1.65 fps)

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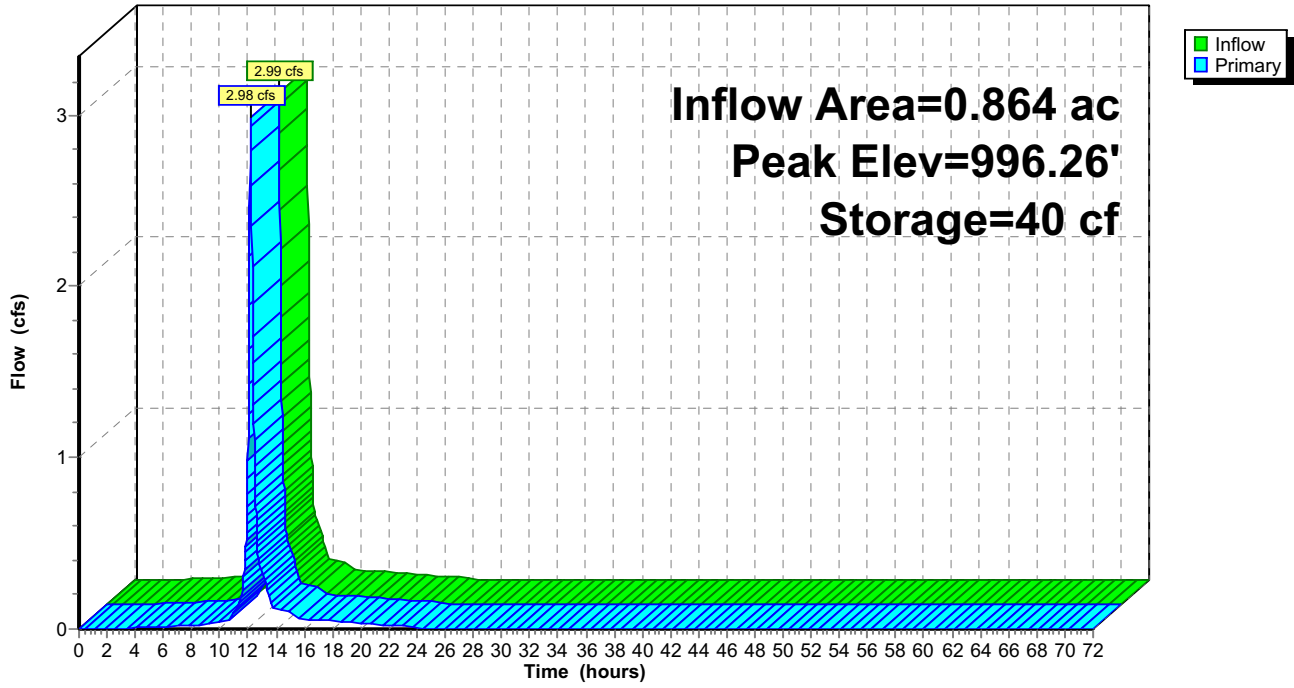
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A8: CB_A8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_A8: CB_A8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
996.00	50	0	1,001.10	8,600	21,510
996.10	133	9	1,001.20	8,600	22,370
996.20	215	27	1,001.30	8,600	23,230
996.30	297	52	1,001.40	8,600	24,090
996.40	380	86	1,001.50	8,600	24,950
996.50	463	128	1,001.60	8,600	25,810
996.60	545	179	1,001.70	8,600	26,670
996.70	628	237	1,001.80	8,600	27,530
996.80	710	304	1,001.90	8,600	28,390
996.90	792	379	1,002.00	8,600	29,250
997.00	875	463			
997.10	958	554			
997.20	1,040	654			
997.30	1,122	762			
997.40	1,205	878			
997.50	1,288	1,003			
997.60	1,370	1,136			
997.70	1,453	1,277			
997.80	1,535	1,426			
997.90	1,617	1,584			
998.00	1,700	1,750			
998.10	2,045	1,937			
998.20	2,390	2,159			
998.30	2,735	2,415			
998.40	3,080	2,706			
998.50	3,425	3,031			
998.60	3,770	3,391			
998.70	4,115	3,785			
998.80	4,460	4,214			
998.90	4,805	4,677			
999.00	5,150	5,175			
999.10	5,495	5,707			
999.20	5,840	6,274			
999.30	6,185	6,875			
999.40	6,530	7,511			
999.50	6,875	8,181			
999.60	7,220	8,886			
999.70	7,565	9,625			
999.80	7,910	10,399			
999.90	8,255	11,207			
1,000.00	8,600	12,050			
1,000.10	8,600	12,910			
1,000.20	8,600	13,770			
1,000.30	8,600	14,630			
1,000.40	8,600	15,490			
1,000.50	8,600	16,350			
1,000.60	8,600	17,210			
1,000.70	8,600	18,070			
1,000.80	8,600	18,930			
1,000.90	8,600	19,790			
1,001.00	8,600	20,650			

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 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A9: CB_A9

Inflow Area = 1.140 ac, 8.86% Impervious, Inflow Depth = 1.98" for 10yr-24hr event
 Inflow = 3.16 cfs @ 12.20 hrs, Volume= 0.189 af
 Outflow = 3.16 cfs @ 12.21 hrs, Volume= 0.189 af, Atten= 0%, Lag= 0.3 min
 Primary = 3.16 cfs @ 12.21 hrs, Volume= 0.189 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.27' @ 12.21 hrs Surf.Area= 335 sf Storage= 51 cf

Plug-Flow detention time= 0.3 min calculated for 0.189 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (809.9 - 809.7)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	4,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	2,200	2,250	2,250
1,001.00	2,200	2,200	4,450

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=3.14 cfs @ 12.21 hrs HW=998.26' TW=978.92' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 3.14 cfs @ 1.68 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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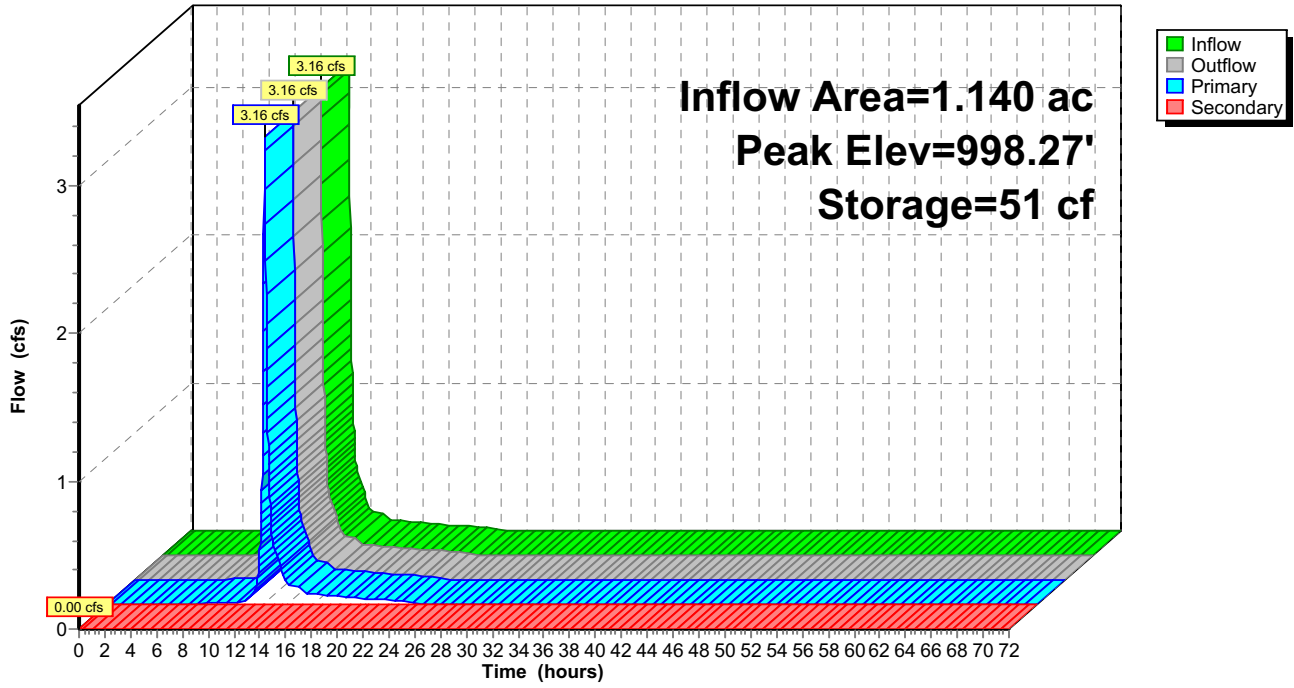
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A9: CB_A9

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Stage-Area-Storage for Pond CB_A9: CB_A9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	2,200	3,460
998.05	104	4	1,000.60	2,200	3,570
998.10	158	10	1,000.65	2,200	3,680
998.15	211	20	1,000.70	2,200	3,790
998.20	265	32	1,000.75	2,200	3,900
998.25	319	46	1,000.80	2,200	4,010
998.30	372	63	1,000.85	2,200	4,120
998.35	426	83	1,000.90	2,200	4,230
998.40	480	106	1,000.95	2,200	4,340
998.45	534	131	1,001.00	2,200	4,450
998.50	588	159			
998.55	641	190			
998.60	695	224			
998.65	749	260			
998.70	803	298			
998.75	856	340			
998.80	910	384			
998.85	964	431			
998.90	1,017	480			
998.95	1,071	533			
999.00	1,125	588			
999.05	1,179	645			
999.10	1,233	705			
999.15	1,286	768			
999.20	1,340	834			
999.25	1,394	902			
999.30	1,447	973			
999.35	1,501	1,047			
999.40	1,555	1,123			
999.45	1,609	1,203			
999.50	1,663	1,284			
999.55	1,716	1,369			
999.60	1,770	1,456			
999.65	1,824	1,546			
999.70	1,878	1,638			
999.75	1,931	1,734			
999.80	1,985	1,831			
999.85	2,039	1,932			
999.90	2,092	2,035			
999.95	2,146	2,141			
1,000.00	2,200	2,250			
1,000.05	2,200	2,360			
1,000.10	2,200	2,470			
1,000.15	2,200	2,580			
1,000.20	2,200	2,690			
1,000.25	2,200	2,800			
1,000.30	2,200	2,910			
1,000.35	2,200	3,020			
1,000.40	2,200	3,130			
1,000.45	2,200	3,240			
1,000.50	2,200	3,350			

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Summary for Pond CB_C10: CB_C10

Inflow Area = 2.067 ac, 23.66% Impervious, Inflow Depth = 2.33" for 10yr-24hr event
Inflow = 6.52 cfs @ 12.20 hrs, Volume= 0.401 af
Outflow = 6.40 cfs @ 12.22 hrs, Volume= 0.401 af, Atten= 2%, Lag= 1.2 min
Primary = 6.40 cfs @ 12.22 hrs, Volume= 0.401 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 994.42' @ 12.22 hrs Surf.Area= 1,632 sf Storage= 357 cf

Plug-Flow detention time= 0.6 min calculated for 0.401 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (794.2 - 793.6)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	22,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	7,500	7,550	7,550
997.00	7,500	7,500	15,050
998.00	7,500	7,500	22,550

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	996.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.40 cfs @ 12.22 hrs HW=994.42' TW=978.95' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 6.40 cfs @ 2.13 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=992.50' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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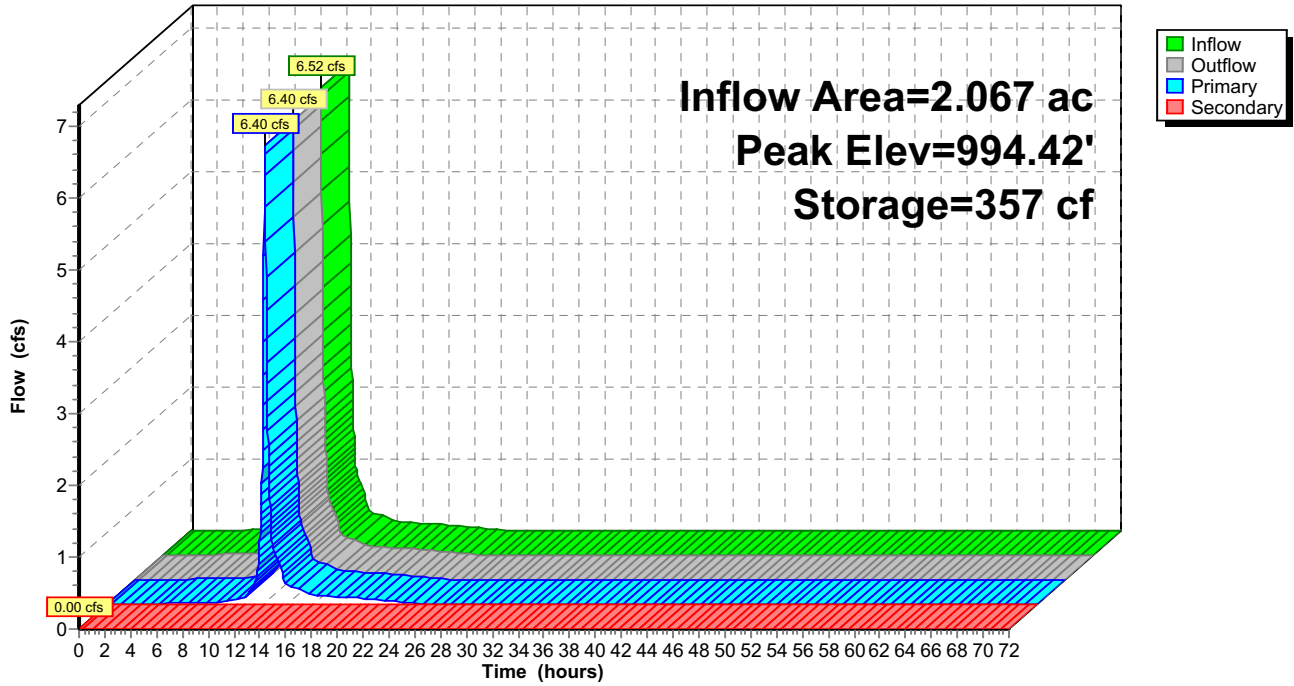
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C10: CB_C10

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Stage-Area-Storage for Pond CB_C10: CB_C10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
994.00	50	0	996.55	7,500	11,675
994.05	236	7	996.60	7,500	12,050
994.10	423	24	996.65	7,500	12,425
994.15	609	49	996.70	7,500	12,800
994.20	795	85	996.75	7,500	13,175
994.25	981	129	996.80	7,500	13,550
994.30	1,167	183	996.85	7,500	13,925
994.35	1,354	246	996.90	7,500	14,300
994.40	1,540	318	996.95	7,500	14,675
994.45	1,726	400	997.00	7,500	15,050
994.50	1,913	491	997.05	7,500	15,425
994.55	2,099	591	997.10	7,500	15,800
994.60	2,285	701	997.15	7,500	16,175
994.65	2,471	819	997.20	7,500	16,550
994.70	2,658	948	997.25	7,500	16,925
994.75	2,844	1,085	997.30	7,500	17,300
994.80	3,030	1,232	997.35	7,500	17,675
994.85	3,216	1,388	997.40	7,500	18,050
994.90	3,402	1,554	997.45	7,500	18,425
994.95	3,589	1,728	997.50	7,500	18,800
995.00	3,775	1,913	997.55	7,500	19,175
995.05	3,961	2,106	997.60	7,500	19,550
995.10	4,148	2,309	997.65	7,500	19,925
995.15	4,334	2,521	997.70	7,500	20,300
995.20	4,520	2,742	997.75	7,500	20,675
995.25	4,706	2,973	997.80	7,500	21,050
995.30	4,892	3,213	997.85	7,500	21,425
995.35	5,079	3,462	997.90	7,500	21,800
995.40	5,265	3,720	997.95	7,500	22,175
995.45	5,451	3,988	998.00	7,500	22,550
995.50	5,638	4,266			
995.55	5,824	4,552			
995.60	6,010	4,848			
995.65	6,196	5,153			
995.70	6,383	5,468			
995.75	6,569	5,791			
995.80	6,755	6,124			
995.85	6,941	6,467			
995.90	7,127	6,819			
995.95	7,314	7,180			
996.00	7,500	7,550			
996.05	7,500	7,925			
996.10	7,500	8,300			
996.15	7,500	8,675			
996.20	7,500	9,050			
996.25	7,500	9,425			
996.30	7,500	9,800			
996.35	7,500	10,175			
996.40	7,500	10,550			
996.45	7,500	10,925			
996.50	7,500	11,300			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_C7: CB_C7

Inflow Area = 1.708 ac, 21.25% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
 Inflow = 5.21 cfs @ 12.20 hrs, Volume= 0.323 af
 Outflow = 5.16 cfs @ 12.22 hrs, Volume= 0.323 af, Atten= 1%, Lag= 0.9 min
 Primary = 5.16 cfs @ 12.22 hrs, Volume= 0.323 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.87' @ 12.22 hrs Surf.Area= 1,132 sf Storage= 217 cf

Plug-Flow detention time= 0.5 min calculated for 0.323 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (796.7 - 796.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.50'	12,303 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.50	50	0	0
994.00	4,460	3,383	3,383
996.00	4,460	8,920	12,303

Device	Routing	Invert	Outlet Devices
#1	Primary	992.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	994.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.15 cfs @ 12.22 hrs HW=992.87' TW=978.95' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 5.15 cfs @ 1.98 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.50' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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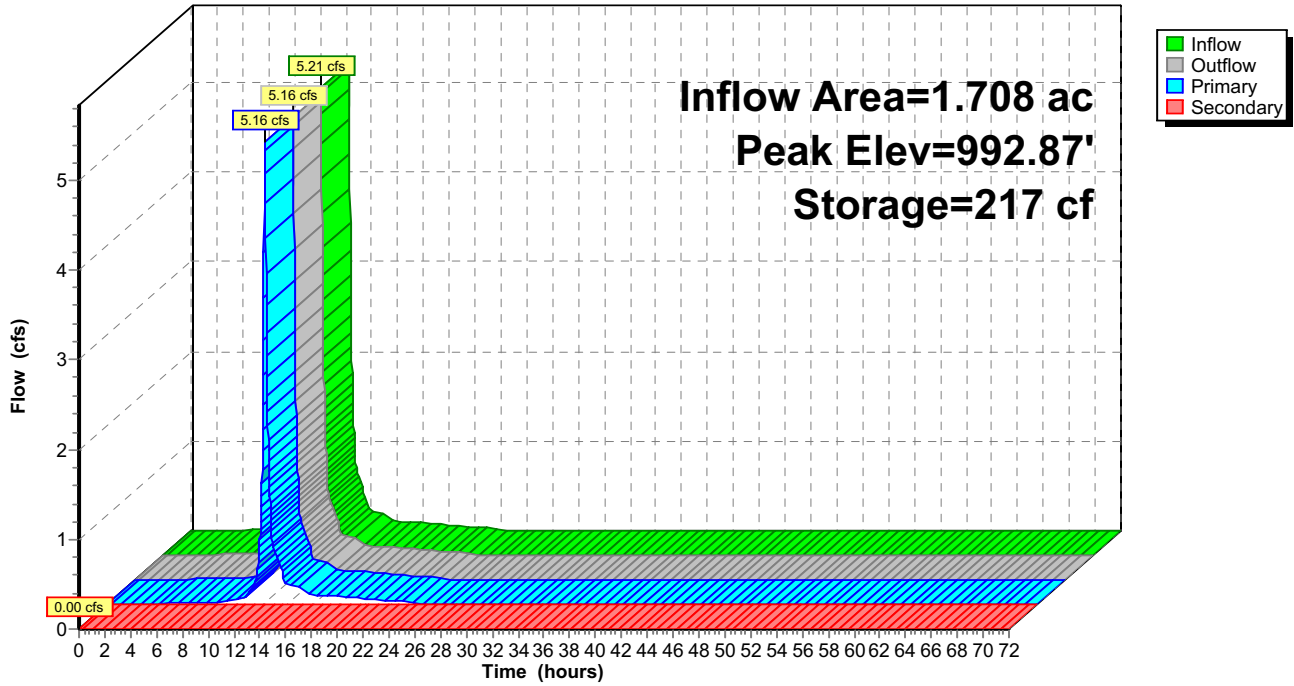
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C7: CB_C7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_C7: CB_C7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.50	50	0	995.05	4,460	8,065
992.55	197	6	995.10	4,460	8,289
992.60	344	20	995.15	4,460	8,511
992.65	491	41	995.20	4,460	8,735
992.70	638	69	995.25	4,460	8,958
992.75	785	104	995.30	4,460	9,180
992.80	932	147	995.35	4,460	9,404
992.85	1,079	198	995.40	4,460	9,626
992.90	1,226	255	995.45	4,460	9,850
992.95	1,373	320	995.50	4,460	10,073
993.00	1,520	393	995.55	4,460	10,295
993.05	1,667	472	995.60	4,460	10,519
993.10	1,814	559	995.65	4,460	10,741
993.15	1,961	654	995.70	4,460	10,965
993.20	2,108	755	995.75	4,460	11,188
993.25	2,255	864	995.80	4,460	11,410
993.30	2,402	981	995.85	4,460	11,634
993.35	2,549	1,105	995.90	4,460	11,856
993.40	2,696	1,236	995.95	4,460	12,080
993.45	2,843	1,374	996.00	4,460	12,303
993.50	2,990	1,520			
993.55	3,137	1,673			
993.60	3,284	1,834			
993.65	3,431	2,002			
993.70	3,578	2,177			
993.75	3,725	2,359			
993.80	3,872	2,549			
993.85	4,019	2,747			
993.90	4,166	2,951			
993.95	4,313	3,163			
994.00	4,460	3,383			
994.05	4,460	3,605			
994.10	4,460	3,829			
994.15	4,460	4,051			
994.20	4,460	4,275			
994.25	4,460	4,498			
994.30	4,460	4,720			
994.35	4,460	4,944			
994.40	4,460	5,166			
994.45	4,460	5,390			
994.50	4,460	5,613			
994.55	4,460	5,835			
994.60	4,460	6,059			
994.65	4,460	6,281			
994.70	4,460	6,505			
994.75	4,460	6,728			
994.80	4,460	6,950			
994.85	4,460	7,174			
994.90	4,460	7,396			
994.95	4,460	7,620			
995.00	4,460	7,843			

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Summary for Pond CB_C8: CB_C8

Inflow Area = 1.927 ac, 25.17% Impervious, Inflow Depth = 2.36" for 10yr-24hr event
Inflow = 6.02 cfs @ 12.21 hrs, Volume= 0.379 af
Outflow = 6.02 cfs @ 12.21 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.3 min
Primary = 6.02 cfs @ 12.21 hrs, Volume= 0.379 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 991.41' @ 12.21 hrs Surf.Area= 361 sf Storage= 84 cf

Plug-Flow detention time= 0.2 min calculated for 0.379 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (793.0 - 792.7)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	6,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	812	431	431
994.00	5,500	6,312	6,743

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.99 cfs @ 12.21 hrs HW=991.41' TW=978.92' (Dynamic Tailwater)
1=Orifice/Grate (Weir Controls 5.99 cfs @ 2.08 fps)

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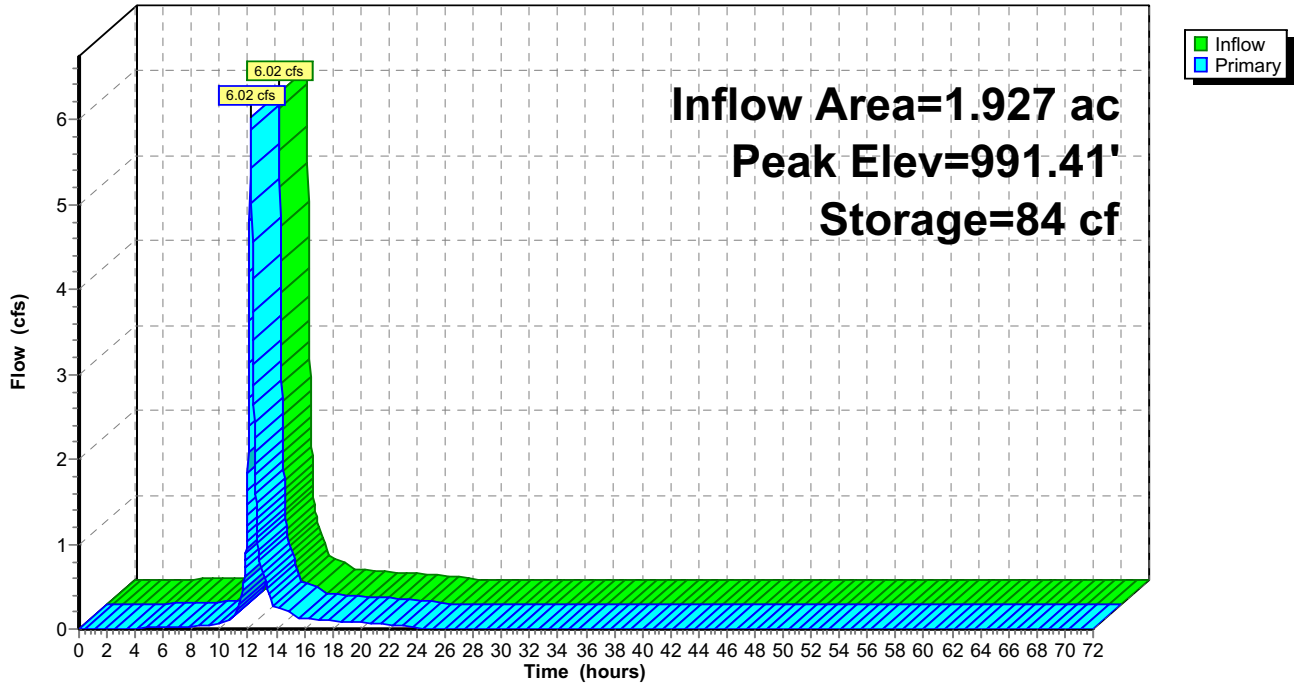
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Pond CB_C8: CB_C8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_C8: CB_C8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
991.00	50	0	993.55	4,445	4,505
991.05	88	3	993.60	4,562	4,731
991.10	126	9	993.65	4,680	4,962
991.15	164	16	993.70	4,797	5,198
991.20	202	25	993.75	4,914	5,441
991.25	241	36	993.80	5,031	5,690
991.30	279	49	993.85	5,148	5,944
991.35	317	64	993.90	5,266	6,205
991.40	355	81	993.95	5,383	6,471
991.45	393	100	994.00	5,500	6,743
991.50	431	120			
991.55	469	143			
991.60	507	167			
991.65	545	193			
991.70	583	222			
991.75	622	252			
991.80	660	284			
991.85	698	318			
991.90	736	354			
991.95	774	391			
992.00	812	431			
992.05	929	475			
992.10	1,046	524			
992.15	1,164	579			
992.20	1,281	640			
992.25	1,398	707			
992.30	1,515	780			
992.35	1,632	859			
992.40	1,750	943			
992.45	1,867	1,034			
992.50	1,984	1,130			
992.55	2,101	1,232			
992.60	2,218	1,340			
992.65	2,336	1,454			
992.70	2,453	1,574			
992.75	2,570	1,699			
992.80	2,687	1,831			
992.85	2,804	1,968			
992.90	2,922	2,111			
992.95	3,039	2,260			
993.00	3,156	2,415			
993.05	3,273	2,576			
993.10	3,390	2,742			
993.15	3,508	2,915			
993.20	3,625	3,093			
993.25	3,742	3,277			
993.30	3,859	3,467			
993.35	3,976	3,663			
993.40	4,094	3,865			
993.45	4,211	4,073			
993.50	4,328	4,286			

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Summary for Pond CB_C9: CB_C9

Inflow Area = 2.063 ac, 18.86% Impervious, Inflow Depth = 2.22" for 10yr-24hr event
Inflow = 6.26 cfs @ 12.20 hrs, Volume= 0.381 af
Outflow = 6.22 cfs @ 12.21 hrs, Volume= 0.381 af, Atten= 1%, Lag= 0.7 min
Primary = 6.22 cfs @ 12.21 hrs, Volume= 0.381 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 992.42' @ 12.21 hrs Surf.Area= 960 sf Storage= 210 cf

Plug-Flow detention time= 0.4 min calculated for 0.381 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (798.6 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	4,470 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	4,420	4,470	4,470

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	993.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.19 cfs @ 12.21 hrs HW=992.42' TW=978.93' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 6.19 cfs @ 2.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.00' TW=991.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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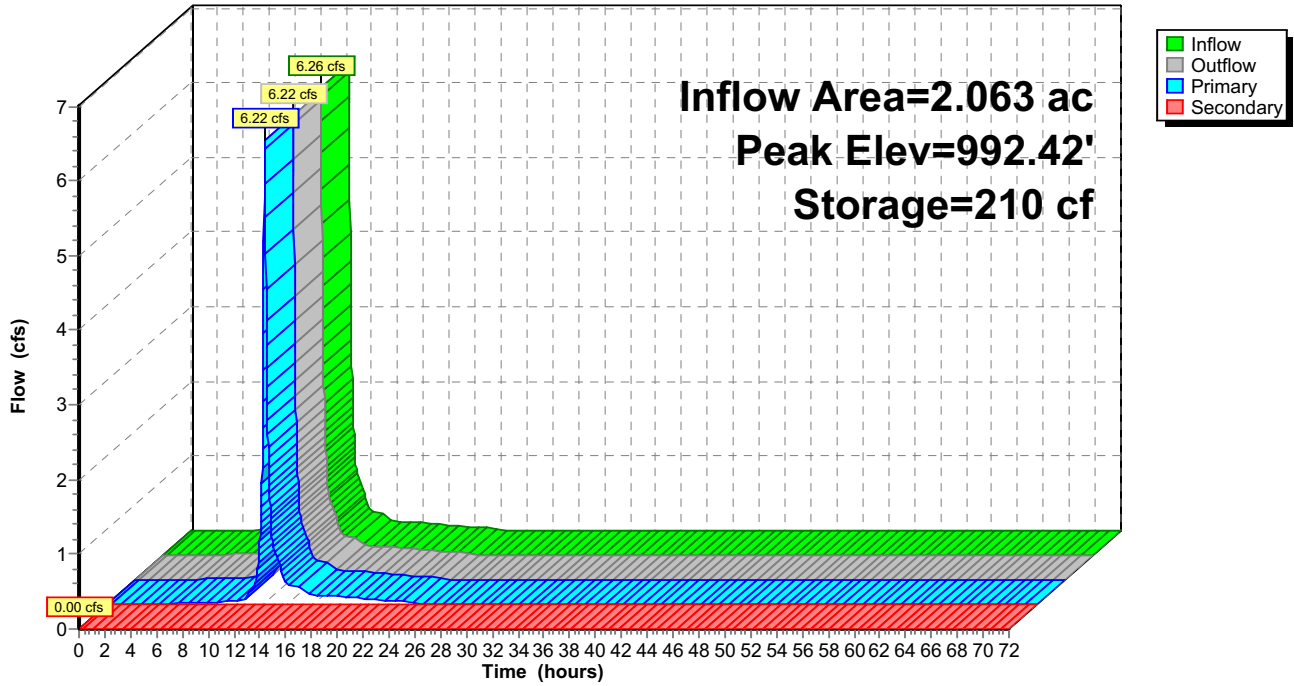
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C9: CB_C9

Hydrograph



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Stage-Area-Storage for Pond CB_C9: CB_C9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.00	50	0	993.02	2,279	1,188
992.02	94	1	993.04	2,322	1,234
992.04	137	4	993.06	2,366	1,281
992.06	181	7	993.08	2,410	1,328
992.08	225	11	993.10	2,454	1,377
992.10	269	16	993.12	2,497	1,426
992.12	312	22	993.14	2,541	1,477
992.14	356	28	993.16	2,585	1,528
992.16	400	36	993.18	2,628	1,580
992.18	443	44	993.20	2,672	1,633
992.20	487	54	993.22	2,716	1,687
992.22	531	64	993.24	2,759	1,742
992.24	574	75	993.26	2,803	1,797
992.26	618	87	993.28	2,847	1,854
992.28	662	100	993.30	2,890	1,911
992.30	705	113	993.32	2,934	1,970
992.32	749	128	993.34	2,978	2,029
992.34	793	143	993.36	3,022	2,089
992.36	837	160	993.38	3,065	2,150
992.38	880	177	993.40	3,109	2,211
992.40	924	195	993.42	3,153	2,274
992.42	968	214	993.44	3,196	2,337
992.44	1,011	234	993.46	3,240	2,402
992.46	1,055	254	993.48	3,284	2,467
992.48	1,099	276	993.50	3,328	2,533
992.50	1,143	298	993.52	3,371	2,600
992.52	1,186	321	993.54	3,415	2,668
992.54	1,230	346	993.56	3,459	2,737
992.56	1,274	371	993.58	3,502	2,806
992.58	1,317	397	993.60	3,546	2,877
992.60	1,361	423	993.62	3,590	2,948
992.62	1,405	451	993.64	3,633	3,020
992.64	1,448	479	993.66	3,677	3,093
992.66	1,492	509	993.68	3,721	3,167
992.68	1,536	539	993.70	3,765	3,242
992.70	1,580	570	993.72	3,808	3,318
992.72	1,623	602	993.74	3,852	3,395
992.74	1,667	635	993.76	3,896	3,472
992.76	1,711	669	993.78	3,939	3,550
992.78	1,754	704	993.80	3,983	3,630
992.80	1,798	739	993.82	4,027	3,710
992.82	1,842	776	993.84	4,070	3,791
992.84	1,885	813	993.86	4,114	3,873
992.86	1,929	851	993.88	4,158	3,955
992.88	1,973	890	993.90	4,201	4,039
992.90	2,016	930	993.92	4,245	4,123
992.92	2,060	971	993.94	4,289	4,209
992.94	2,104	1,012	993.96	4,333	4,295
992.96	2,148	1,055	993.98	4,376	4,382
992.98	2,191	1,098	994.00	4,420	4,470
993.00	2,235	1,143			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_E13: CB_E13

Inflow Area = 0.605 ac, 27.77% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
Inflow = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af
Outflow = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.2 min
Primary = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 1,009.69' @ 12.20 hrs Surf.Area= 160 sf Storage= 20 cf

Plug-Flow detention time= 0.2 min calculated for 0.122 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (790.2 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,009.50'	2,113 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,009.50	50	0	0
1,011.00	900	713	713
1,012.00	1,900	1,400	2,113

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,010.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.96 cfs @ 12.20 hrs HW=1,009.69' TW=978.90' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 1.96 cfs @ 1.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,002.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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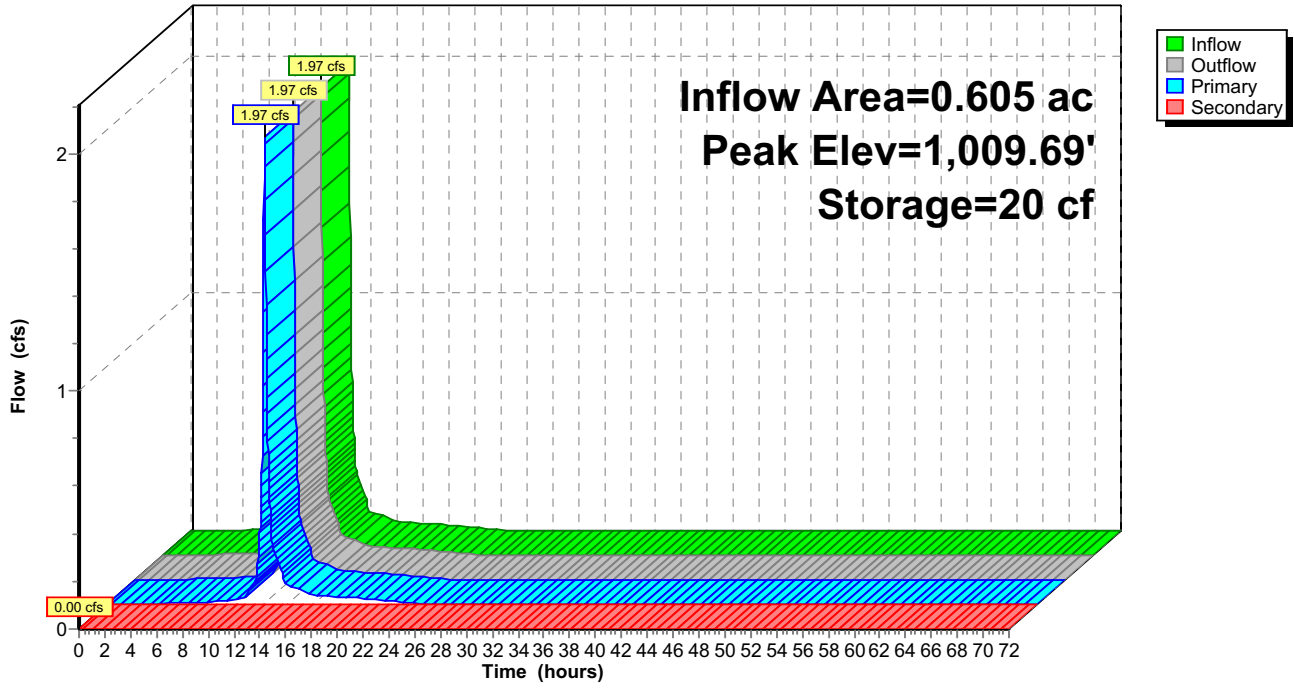
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_E13: CB_E13

Hydrograph



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Stage-Area-Storage for Pond CB_E13: CB_E13

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,009.50	50	0
1,009.55	78	3
1,009.60	107	8
1,009.65	135	14
1,009.70	163	21
1,009.75	192	30
1,009.80	220	40
1,009.85	248	52
1,009.90	277	65
1,009.95	305	80
1,010.00	333	96
1,010.05	362	113
1,010.10	390	132
1,010.15	418	152
1,010.20	447	174
1,010.25	475	197
1,010.30	503	221
1,010.35	532	247
1,010.40	560	274
1,010.45	588	303
1,010.50	617	333
1,010.55	645	365
1,010.60	673	398
1,010.65	702	432
1,010.70	730	468
1,010.75	758	505
1,010.80	787	544
1,010.85	815	584
1,010.90	843	625
1,010.95	872	668
1,011.00	900	713
1,011.05	950	759
1,011.10	1,000	808
1,011.15	1,050	859
1,011.20	1,100	913
1,011.25	1,150	969
1,011.30	1,200	1,027
1,011.35	1,250	1,089
1,011.40	1,300	1,152
1,011.45	1,350	1,219
1,011.50	1,400	1,288
1,011.55	1,450	1,359
1,011.60	1,500	1,433
1,011.65	1,550	1,509
1,011.70	1,600	1,588
1,011.75	1,650	1,669
1,011.80	1,700	1,752
1,011.85	1,750	1,839
1,011.90	1,800	1,927
1,011.95	1,850	2,019
1,012.00	1,900	2,113

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Summary for Pond CB_E15: CB_E15

Inflow Area = 1.926 ac, 26.90% Impervious, Inflow Depth = 2.61" for 10yr-24hr event
 Inflow = 8.66 cfs @ 12.24 hrs, Volume= 0.419 af
 Outflow = 8.63 cfs @ 12.24 hrs, Volume= 0.419 af, Atten= 0%, Lag= 0.4 min
 Primary = 8.63 cfs @ 12.24 hrs, Volume= 0.419 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.52' @ 12.24 hrs Surf.Area= 629 sf Storage= 176 cf

Plug-Flow detention time= 0.3 min calculated for 0.419 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (786.5 - 786.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	6,896 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	2,282	2,332	2,332
996.00	2,282	4,564	6,896

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.59 cfs @ 12.24 hrs HW=992.52' TW=979.02' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 8.59 cfs @ 2.35 fps)

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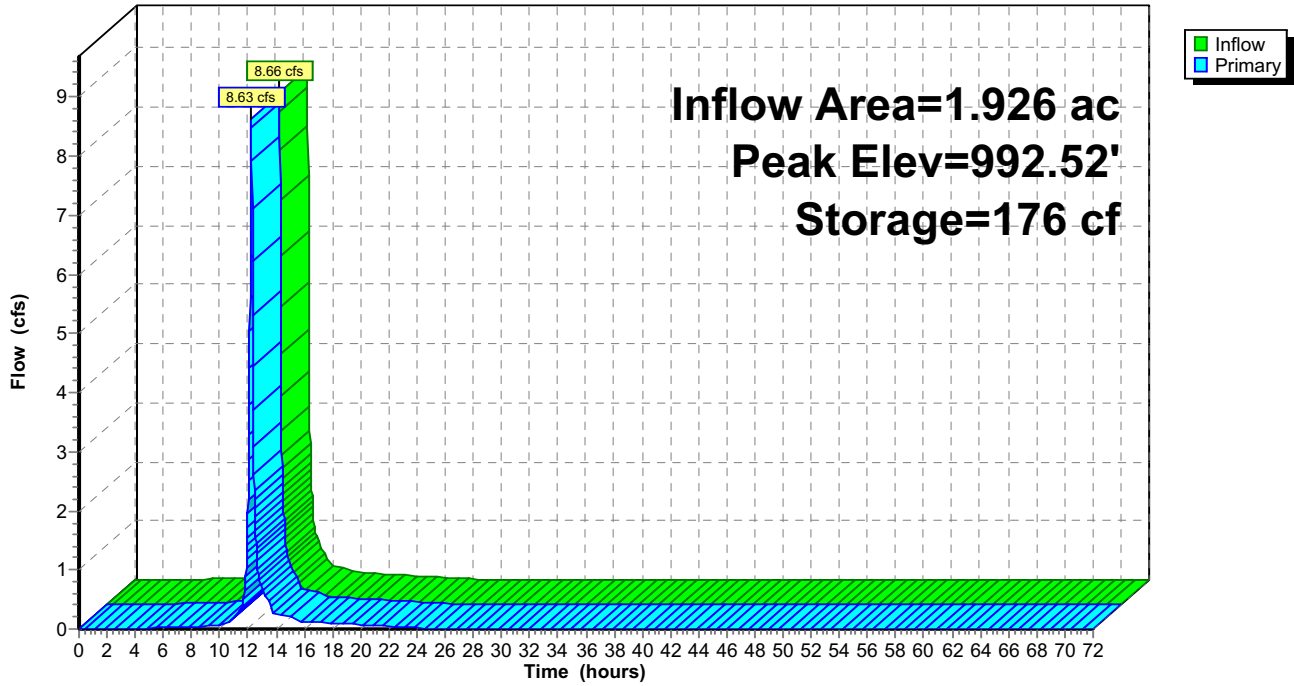
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_E15: CB_E15

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_E15: CB_E15

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.00	50	0	994.55	2,282	3,587
992.05	106	4	994.60	2,282	3,701
992.10	162	11	994.65	2,282	3,815
992.15	217	20	994.70	2,282	3,929
992.20	273	32	994.75	2,282	4,044
992.25	329	47	994.80	2,282	4,158
992.30	385	65	994.85	2,282	4,272
992.35	441	86	994.90	2,282	4,386
992.40	496	109	994.95	2,282	4,500
992.45	552	135	995.00	2,282	4,614
992.50	608	165	995.05	2,282	4,728
992.55	664	196	995.10	2,282	4,842
992.60	720	231	995.15	2,282	4,956
992.65	775	268	995.20	2,282	5,070
992.70	831	308	995.25	2,282	5,185
992.75	887	351	995.30	2,282	5,299
992.80	943	397	995.35	2,282	5,413
992.85	999	446	995.40	2,282	5,527
992.90	1,054	497	995.45	2,282	5,641
992.95	1,110	551	995.50	2,282	5,755
993.00	1,166	608	995.55	2,282	5,869
993.05	1,222	668	995.60	2,282	5,983
993.10	1,278	730	995.65	2,282	6,097
993.15	1,333	795	995.70	2,282	6,211
993.20	1,389	864	995.75	2,282	6,326
993.25	1,445	934	995.80	2,282	6,440
993.30	1,501	1,008	995.85	2,282	6,554
993.35	1,557	1,084	995.90	2,282	6,668
993.40	1,612	1,164	995.95	2,282	6,782
993.45	1,668	1,246	996.00	2,282	6,896
993.50	1,724	1,331			
993.55	1,780	1,418			
993.60	1,836	1,508			
993.65	1,891	1,602			
993.70	1,947	1,698			
993.75	2,003	1,796			
993.80	2,059	1,898			
993.85	2,115	2,002			
993.90	2,170	2,109			
993.95	2,226	2,219			
994.00	2,282	2,332			
994.05	2,282	2,446			
994.10	2,282	2,560			
994.15	2,282	2,674			
994.20	2,282	2,788			
994.25	2,282	2,903			
994.30	2,282	3,017			
994.35	2,282	3,131			
994.40	2,282	3,245			
994.45	2,282	3,359			
994.50	2,282	3,473			

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Summary for Pond CB_E16: CB_E16

Inflow Area = 4.099 ac, 17.78% Impervious, Inflow Depth = 2.20" for 10yr-24hr event
Inflow = 11.71 cfs @ 12.21 hrs, Volume= 0.750 af
Outflow = 10.83 cfs @ 12.26 hrs, Volume= 0.750 af, Atten= 8%, Lag= 2.8 min
Primary = 7.82 cfs @ 12.26 hrs, Volume= 0.716 af
Secondary = 3.01 cfs @ 12.26 hrs, Volume= 0.034 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 997.38' @ 12.26 hrs Surf.Area= 1,914 sf Storage= 1,803 cf

Plug-Flow detention time= 2.5 min calculated for 0.750 af (100% of inflow)
Center-of-Mass det. time= 2.1 min (802.4 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	8,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	366	233	233
998.00	2,614	2,980	3,213
1,000.00	2,614	5,228	8,441

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	15.0" Round Culvert L= 227.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 987.40' S= 0.0335 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.82 cfs @ 12.26 hrs HW=997.38' TW=979.06' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 7.82 cfs @ 6.37 fps)

Secondary OutFlow Max=3.00 cfs @ 12.26 hrs HW=997.38' TW=992.51' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Weir Controls 3.00 cfs @ 1.60 fps)

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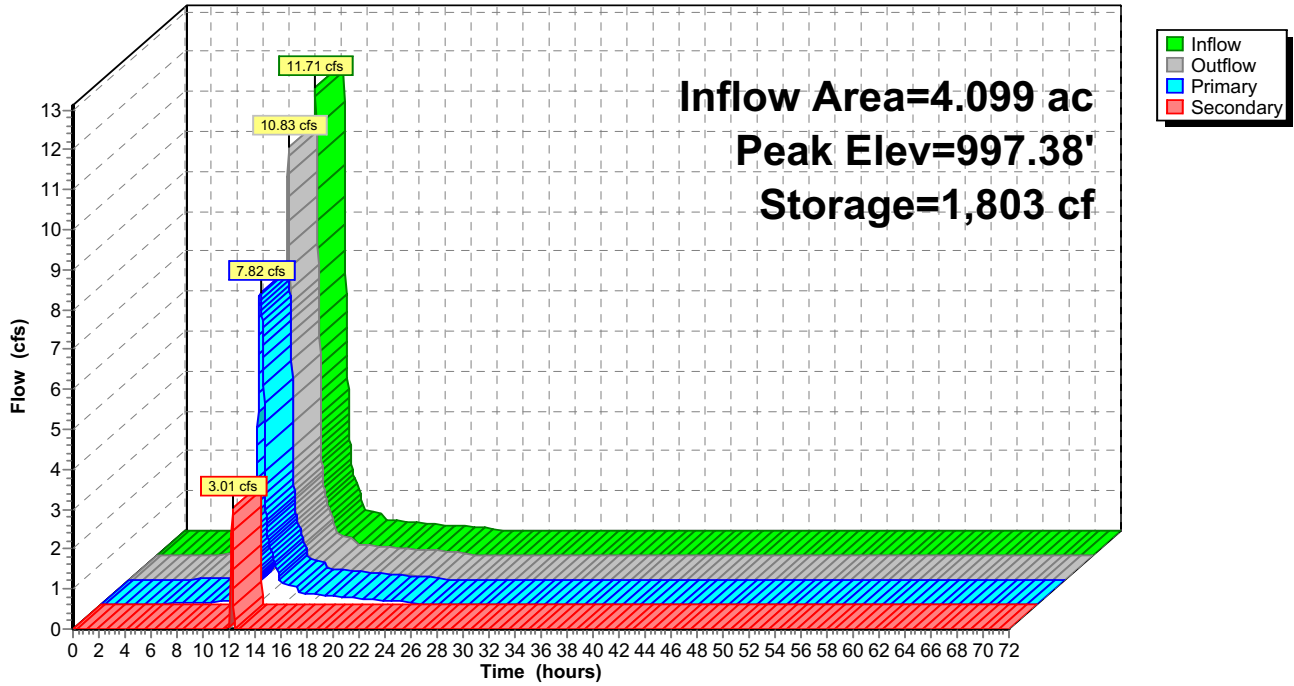
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Pond CB_E16: CB_E16

Hydrograph



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Stage-Area-Storage for Pond CB_E16: CB_E16

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
995.00	100	0	997.55	2,108	2,151
995.05	113	5	997.60	2,164	2,257
995.10	127	11	997.65	2,221	2,367
995.15	140	18	997.70	2,277	2,479
995.20	153	25	997.75	2,333	2,595
995.25	167	33	997.80	2,389	2,713
995.30	180	42	997.85	2,445	2,834
995.35	193	51	997.90	2,502	2,957
995.40	206	61	997.95	2,558	3,084
995.45	220	72	998.00	2,614	3,213
995.50	233	83	998.05	2,614	3,344
995.55	246	95	998.10	2,614	3,474
995.60	260	108	998.15	2,614	3,605
995.65	273	121	998.20	2,614	3,736
995.70	286	135	998.25	2,614	3,867
995.75	300	150	998.30	2,614	3,997
995.80	313	165	998.35	2,614	4,128
995.85	326	181	998.40	2,614	4,259
995.90	339	198	998.45	2,614	4,389
995.95	353	215	998.50	2,614	4,520
996.00	366	233	998.55	2,614	4,651
996.05	422	253	998.60	2,614	4,781
996.10	478	275	998.65	2,614	4,912
996.15	535	301	998.70	2,614	5,043
996.20	591	329	998.75	2,614	5,174
996.25	647	360	998.80	2,614	5,304
996.30	703	393	998.85	2,614	5,435
996.35	759	430	998.90	2,614	5,566
996.40	816	469	998.95	2,614	5,696
996.45	872	512	999.00	2,614	5,827
996.50	928	557	999.05	2,614	5,958
996.55	984	604	999.10	2,614	6,088
996.60	1,040	655	999.15	2,614	6,219
996.65	1,097	708	999.20	2,614	6,350
996.70	1,153	765	999.25	2,614	6,481
996.75	1,209	824	999.30	2,614	6,611
996.80	1,265	885	999.35	2,614	6,742
996.85	1,321	950	999.40	2,614	6,873
996.90	1,378	1,018	999.45	2,614	7,003
996.95	1,434	1,088	999.50	2,614	7,134
997.00	1,490	1,161	999.55	2,614	7,265
997.05	1,546	1,237	999.60	2,614	7,395
997.10	1,602	1,316	999.65	2,614	7,526
997.15	1,659	1,397	999.70	2,614	7,657
997.20	1,715	1,481	999.75	2,614	7,788
997.25	1,771	1,569	999.80	2,614	7,918
997.30	1,827	1,659	999.85	2,614	8,049
997.35	1,883	1,751	999.90	2,614	8,180
997.40	1,940	1,847	999.95	2,614	8,310
997.45	1,996	1,945	1,000.00	2,614	8,441
997.50	2,052	2,047			

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Summary for Pond CB_E21: CB_E21

Inflow Area = 0.376 ac, 3.46% Impervious, Inflow Depth = 1.87" for 10yr-24hr event
 Inflow = 1.00 cfs @ 12.20 hrs, Volume= 0.059 af
 Outflow = 0.99 cfs @ 12.22 hrs, Volume= 0.059 af, Atten= 1%, Lag= 0.7 min
 Primary = 0.99 cfs @ 12.22 hrs, Volume= 0.059 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.12' @ 12.22 hrs Surf.Area= 487 sf Storage= 33 cf

Plug-Flow detention time= 0.5 min calculated for 0.059 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (817.2 - 816.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	5,448 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	50	0	0
1,001.00	3,615	1,833	1,833
1,002.00	3,615	3,615	5,448

Device	Routing	Invert	Outlet Devices
#1	Primary	1,000.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,001.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.99 cfs @ 12.22 hrs HW=1,000.12' TW=978.94' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.99 cfs @ 1.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=995.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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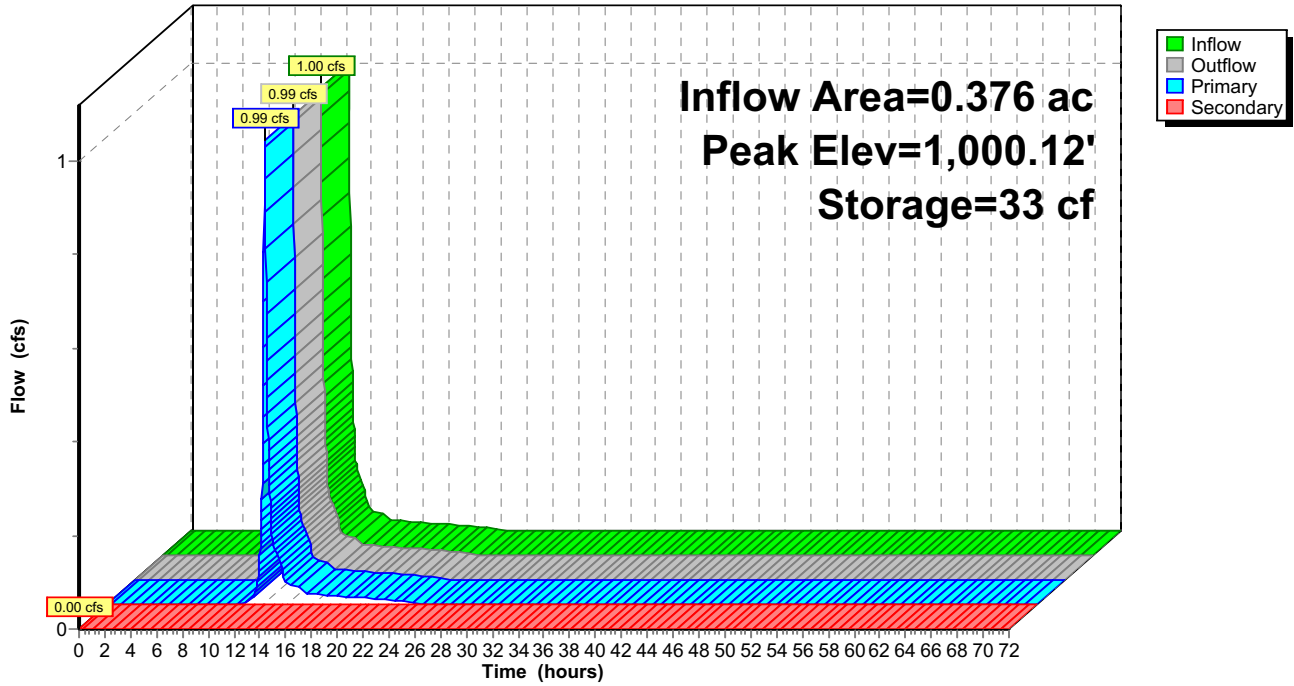
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_E21: CB_E21

Hydrograph



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Stage-Area-Storage for Pond CB_E21: CB_E21

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,000.00	50	0	1,001.02	3,615	1,905
1,000.02	121	2	1,001.04	3,615	1,977
1,000.04	193	5	1,001.06	3,615	2,049
1,000.06	264	9	1,001.08	3,615	2,122
1,000.08	335	15	1,001.10	3,615	2,194
1,000.10	407	23	1,001.12	3,615	2,266
1,000.12	478	32	1,001.14	3,615	2,339
1,000.14	549	42	1,001.16	3,615	2,411
1,000.16	620	54	1,001.18	3,615	2,483
1,000.18	692	67	1,001.20	3,615	2,556
1,000.20	763	81	1,001.22	3,615	2,628
1,000.22	834	97	1,001.24	3,615	2,700
1,000.24	906	115	1,001.26	3,615	2,772
1,000.26	977	133	1,001.28	3,615	2,845
1,000.28	1,048	154	1,001.30	3,615	2,917
1,000.30	1,119	175	1,001.32	3,615	2,989
1,000.32	1,191	199	1,001.34	3,615	3,062
1,000.34	1,262	223	1,001.36	3,615	3,134
1,000.36	1,333	249	1,001.38	3,615	3,206
1,000.38	1,405	276	1,001.40	3,615	3,278
1,000.40	1,476	305	1,001.42	3,615	3,351
1,000.42	1,547	335	1,001.44	3,615	3,423
1,000.44	1,619	367	1,001.46	3,615	3,495
1,000.46	1,690	400	1,001.48	3,615	3,568
1,000.48	1,761	435	1,001.50	3,615	3,640
1,000.50	1,833	471	1,001.52	3,615	3,712
1,000.52	1,904	508	1,001.54	3,615	3,785
1,000.54	1,975	547	1,001.56	3,615	3,857
1,000.56	2,046	587	1,001.58	3,615	3,929
1,000.58	2,118	629	1,001.60	3,615	4,002
1,000.60	2,189	672	1,001.62	3,615	4,074
1,000.62	2,260	716	1,001.64	3,615	4,146
1,000.64	2,332	762	1,001.66	3,615	4,218
1,000.66	2,403	809	1,001.68	3,615	4,291
1,000.68	2,474	858	1,001.70	3,615	4,363
1,000.70	2,546	908	1,001.72	3,615	4,435
1,000.72	2,617	960	1,001.74	3,615	4,508
1,000.74	2,688	1,013	1,001.76	3,615	4,580
1,000.76	2,759	1,068	1,001.78	3,615	4,652
1,000.78	2,831	1,123	1,001.80	3,615	4,724
1,000.80	2,902	1,181	1,001.82	3,615	4,797
1,000.82	2,973	1,240	1,001.84	3,615	4,869
1,000.84	3,045	1,300	1,001.86	3,615	4,941
1,000.86	3,116	1,361	1,001.88	3,615	5,014
1,000.88	3,187	1,424	1,001.90	3,615	5,086
1,000.90	3,258	1,489	1,001.92	3,615	5,158
1,000.92	3,330	1,555	1,001.94	3,615	5,231
1,000.94	3,401	1,622	1,001.96	3,615	5,303
1,000.96	3,472	1,691	1,001.98	3,615	5,375
1,000.98	3,544	1,761	1,002.00	3,615	5,448
1,001.00	3,615	1,833			

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Hollydale - Proposed Conditions - 07.07.21
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Summary for Pond CB_E22: CB_E22

Inflow Area = 0.586 ac, 17.58% Impervious, Inflow Depth = 2.19" for 10yr-24hr event
 Inflow = 1.76 cfs @ 12.20 hrs, Volume= 0.107 af
 Outflow = 1.75 cfs @ 12.21 hrs, Volume= 0.107 af, Atten= 1%, Lag= 0.7 min
 Primary = 1.75 cfs @ 12.21 hrs, Volume= 0.107 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.18' @ 12.21 hrs Surf.Area= 604 sf Storage= 59 cf

Plug-Flow detention time= 0.5 min calculated for 0.107 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (800.0 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	4,750 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.00	3,150	1,600	1,600
1,004.00	3,150	3,150	4,750

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.74 cfs @ 12.21 hrs HW=1,002.18' TW=978.93' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 1.74 cfs @ 1.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,000.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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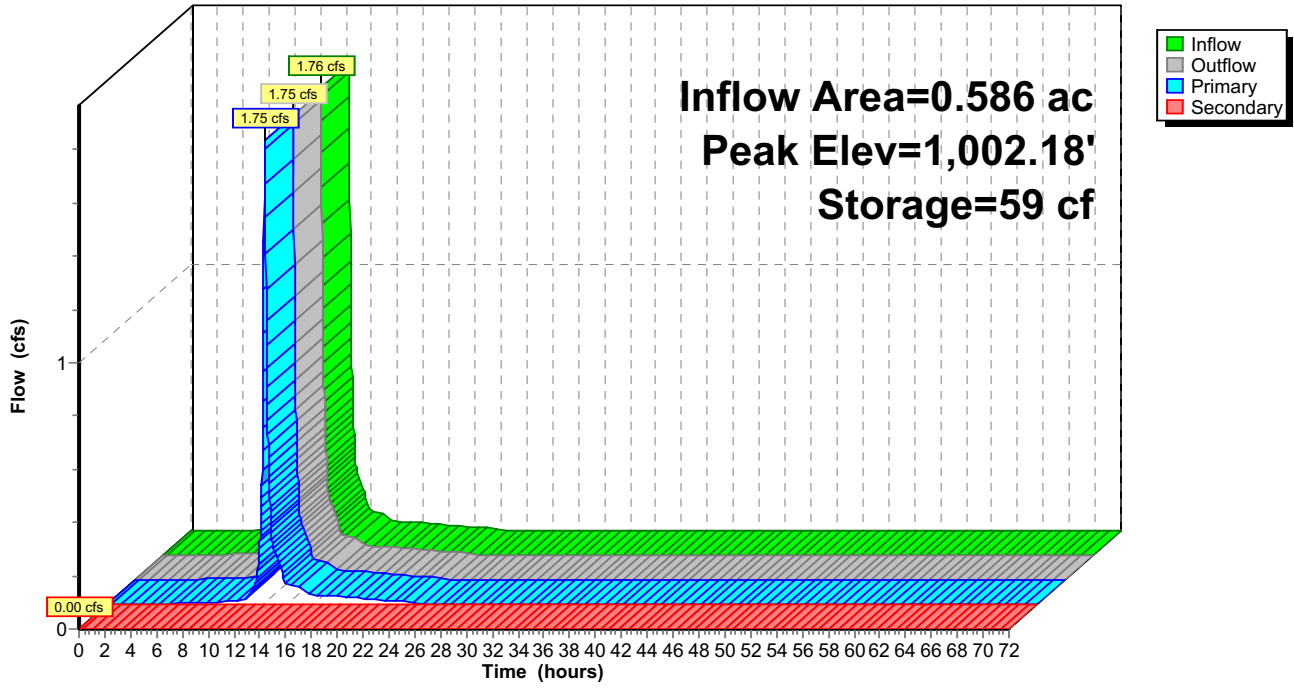
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Pond CB_E22: CB_E22

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Stage-Area-Storage for Pond CB_E22: CB_E22

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,002.00	50	0	1,003.02	3,150	1,663
1,002.02	112	2	1,003.04	3,150	1,726
1,002.04	174	4	1,003.06	3,150	1,789
1,002.06	236	9	1,003.08	3,150	1,852
1,002.08	298	14	1,003.10	3,150	1,915
1,002.10	360	21	1,003.12	3,150	1,978
1,002.12	422	28	1,003.14	3,150	2,041
1,002.14	484	37	1,003.16	3,150	2,104
1,002.16	546	48	1,003.18	3,150	2,167
1,002.18	608	59	1,003.20	3,150	2,230
1,002.20	670	72	1,003.22	3,150	2,293
1,002.22	732	86	1,003.24	3,150	2,356
1,002.24	794	101	1,003.26	3,150	2,419
1,002.26	856	118	1,003.28	3,150	2,482
1,002.28	918	136	1,003.30	3,150	2,545
1,002.30	980	154	1,003.32	3,150	2,608
1,002.32	1,042	175	1,003.34	3,150	2,671
1,002.34	1,104	196	1,003.36	3,150	2,734
1,002.36	1,166	219	1,003.38	3,150	2,797
1,002.38	1,228	243	1,003.40	3,150	2,860
1,002.40	1,290	268	1,003.42	3,150	2,923
1,002.42	1,352	294	1,003.44	3,150	2,986
1,002.44	1,414	322	1,003.46	3,150	3,049
1,002.46	1,476	351	1,003.48	3,150	3,112
1,002.48	1,538	381	1,003.50	3,150	3,175
1,002.50	1,600	413	1,003.52	3,150	3,238
1,002.52	1,662	445	1,003.54	3,150	3,301
1,002.54	1,724	479	1,003.56	3,150	3,364
1,002.56	1,786	514	1,003.58	3,150	3,427
1,002.58	1,848	550	1,003.60	3,150	3,490
1,002.60	1,910	588	1,003.62	3,150	3,553
1,002.62	1,972	627	1,003.64	3,150	3,616
1,002.64	2,034	667	1,003.66	3,150	3,679
1,002.66	2,096	708	1,003.68	3,150	3,742
1,002.68	2,158	751	1,003.70	3,150	3,805
1,002.70	2,220	795	1,003.72	3,150	3,868
1,002.72	2,282	840	1,003.74	3,150	3,931
1,002.74	2,344	886	1,003.76	3,150	3,994
1,002.76	2,406	933	1,003.78	3,150	4,057
1,002.78	2,468	982	1,003.80	3,150	4,120
1,002.80	2,530	1,032	1,003.82	3,150	4,183
1,002.82	2,592	1,083	1,003.84	3,150	4,246
1,002.84	2,654	1,136	1,003.86	3,150	4,309
1,002.86	2,716	1,189	1,003.88	3,150	4,372
1,002.88	2,778	1,244	1,003.90	3,150	4,435
1,002.90	2,840	1,300	1,003.92	3,150	4,498
1,002.92	2,902	1,358	1,003.94	3,150	4,561
1,002.94	2,964	1,417	1,003.96	3,150	4,624
1,002.96	3,026	1,476	1,003.98	3,150	4,687
1,002.98	3,088	1,538	1,004.00	3,150	4,750
1,003.00	3,150	1,600			

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Summary for Pond CB_E23: CB_E23

Inflow Area = 1.215 ac, 7.98% Impervious, Inflow Depth = 1.98" for 10yr-24hr event
 Inflow = 3.36 cfs @ 12.20 hrs, Volume= 0.200 af
 Outflow = 3.32 cfs @ 12.22 hrs, Volume= 0.200 af, Atten= 1%, Lag= 1.0 min
 Primary = 3.32 cfs @ 12.22 hrs, Volume= 0.200 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.27' @ 12.22 hrs Surf.Area= 1,113 sf Storage= 159 cf

Plug-Flow detention time= 0.6 min calculated for 0.200 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (811.2 - 810.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	13,245 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.50	5,870	4,440	4,440
1,005.00	5,870	8,805	13,245

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=3.32 cfs @ 12.22 hrs HW=1,002.27' TW=978.95' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 3.32 cfs @ 1.71 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,002.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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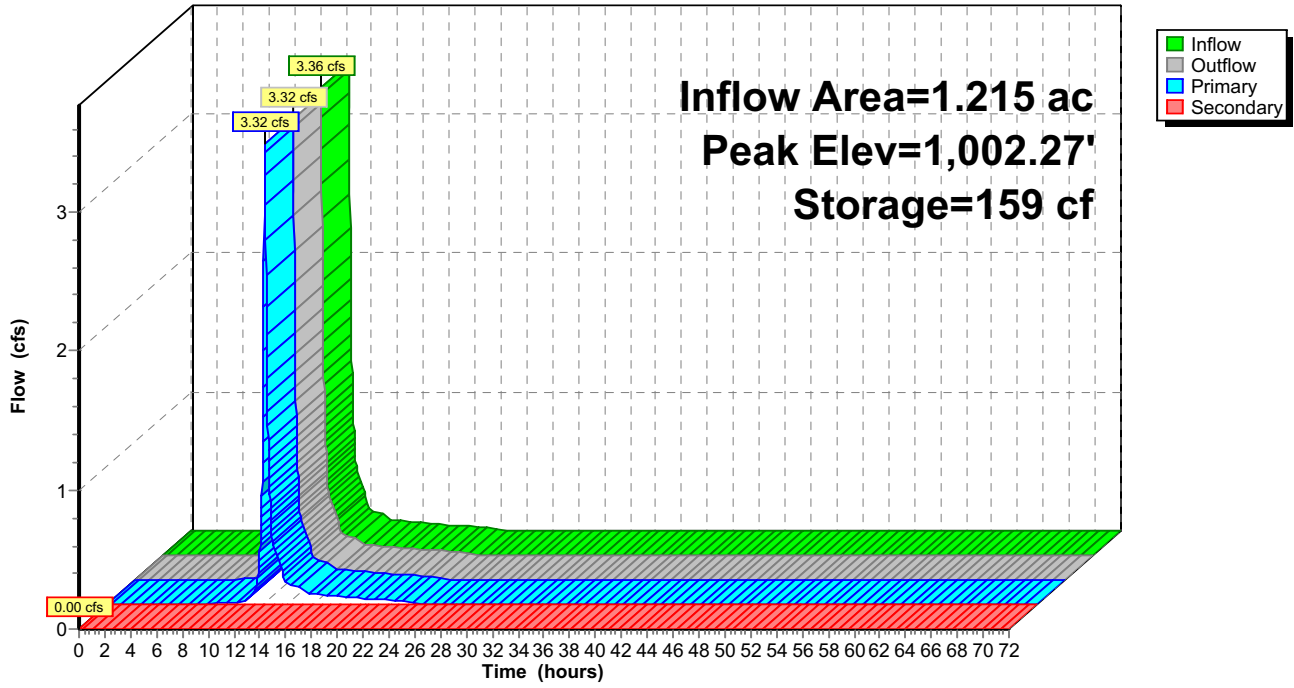
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Pond CB_E23: CB_E23

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Stage-Area-Storage for Pond CB_E23: CB_E23

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,002.00	50	0	1,004.55	5,870	10,603
1,002.05	244	7	1,004.60	5,870	10,897
1,002.10	438	24	1,004.65	5,870	11,190
1,002.15	632	51	1,004.70	5,870	11,484
1,002.20	826	88	1,004.75	5,870	11,778
1,002.25	1,020	134	1,004.80	5,870	12,071
1,002.30	1,214	190	1,004.85	5,870	12,365
1,002.35	1,408	255	1,004.90	5,870	12,658
1,002.40	1,602	330	1,004.95	5,870	12,952
1,002.45	1,796	415	1,005.00	5,870	13,245
1,002.50	1,990	510			
1,002.55	2,184	614			
1,002.60	2,378	728			
1,002.65	2,572	852			
1,002.70	2,766	986			
1,002.75	2,960	1,129			
1,002.80	3,154	1,282			
1,002.85	3,348	1,444			
1,002.90	3,542	1,616			
1,002.95	3,736	1,798			
1,003.00	3,930	1,990			
1,003.05	4,124	2,191			
1,003.10	4,318	2,402			
1,003.15	4,512	2,623			
1,003.20	4,706	2,854			
1,003.25	4,900	3,094			
1,003.30	5,094	3,344			
1,003.35	5,288	3,603			
1,003.40	5,482	3,872			
1,003.45	5,676	4,151			
1,003.50	5,870	4,440			
1,003.55	5,870	4,733			
1,003.60	5,870	5,027			
1,003.65	5,870	5,320			
1,003.70	5,870	5,614			
1,003.75	5,870	5,908			
1,003.80	5,870	6,201			
1,003.85	5,870	6,495			
1,003.90	5,870	6,788			
1,003.95	5,870	7,082			
1,004.00	5,870	7,375			
1,004.05	5,870	7,668			
1,004.10	5,870	7,962			
1,004.15	5,870	8,255			
1,004.20	5,870	8,549			
1,004.25	5,870	8,843			
1,004.30	5,870	9,136			
1,004.35	5,870	9,430			
1,004.40	5,870	9,723			
1,004.45	5,870	10,017			
1,004.50	5,870	10,310			

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Summary for Pond CB_E29: CB_E29

Inflow Area = 1.254 ac, 16.11% Impervious, Inflow Depth = 2.16" for 10yr-24hr event
 Inflow = 3.72 cfs @ 12.20 hrs, Volume= 0.225 af
 Outflow = 3.44 cfs @ 12.24 hrs, Volume= 0.225 af, Atten= 8%, Lag= 2.5 min
 Primary = 3.44 cfs @ 12.24 hrs, Volume= 0.225 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.02' @ 12.24 hrs Surf.Area= 973 sf Storage= 516 cf

Plug-Flow detention time= 3.6 min calculated for 0.225 af (100% of inflow)
 Center-of-Mass det. time= 3.2 min (804.3 - 801.1)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	124,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	900	500	500
998.00	9,500	10,400	10,900
1,010.00	9,500	114,000	124,900

Device	Routing	Invert	Outlet Devices
#1	Primary	999.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	995.00'	15.0" Round Culvert L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 994.59' S= 0.0114 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=3.44 cfs @ 12.24 hrs HW=996.02' TW=979.02' (Dynamic Tailwater)

1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

2=Culvert (Barrel Controls 3.44 cfs @ 4.39 fps)

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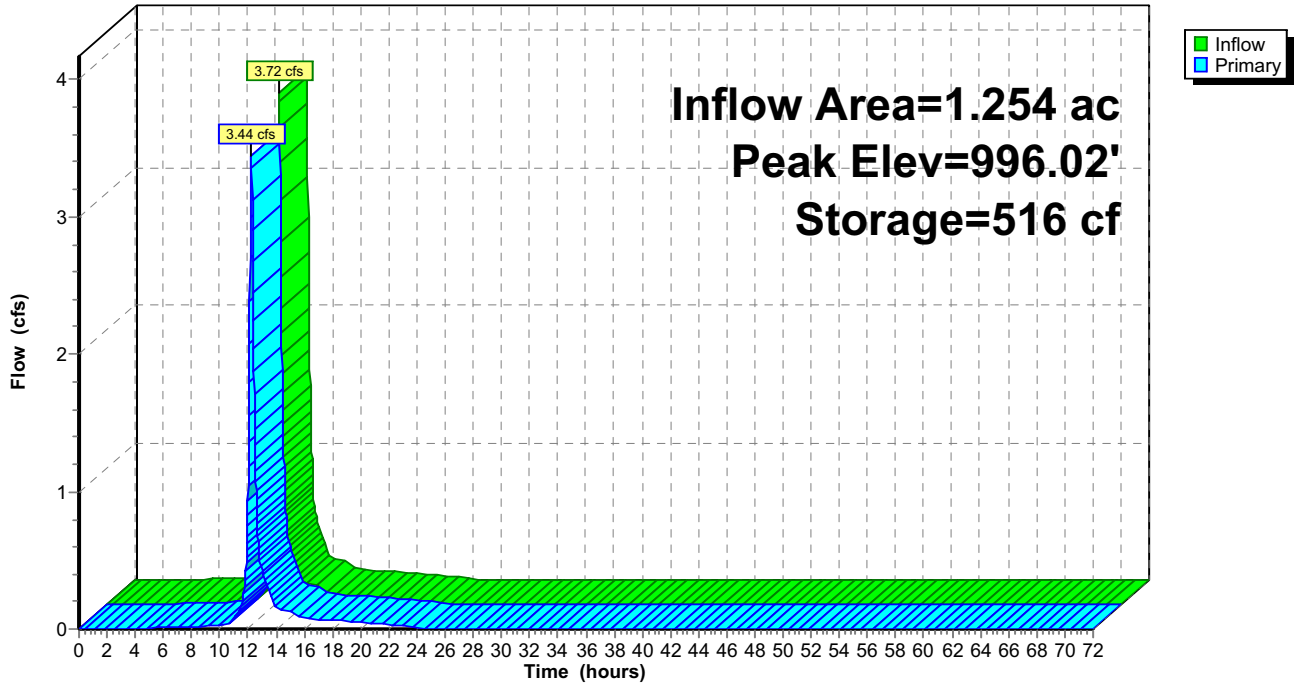
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Pond CB_E29: CB_E29

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_E29: CB_E29

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
995.00	100	0	1,002.65	9,500	55,075
995.15	220	24	1,002.80	9,500	56,500
995.30	340	66	1,002.95	9,500	57,925
995.45	460	126	1,003.10	9,500	59,350
995.60	580	204	1,003.25	9,500	60,775
995.75	700	300	1,003.40	9,500	62,200
995.90	820	414	1,003.55	9,500	63,625
996.05	1,115	550	1,003.70	9,500	65,050
996.20	1,760	766	1,003.85	9,500	66,475
996.35	2,405	1,078	1,004.00	9,500	67,900
996.50	3,050	1,488	1,004.15	9,500	69,325
996.65	3,695	1,993	1,004.30	9,500	70,750
996.80	4,340	2,596	1,004.45	9,500	72,175
996.95	4,985	3,295	1,004.60	9,500	73,600
997.10	5,630	4,092	1,004.75	9,500	75,025
997.25	6,275	4,984	1,004.90	9,500	76,450
997.40	6,920	5,974	1,005.05	9,500	77,875
997.55	7,565	7,060	1,005.20	9,500	79,300
997.70	8,210	8,244	1,005.35	9,500	80,725
997.85	8,855	9,523	1,005.50	9,500	82,150
998.00	9,500	10,900	1,005.65	9,500	83,575
998.15	9,500	12,325	1,005.80	9,500	85,000
998.30	9,500	13,750	1,005.95	9,500	86,425
998.45	9,500	15,175	1,006.10	9,500	87,850
998.60	9,500	16,600	1,006.25	9,500	89,275
998.75	9,500	18,025	1,006.40	9,500	90,700
998.90	9,500	19,450	1,006.55	9,500	92,125
999.05	9,500	20,875	1,006.70	9,500	93,550
999.20	9,500	22,300	1,006.85	9,500	94,975
999.35	9,500	23,725	1,007.00	9,500	96,400
999.50	9,500	25,150	1,007.15	9,500	97,825
999.65	9,500	26,575	1,007.30	9,500	99,250
999.80	9,500	28,000	1,007.45	9,500	100,675
999.95	9,500	29,425	1,007.60	9,500	102,100
1,000.10	9,500	30,850	1,007.75	9,500	103,525
1,000.25	9,500	32,275	1,007.90	9,500	104,950
1,000.40	9,500	33,700	1,008.05	9,500	106,375
1,000.55	9,500	35,125	1,008.20	9,500	107,800
1,000.70	9,500	36,550	1,008.35	9,500	109,225
1,000.85	9,500	37,975	1,008.50	9,500	110,650
1,001.00	9,500	39,400	1,008.65	9,500	112,075
1,001.15	9,500	40,825	1,008.80	9,500	113,500
1,001.30	9,500	42,250	1,008.95	9,500	114,925
1,001.45	9,500	43,675	1,009.10	9,500	116,350
1,001.60	9,500	45,100	1,009.25	9,500	117,775
1,001.75	9,500	46,525	1,009.40	9,500	119,200
1,001.90	9,500	47,950	1,009.55	9,500	120,625
1,002.05	9,500	49,375	1,009.70	9,500	122,050
1,002.20	9,500	50,800	1,009.85	9,500	123,475
1,002.35	9,500	52,225	1,010.00	9,500	124,900
1,002.50	9,500	53,650			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_F5: CB_F5

Inflow Area = 1.224 ac, 21.24% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
Inflow = 3.79 cfs @ 12.20 hrs, Volume= 0.232 af
Outflow = 3.76 cfs @ 12.21 hrs, Volume= 0.232 af, Atten= 1%, Lag= 0.7 min
Primary = 3.76 cfs @ 12.21 hrs, Volume= 0.232 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 983.30' @ 12.21 hrs Surf.Area= 751 sf Storage= 119 cf

Plug-Flow detention time= 0.4 min calculated for 0.232 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (796.3 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	13,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	50	0	0
984.00	2,400	1,225	1,225
986.00	9,900	12,300	13,525

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.75 cfs @ 12.21 hrs HW=983.30' TW=969.30' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 3.75 cfs @ 1.78 fps)

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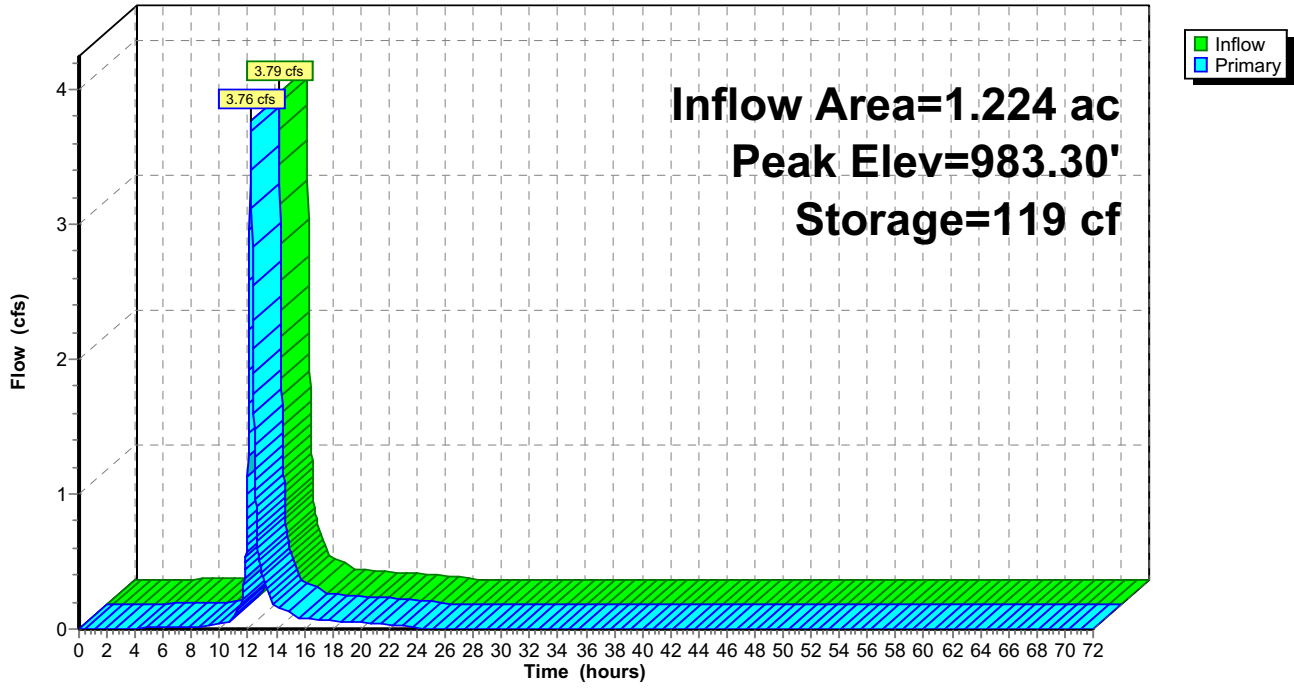
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_F5: CB_F5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_F5: CB_F5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
983.00	50	0	985.55	8,212	9,450
983.05	167	5	985.60	8,400	9,865
983.10	285	17	985.65	8,587	10,290
983.15	402	34	985.70	8,775	10,724
983.20	520	57	985.75	8,963	11,167
983.25	638	86	985.80	9,150	11,620
983.30	755	121	985.85	9,338	12,082
983.35	873	161	985.90	9,525	12,554
983.40	990	208	985.95	9,713	13,035
983.45	1,108	260	986.00	9,900	13,525
983.50	1,225	319			
983.55	1,342	383			
983.60	1,460	453			
983.65	1,577	529			
983.70	1,695	611			
983.75	1,813	698			
983.80	1,930	792			
983.85	2,048	891			
983.90	2,165	997			
983.95	2,283	1,108			
984.00	2,400	1,225			
984.05	2,587	1,350			
984.10	2,775	1,484			
984.15	2,962	1,627			
984.20	3,150	1,780			
984.25	3,338	1,942			
984.30	3,525	2,114			
984.35	3,713	2,295			
984.40	3,900	2,485			
984.45	4,088	2,685			
984.50	4,275	2,894			
984.55	4,462	3,112			
984.60	4,650	3,340			
984.65	4,837	3,577			
984.70	5,025	3,824			
984.75	5,213	4,080			
984.80	5,400	4,345			
984.85	5,588	4,620			
984.90	5,775	4,904			
984.95	5,963	5,197			
985.00	6,150	5,500			
985.05	6,337	5,812			
985.10	6,525	6,134			
985.15	6,712	6,465			
985.20	6,900	6,805			
985.25	7,088	7,155			
985.30	7,275	7,514			
985.35	7,463	7,882			
985.40	7,650	8,260			
985.45	7,838	8,647			
985.50	8,025	9,044			

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Summary for Pond CB_F6: CB_F6

Inflow Area = 0.921 ac, 21.06% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
Inflow = 2.85 cfs @ 12.20 hrs, Volume= 0.174 af
Outflow = 2.84 cfs @ 12.21 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.4 min
Primary = 2.84 cfs @ 12.21 hrs, Volume= 0.174 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 985.25' @ 12.21 hrs Surf.Area= 382 sf Storage= 60 cf

Plug-Flow detention time= 0.8 min calculated for 0.174 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (796.5 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	5,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
988.00	3,527	5,441	5,441

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	987.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.83 cfs @ 12.21 hrs HW=985.25' TW=969.28' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 2.83 cfs @ 1.62 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=983.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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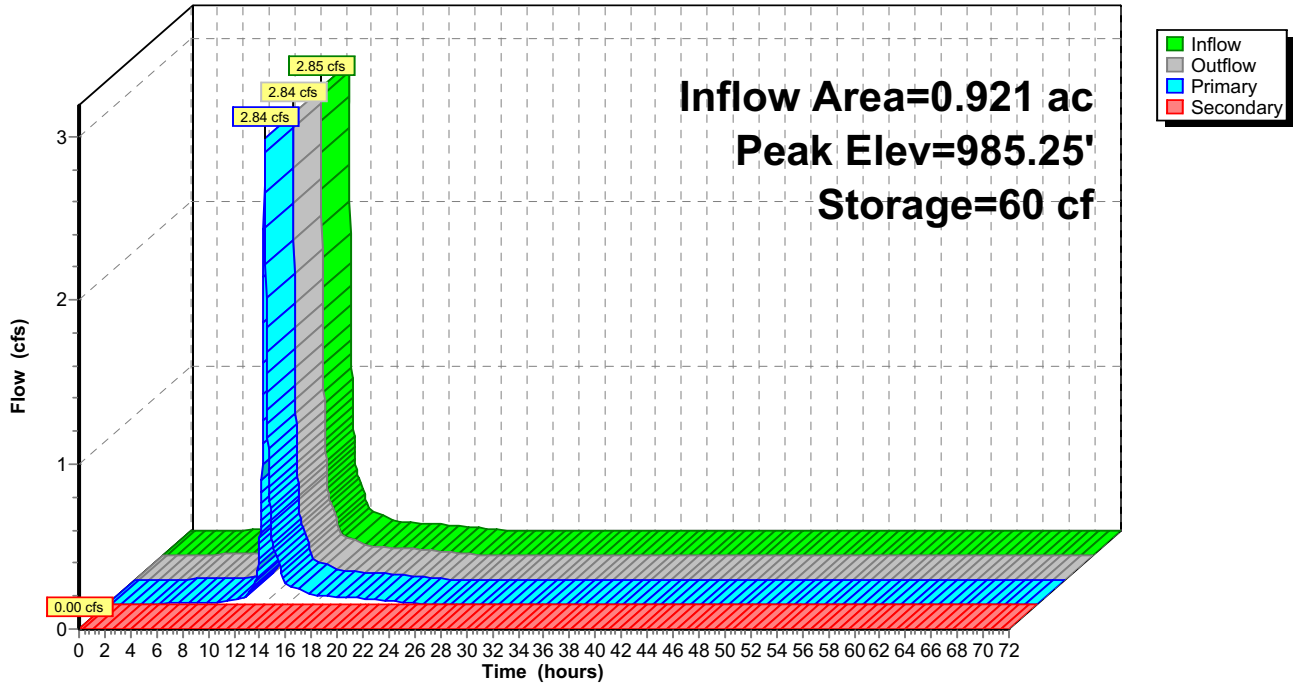
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_F6: CB_F6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_F6: CB_F6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
985.00	100	0	987.55	3,013	3,969
985.05	157	6	987.60	3,070	4,121
985.10	214	16	987.65	3,127	4,276
985.15	271	28	987.70	3,184	4,434
985.20	328	43	987.75	3,241	4,594
985.25	386	61	987.80	3,299	4,758
985.30	443	81	987.85	3,356	4,924
985.35	500	105	987.90	3,413	5,094
985.40	557	131	987.95	3,470	5,266
985.45	614	161	988.00	3,527	5,441
985.50	671	193			
985.55	728	228			
985.60	785	266			
985.65	843	306			
985.70	900	350			
985.75	957	396			
985.80	1,014	446			
985.85	1,071	498			
985.90	1,128	553			
985.95	1,185	610			
986.00	1,242	671			
986.05	1,299	735			
986.10	1,357	801			
986.15	1,414	870			
986.20	1,471	942			
986.25	1,528	1,017			
986.30	1,585	1,095			
986.35	1,642	1,176			
986.40	1,699	1,259			
986.45	1,756	1,346			
986.50	1,814	1,435			
986.55	1,871	1,527			
986.60	1,928	1,622			
986.65	1,985	1,720			
986.70	2,042	1,821			
986.75	2,099	1,924			
986.80	2,156	2,031			
986.85	2,213	2,140			
986.90	2,270	2,252			
986.95	2,328	2,367			
987.00	2,385	2,485			
987.05	2,442	2,605			
987.10	2,499	2,729			
987.15	2,556	2,855			
987.20	2,613	2,984			
987.25	2,670	3,117			
987.30	2,727	3,251			
987.35	2,784	3,389			
987.40	2,842	3,530			
987.45	2,899	3,673			
987.50	2,956	3,820			

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Summary for Pond CB_F7: CB_F7

Inflow Area = 2.573 ac, 14.89% Impervious, Inflow Depth = 2.13" for 10yr-24hr event
 Inflow = 6.96 cfs @ 12.22 hrs, Volume= 0.457 af
 Outflow = 5.39 cfs @ 12.32 hrs, Volume= 0.457 af, Atten= 23%, Lag= 6.0 min
 Primary = 5.39 cfs @ 12.32 hrs, Volume= 0.457 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 984.46' @ 12.32 hrs Surf.Area= 2,547 sf Storage= 1,928 cf

Plug-Flow detention time= 5.2 min calculated for 0.457 af (100% of inflow)
 Center-of-Mass det. time= 4.8 min (809.3 - 804.5)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	21,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	100	0	0
988.00	8,500	21,500	21,500

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	15.0" Round Culvert L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 983.00' / 980.71' S= 0.0458 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	985.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.39 cfs @ 12.32 hrs HW=984.46' TW=969.78' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 5.39 cfs @ 4.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=983.00' TW=985.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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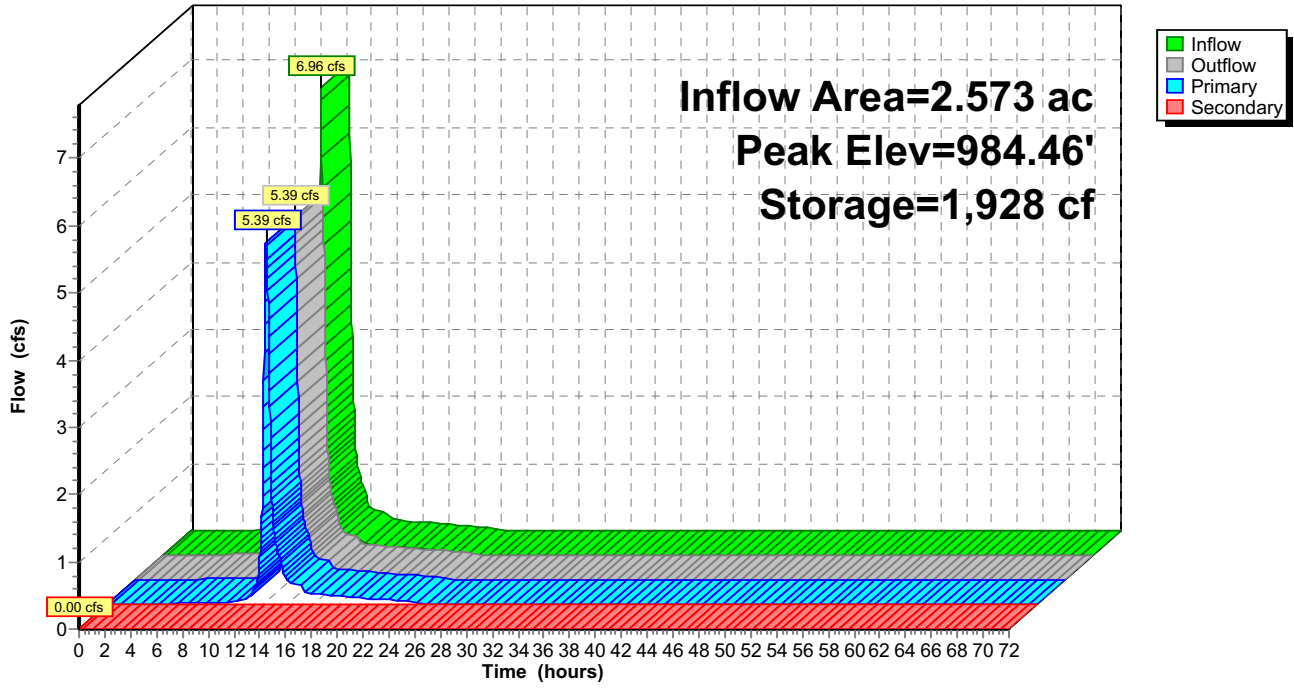
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_F7: CB_F7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_F7: CB_F7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
983.00	100	0	985.55	4,384	5,717
983.05	184	7	985.60	4,468	5,938
983.10	268	18	985.65	4,552	6,164
983.15	352	34	985.70	4,636	6,394
983.20	436	54	985.75	4,720	6,628
983.25	520	78	985.80	4,804	6,866
983.30	604	106	985.85	4,888	7,108
983.35	688	138	985.90	4,972	7,354
983.40	772	174	985.95	5,056	7,605
983.45	856	215	986.00	5,140	7,860
983.50	940	260	986.05	5,224	8,119
983.55	1,024	309	986.10	5,308	8,382
983.60	1,108	362	986.15	5,392	8,650
983.65	1,192	420	986.20	5,476	8,922
983.70	1,276	482	986.25	5,560	9,198
983.75	1,360	548	986.30	5,644	9,478
983.80	1,444	618	986.35	5,728	9,762
983.85	1,528	692	986.40	5,812	10,050
983.90	1,612	770	986.45	5,896	10,343
983.95	1,696	853	986.50	5,980	10,640
984.00	1,780	940	986.55	6,064	10,941
984.05	1,864	1,031	986.60	6,148	11,246
984.10	1,948	1,126	986.65	6,232	11,556
984.15	2,032	1,226	986.70	6,316	11,870
984.20	2,116	1,330	986.75	6,400	12,188
984.25	2,200	1,438	986.80	6,484	12,510
984.30	2,284	1,550	986.85	6,568	12,836
984.35	2,368	1,666	986.90	6,652	13,166
984.40	2,452	1,786	986.95	6,736	13,501
984.45	2,536	1,911	987.00	6,820	13,840
984.50	2,620	2,040	987.05	6,904	14,183
984.55	2,704	2,173	987.10	6,988	14,530
984.60	2,788	2,310	987.15	7,072	14,882
984.65	2,872	2,452	987.20	7,156	15,238
984.70	2,956	2,598	987.25	7,240	15,598
984.75	3,040	2,748	987.30	7,324	15,962
984.80	3,124	2,902	987.35	7,408	16,330
984.85	3,208	3,060	987.40	7,492	16,702
984.90	3,292	3,222	987.45	7,576	17,079
984.95	3,376	3,389	987.50	7,660	17,460
985.00	3,460	3,560	987.55	7,744	17,845
985.05	3,544	3,735	987.60	7,828	18,234
985.10	3,628	3,914	987.65	7,912	18,628
985.15	3,712	4,098	987.70	7,996	19,026
985.20	3,796	4,286	987.75	8,080	19,428
985.25	3,880	4,478	987.80	8,164	19,834
985.30	3,964	4,674	987.85	8,248	20,244
985.35	4,048	4,874	987.90	8,332	20,658
985.40	4,132	5,078	987.95	8,416	21,077
985.45	4,216	5,287	988.00	8,500	21,500
985.50	4,300	5,500			

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Summary for Pond CB_H5: CB_H5

Inflow Area = 2.168 ac, 27.21% Impervious, Inflow Depth = 2.20" for 10yr-24hr event
Inflow = 6.31 cfs @ 12.20 hrs, Volume= 0.398 af
Outflow = 6.26 cfs @ 12.21 hrs, Volume= 0.398 af, Atten= 1%, Lag= 0.8 min
Primary = 6.26 cfs @ 12.21 hrs, Volume= 0.398 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 972.42' @ 12.21 hrs Surf.Area= 1,018 sf Storage= 223 cf

Plug-Flow detention time= 0.4 min calculated for 0.398 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (791.0 - 790.5)

Volume	Invert	Avail.Storage	Storage Description
#1	972.00'	30,964 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
972.00	50	0	0
974.00	4,677	4,727	4,727
976.00	21,560	26,237	30,964

Device	Routing	Invert	Outlet Devices
#1	Primary	972.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.23 cfs @ 12.21 hrs HW=972.42' TW=967.98' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 6.23 cfs @ 2.11 fps)

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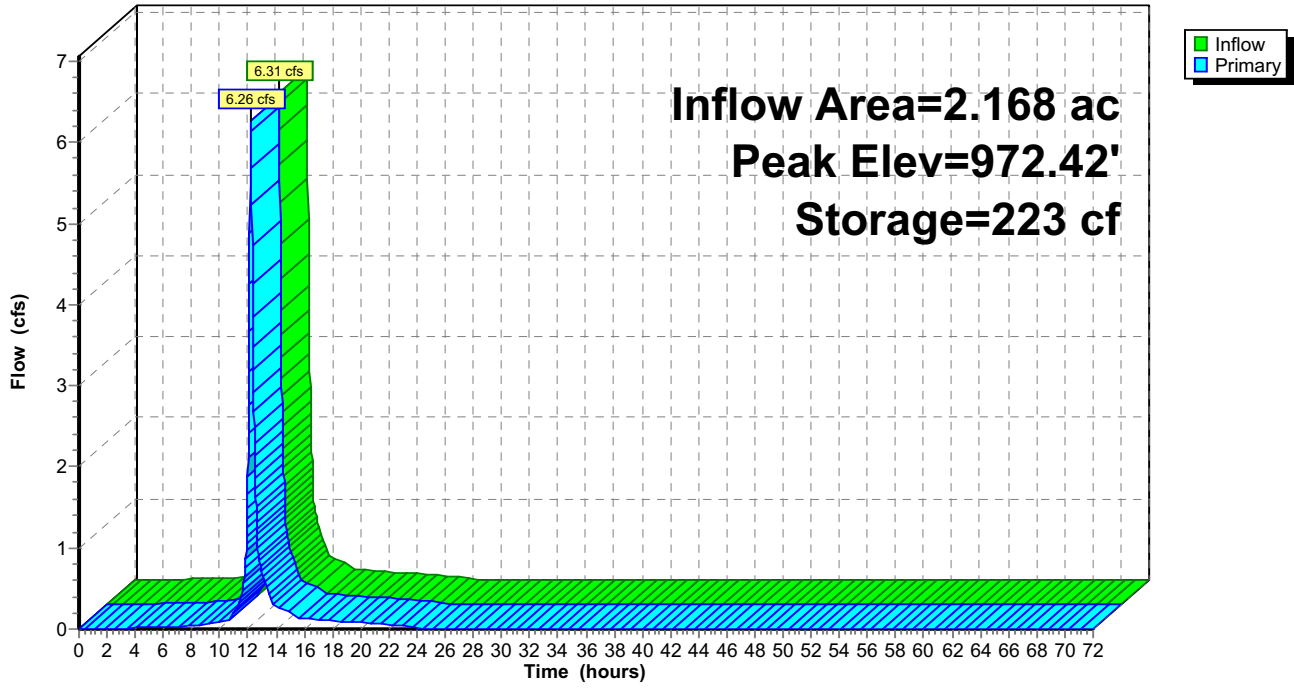
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_H5: CB_H5

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_H5: CB_H5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
972.00	50	0	974.55	9,320	8,576
972.05	166	5	974.60	9,742	9,053
972.10	281	17	974.65	10,164	9,550
972.15	397	34	974.70	10,586	10,069
972.20	513	56	974.75	11,008	10,609
972.25	628	85	974.80	11,430	11,170
972.30	744	119	974.85	11,852	11,752
972.35	860	159	974.90	12,274	12,355
972.40	975	205	974.95	12,696	12,979
972.45	1,091	257	975.00	13,119	13,625
972.50	1,207	314	975.05	13,541	14,291
972.55	1,322	377	975.10	13,963	14,979
972.60	1,438	446	975.15	14,385	15,687
972.65	1,554	521	975.20	14,807	16,417
972.70	1,669	602	975.25	15,229	17,168
972.75	1,785	688	975.30	15,651	17,940
972.80	1,901	780	975.35	16,073	18,733
972.85	2,016	878	975.40	16,495	19,547
972.90	2,132	982	975.45	16,917	20,383
972.95	2,248	1,091	975.50	17,339	21,239
973.00	2,364	1,207	975.55	17,761	22,117
973.05	2,479	1,328	975.60	18,183	23,015
973.10	2,595	1,455	975.65	18,605	23,935
973.15	2,711	1,587	975.70	19,028	24,876
973.20	2,826	1,726	975.75	19,450	25,838
973.25	2,942	1,870	975.80	19,872	26,821
973.30	3,058	2,020	975.85	20,294	27,825
973.35	3,173	2,176	975.90	20,716	28,850
973.40	3,289	2,337	975.95	21,138	29,897
973.45	3,405	2,505	976.00	21,560	30,964
973.50	3,520	2,678			
973.55	3,636	2,857			
973.60	3,752	3,041			
973.65	3,867	3,232			
973.70	3,983	3,428			
973.75	4,099	3,630			
973.80	4,214	3,838			
973.85	4,330	4,051			
973.90	4,446	4,271			
973.95	4,561	4,496			
974.00	4,677	4,727			
974.05	5,099	4,971			
974.10	5,521	5,237			
974.15	5,943	5,524			
974.20	6,365	5,831			
974.25	6,787	6,160			
974.30	7,209	6,510			
974.35	7,632	6,881			
974.40	8,054	7,273			
974.45	8,476	7,686			
974.50	8,898	8,121			

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Summary for Pond CB_H6: CB_H6

Inflow Area = 1.008 ac, 19.54% Impervious, Inflow Depth = 1.70" for 10yr-24hr event
Inflow = 2.20 cfs @ 12.20 hrs, Volume= 0.143 af
Outflow = 2.16 cfs @ 12.22 hrs, Volume= 0.143 af, Atten= 2%, Lag= 1.1 min
Primary = 2.16 cfs @ 12.22 hrs, Volume= 0.143 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 973.21' @ 12.22 hrs Surf.Area= 1,091 sf Storage= 118 cf

Plug-Flow detention time= 0.7 min calculated for 0.143 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (800.9 - 800.3)

Volume	Invert	Avail.Storage	Storage Description
#1	973.00'	35,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.00	50	0	0
974.00	5,100	2,575	2,575
975.00	20,000	12,550	15,125
976.00	20,000	20,000	35,125

Device	Routing	Invert	Outlet Devices
#1	Primary	973.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.16 cfs @ 12.22 hrs HW=973.21' TW=968.01' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 2.16 cfs @ 1.48 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=967.50' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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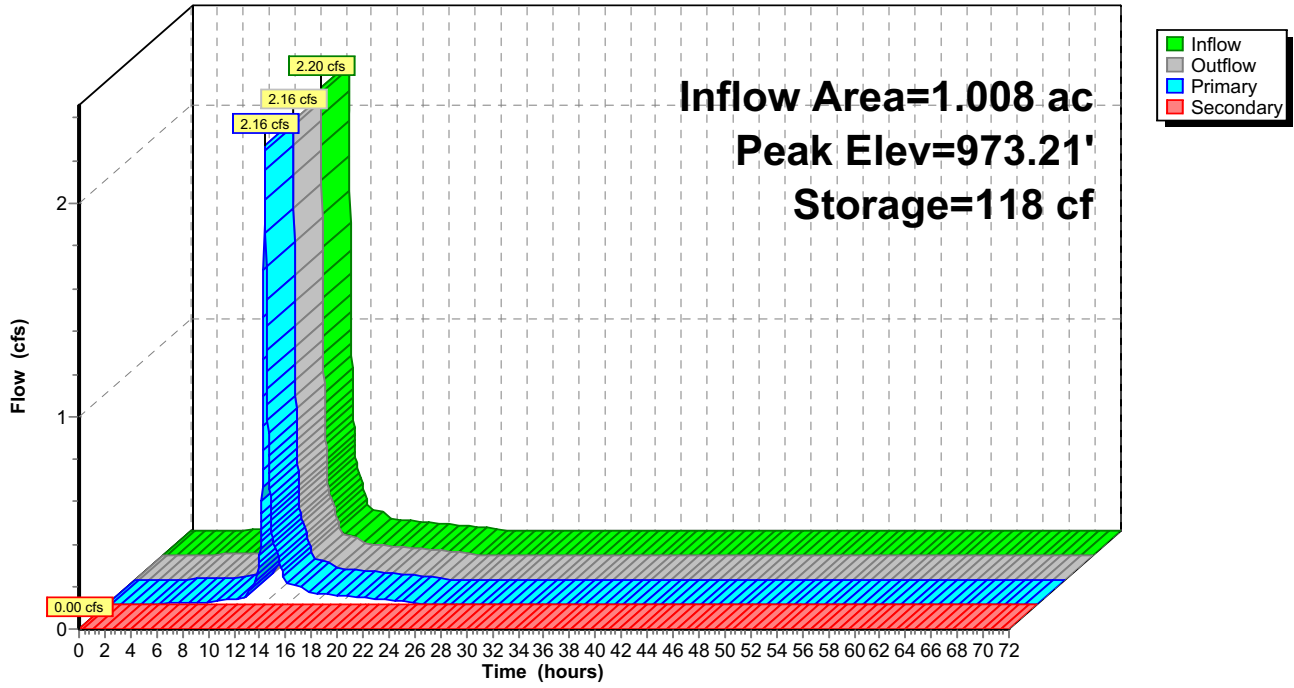
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_H6: CB_H6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_H6: CB_H6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
973.00	50	0	975.55	20,000	26,125
973.05	302	9	975.60	20,000	27,125
973.10	555	30	975.65	20,000	28,125
973.15	807	64	975.70	20,000	29,125
973.20	1,060	111	975.75	20,000	30,125
973.25	1,313	170	975.80	20,000	31,125
973.30	1,565	242	975.85	20,000	32,125
973.35	1,818	327	975.90	20,000	33,125
973.40	2,070	424	975.95	20,000	34,125
973.45	2,323	534	976.00	20,000	35,125
973.50	2,575	656			
973.55	2,827	791			
973.60	3,080	939			
973.65	3,332	1,099			
973.70	3,585	1,272			
973.75	3,838	1,458			
973.80	4,090	1,656			
973.85	4,343	1,867			
973.90	4,595	2,090			
973.95	4,848	2,326			
974.00	5,100	2,575			
974.05	5,845	2,849			
974.10	6,590	3,160			
974.15	7,335	3,508			
974.20	8,080	3,893			
974.25	8,825	4,316			
974.30	9,570	4,775			
974.35	10,315	5,273			
974.40	11,060	5,807			
974.45	11,805	6,379			
974.50	12,550	6,988			
974.55	13,295	7,634			
974.60	14,040	8,317			
974.65	14,785	9,038			
974.70	15,530	9,796			
974.75	16,275	10,591			
974.80	17,020	11,423			
974.85	17,765	12,293			
974.90	18,510	13,199			
974.95	19,255	14,144			
975.00	20,000	15,125			
975.05	20,000	16,125			
975.10	20,000	17,125			
975.15	20,000	18,125			
975.20	20,000	19,125			
975.25	20,000	20,125			
975.30	20,000	21,125			
975.35	20,000	22,125			
975.40	20,000	23,125			
975.45	20,000	24,125			
975.50	20,000	25,125			

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Summary for Pond CB_H7: CB_H7

Inflow Area = 1.176 ac, 19.64% Impervious, Inflow Depth = 1.81" for 10yr-24hr event
Inflow = 2.78 cfs @ 12.20 hrs, Volume= 0.178 af
Outflow = 2.59 cfs @ 12.24 hrs, Volume= 0.177 af, Atten= 7%, Lag= 2.4 min
Primary = 2.59 cfs @ 12.24 hrs, Volume= 0.177 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 974.23' @ 12.24 hrs Surf.Area= 2,430 sf Storage= 577 cf

Plug-Flow detention time= 10.0 min calculated for 0.177 af (100% of inflow)
Center-of-Mass det. time= 9.1 min (808.5 - 799.4)

Volume	Invert	Avail.Storage	Storage Description
#1	973.99'	4,872 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.99	50	0	0
974.00	2,430	12	12
976.00	2,430	4,860	4,872

Device	Routing	Invert	Outlet Devices
#1	Primary	974.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.59 cfs @ 12.24 hrs HW=974.23' TW=968.07' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 2.59 cfs @ 1.58 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.99' TW=973.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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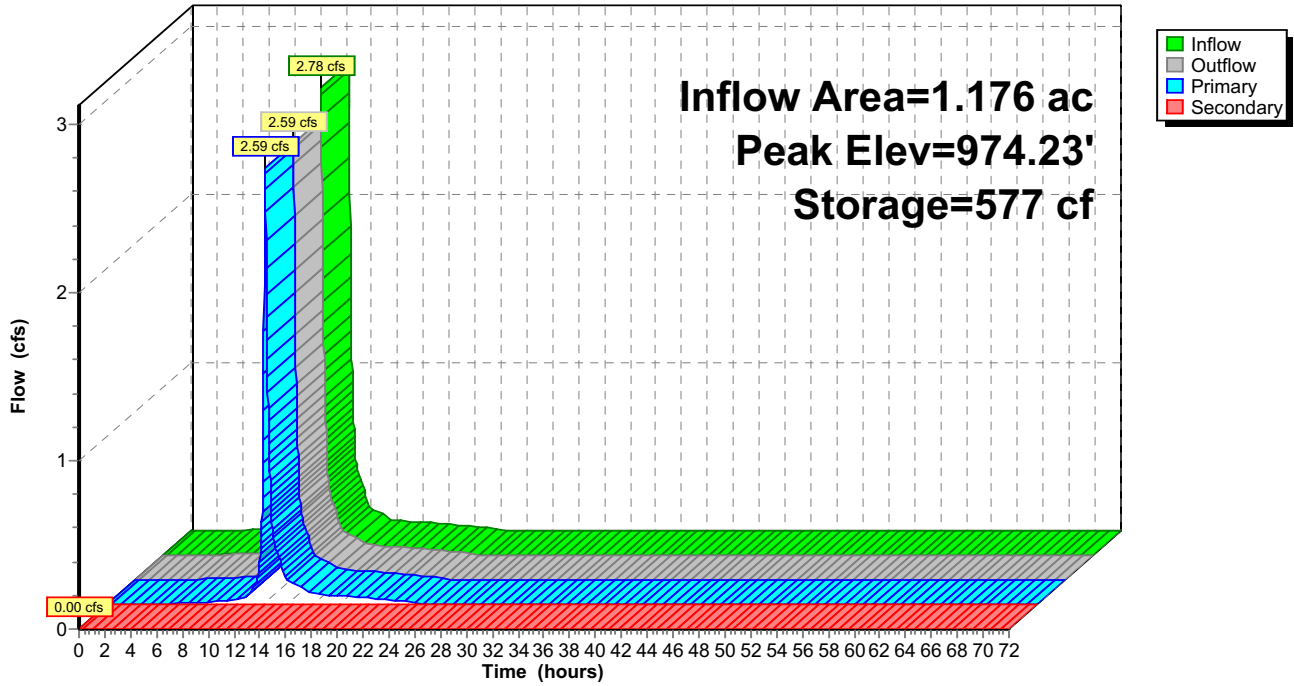
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_H7: CB_H7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_H7: CB_H7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
973.99	50	0	975.01	2,430	2,467
974.01	2,430	37	975.03	2,430	2,515
974.03	2,430	85	975.05	2,430	2,564
974.05	2,430	134	975.07	2,430	2,613
974.07	2,430	183	975.09	2,430	2,661
974.09	2,430	231	975.11	2,430	2,710
974.11	2,430	280	975.13	2,430	2,758
974.13	2,430	328	975.15	2,430	2,807
974.15	2,430	377	975.17	2,430	2,855
974.17	2,430	425	975.19	2,430	2,904
974.19	2,430	474	975.21	2,430	2,953
974.21	2,430	523	975.23	2,430	3,001
974.23	2,430	571	975.25	2,430	3,050
974.25	2,430	620	975.27	2,430	3,098
974.27	2,430	668	975.29	2,430	3,147
974.29	2,430	717	975.31	2,430	3,196
974.31	2,430	766	975.33	2,430	3,244
974.33	2,430	814	975.35	2,430	3,293
974.35	2,430	863	975.37	2,430	3,342
974.37	2,430	911	975.39	2,430	3,390
974.39	2,430	960	975.41	2,430	3,439
974.41	2,430	1,009	975.43	2,430	3,487
974.43	2,430	1,057	975.45	2,430	3,536
974.45	2,430	1,106	975.47	2,430	3,585
974.47	2,430	1,155	975.49	2,430	3,633
974.49	2,430	1,203	975.51	2,430	3,682
974.51	2,430	1,252	975.53	2,430	3,730
974.53	2,430	1,300	975.55	2,430	3,779
974.55	2,430	1,349	975.57	2,430	3,828
974.57	2,430	1,398	975.59	2,430	3,876
974.59	2,430	1,446	975.61	2,430	3,925
974.61	2,430	1,495	975.63	2,430	3,973
974.63	2,430	1,543	975.65	2,430	4,022
974.65	2,430	1,592	975.67	2,430	4,070
974.67	2,430	1,640	975.69	2,430	4,119
974.69	2,430	1,689	975.71	2,430	4,168
974.71	2,430	1,738	975.73	2,430	4,216
974.73	2,430	1,786	975.75	2,430	4,265
974.75	2,430	1,835	975.77	2,430	4,313
974.77	2,430	1,883	975.79	2,430	4,362
974.79	2,430	1,932	975.81	2,430	4,411
974.81	2,430	1,981	975.83	2,430	4,459
974.83	2,430	2,029	975.85	2,430	4,508
974.85	2,430	2,078	975.87	2,430	4,557
974.87	2,430	2,127	975.89	2,430	4,605
974.89	2,430	2,175	975.91	2,430	4,654
974.91	2,430	2,224	975.93	2,430	4,702
974.93	2,430	2,272	975.95	2,430	4,751
974.95	2,430	2,321	975.97	2,430	4,800
974.97	2,430	2,370	975.99	2,430	4,848
974.99	2,430	2,418			

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Summary for Pond CB_I14: CB_I14

Inflow Area = 0.648 ac, 15.59% Impervious, Inflow Depth = 2.15" for 10yr-24hr event
Inflow = 1.91 cfs @ 12.20 hrs, Volume= 0.116 af
Outflow = 1.86 cfs @ 12.23 hrs, Volume= 0.116 af, Atten= 3%, Lag= 1.5 min
Primary = 1.86 cfs @ 12.23 hrs, Volume= 0.116 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 985.67' @ 12.23 hrs Surf.Area= 461 sf Storage= 187 cf

Plug-Flow detention time= 3.4 min calculated for 0.116 af (100% of inflow)
Center-of-Mass det. time= 3.1 min (804.7 - 801.6)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	7,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
986.00	640	370	370
988.00	6,500	7,140	7,510

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	15.0" Round FES_I14 L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 985.00' / 981.70' S= 0.0236 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	987.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.85 cfs @ 12.23 hrs HW=985.67' TW=970.03' (Dynamic Tailwater)
↑1=FES_I14 (Inlet Controls 1.85 cfs @ 2.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=0.00' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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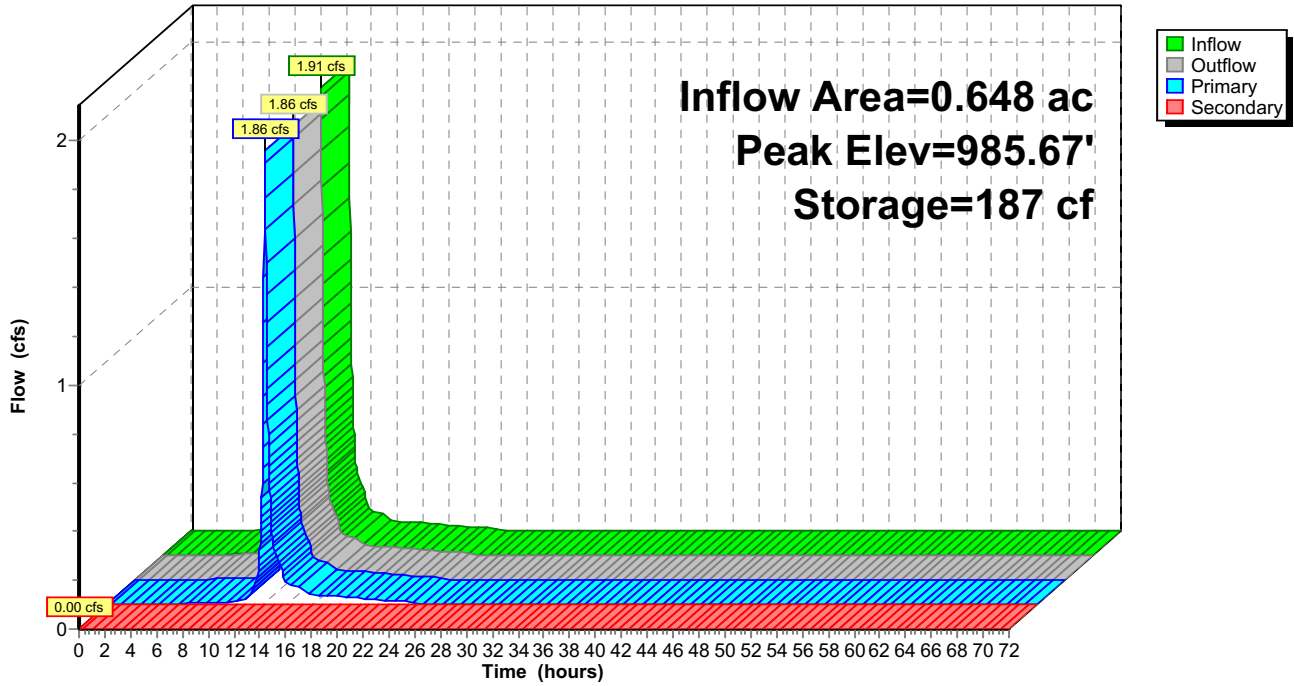
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Pond CB_I14: CB_I14

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Stage-Area-Storage for Pond CB_I14: CB_I14

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
985.00	100	0	987.55	5,181	4,882
985.05	127	6	987.60	5,328	5,144
985.10	154	13	987.65	5,474	5,414
985.15	181	21	987.70	5,621	5,692
985.20	208	31	987.75	5,768	5,977
985.25	235	42	987.80	5,914	6,269
985.30	262	54	987.85	6,061	6,568
985.35	289	68	987.90	6,207	6,875
985.40	316	83	987.95	6,354	7,189
985.45	343	100	988.00	6,500	7,510
985.50	370	118			
985.55	397	137			
985.60	424	157			
985.65	451	179			
985.70	478	202			
985.75	505	227			
985.80	532	253			
985.85	559	280			
985.90	586	309			
985.95	613	339			
986.00	640	370			
986.05	786	406			
986.10	933	449			
986.15	1,079	499			
986.20	1,226	557			
986.25	1,373	622			
986.30	1,519	694			
986.35	1,666	773			
986.40	1,812	860			
986.45	1,959	955			
986.50	2,105	1,056			
986.55	2,251	1,165			
986.60	2,398	1,281			
986.65	2,544	1,405			
986.70	2,691	1,536			
986.75	2,838	1,674			
986.80	2,984	1,820			
986.85	3,131	1,972			
986.90	3,277	2,133			
986.95	3,424	2,300			
987.00	3,570	2,475			
987.05	3,716	2,657			
987.10	3,863	2,847			
987.15	4,009	3,043			
987.20	4,156	3,248			
987.25	4,303	3,459			
987.30	4,449	3,678			
987.35	4,596	3,904			
987.40	4,742	4,137			
987.45	4,889	4,378			
987.50	5,035	4,626			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_I7: CB_I7

Inflow Area = 0.815 ac, 18.77% Impervious, Inflow Depth = 2.22" for 10yr-24hr event
Inflow = 2.47 cfs @ 12.20 hrs, Volume= 0.151 af
Outflow = 2.45 cfs @ 12.22 hrs, Volume= 0.151 af, Atten= 1%, Lag= 0.9 min
Primary = 2.45 cfs @ 12.22 hrs, Volume= 0.151 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 986.22' @ 12.22 hrs Surf.Area= 872 sf Storage= 109 cf

Plug-Flow detention time= 0.7 min calculated for 0.151 af (100% of inflow)
Center-of-Mass det. time= 0.7 min (799.0 - 798.3)

Volume	Invert	Avail.Storage	Storage Description
#1	986.00'	21,100 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
986.00	100	0	0
988.00	7,000	7,100	7,100
990.00	7,000	14,000	21,100

Device	Routing	Invert	Outlet Devices
#1	Primary	986.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.44 cfs @ 12.22 hrs HW=986.22' TW=970.00' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 2.44 cfs @ 1.54 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=986.00' TW=985.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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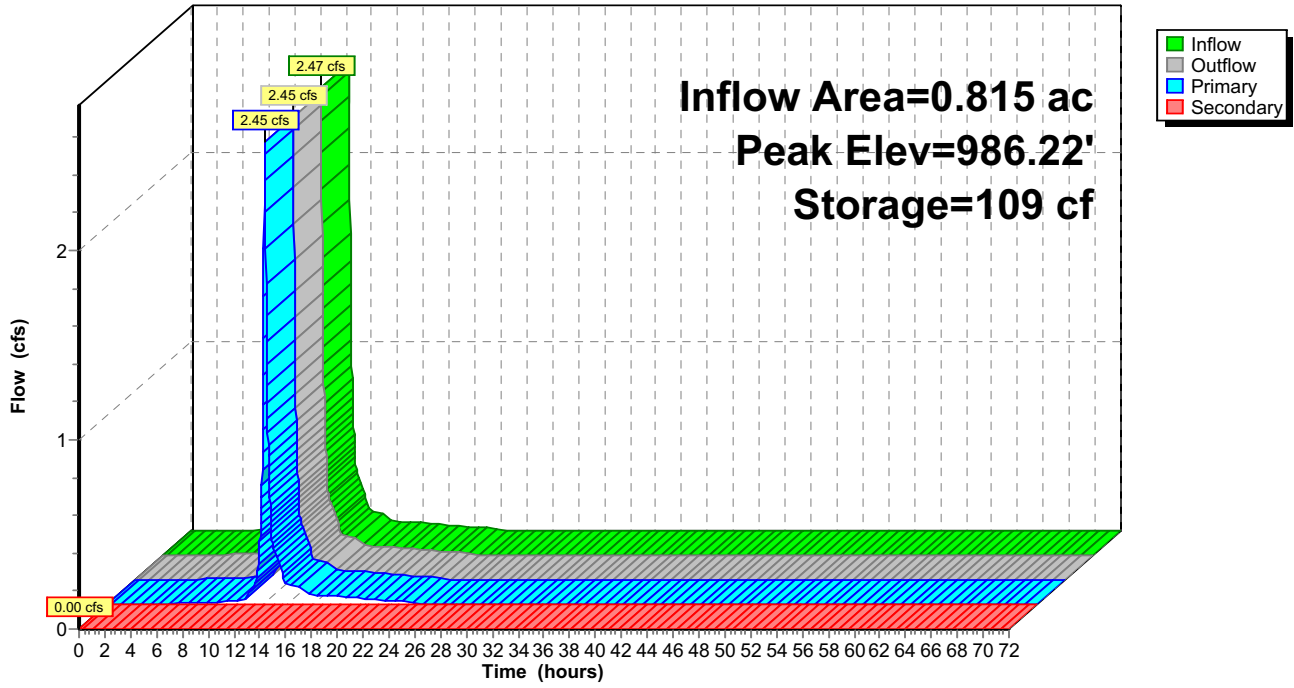
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I7: CB_I7

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Stage-Area-Storage for Pond CB_I7: CB_I7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
986.00	100	0	988.55	7,000	10,950
986.05	272	9	988.60	7,000	11,300
986.10	445	27	988.65	7,000	11,650
986.15	617	54	988.70	7,000	12,000
986.20	790	89	988.75	7,000	12,350
986.25	963	133	988.80	7,000	12,700
986.30	1,135	185	988.85	7,000	13,050
986.35	1,308	246	988.90	7,000	13,400
986.40	1,480	316	988.95	7,000	13,750
986.45	1,653	394	989.00	7,000	14,100
986.50	1,825	481	989.05	7,000	14,450
986.55	1,997	577	989.10	7,000	14,800
986.60	2,170	681	989.15	7,000	15,150
986.65	2,342	794	989.20	7,000	15,500
986.70	2,515	915	989.25	7,000	15,850
986.75	2,688	1,045	989.30	7,000	16,200
986.80	2,860	1,184	989.35	7,000	16,550
986.85	3,033	1,331	989.40	7,000	16,900
986.90	3,205	1,487	989.45	7,000	17,250
986.95	3,378	1,652	989.50	7,000	17,600
987.00	3,550	1,825	989.55	7,000	17,950
987.05	3,722	2,007	989.60	7,000	18,300
987.10	3,895	2,197	989.65	7,000	18,650
987.15	4,067	2,396	989.70	7,000	19,000
987.20	4,240	2,604	989.75	7,000	19,350
987.25	4,413	2,820	989.80	7,000	19,700
987.30	4,585	3,045	989.85	7,000	20,050
987.35	4,758	3,279	989.90	7,000	20,400
987.40	4,930	3,521	989.95	7,000	20,750
987.45	5,103	3,772	990.00	7,000	21,100
987.50	5,275	4,031			
987.55	5,447	4,299			
987.60	5,620	4,576			
987.65	5,792	4,861			
987.70	5,965	5,155			
987.75	6,138	5,458			
987.80	6,310	5,769			
987.85	6,483	6,089			
987.90	6,655	6,417			
987.95	6,828	6,754			
988.00	7,000	7,100			
988.05	7,000	7,450			
988.10	7,000	7,800			
988.15	7,000	8,150			
988.20	7,000	8,500			
988.25	7,000	8,850			
988.30	7,000	9,200			
988.35	7,000	9,550			
988.40	7,000	9,900			
988.45	7,000	10,250			
988.50	7,000	10,600			

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Summary for Pond CB_I8: CB_I8

Inflow Area = 1.173 ac, 25.23% Impervious, Inflow Depth = 2.36" for 10yr-24hr event
Inflow = 3.75 cfs @ 12.20 hrs, Volume= 0.231 af
Outflow = 3.74 cfs @ 12.20 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.2 min
Primary = 3.74 cfs @ 12.20 hrs, Volume= 0.231 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 987.30' @ 12.20 hrs Surf.Area= 282 sf Storage= 49 cf

Plug-Flow detention time= 0.2 min calculated for 0.231 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (792.4 - 792.1)

Volume	Invert	Avail.Storage	Storage Description
#1	987.00'	3,105 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
987.00	50	0	0
988.00	830	440	440
989.00	1,500	1,165	1,605
990.00	1,500	1,500	3,105

Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.73 cfs @ 12.20 hrs HW=987.30' TW=969.96' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 3.73 cfs @ 1.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=987.00' TW=986.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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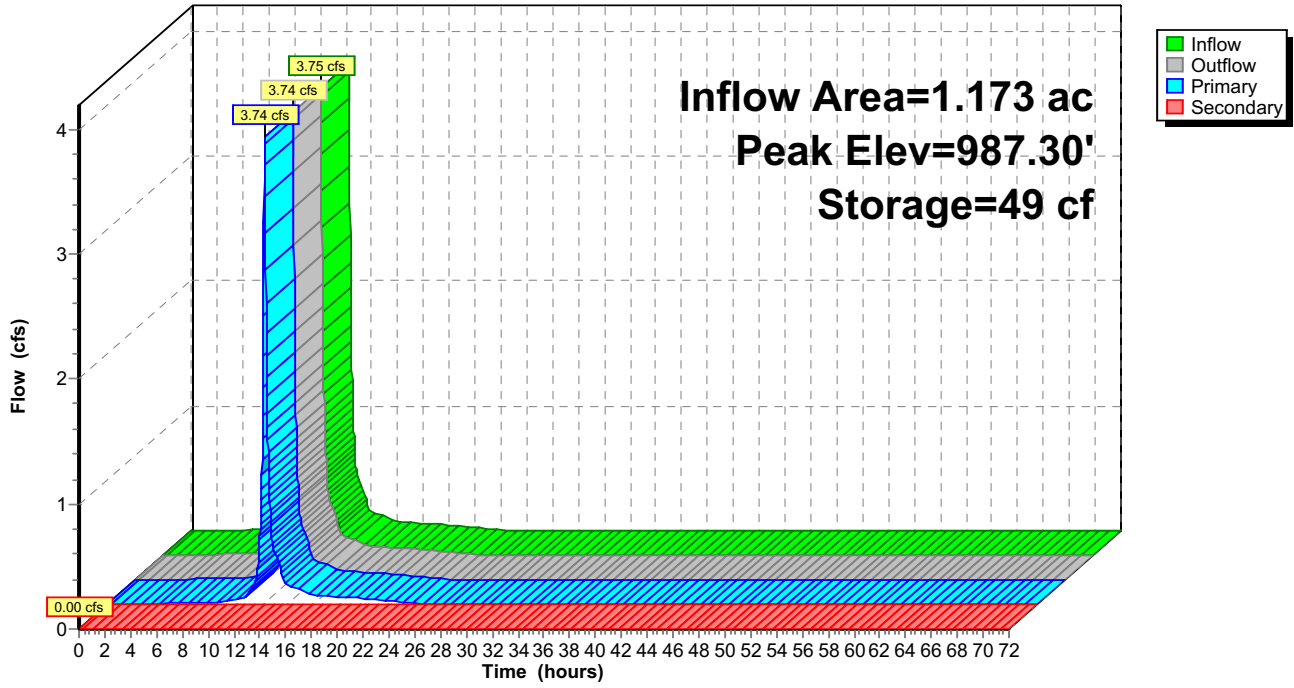
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I8: CB_I8

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Stage-Area-Storage for Pond CB_I8: CB_I8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
987.00	50	0	989.55	1,500	2,430
987.05	89	3	989.60	1,500	2,505
987.10	128	9	989.65	1,500	2,580
987.15	167	16	989.70	1,500	2,655
987.20	206	26	989.75	1,500	2,730
987.25	245	37	989.80	1,500	2,805
987.30	284	50	989.85	1,500	2,880
987.35	323	65	989.90	1,500	2,955
987.40	362	82	989.95	1,500	3,030
987.45	401	101	990.00	1,500	3,105
987.50	440	123			
987.55	479	145			
987.60	518	170			
987.65	557	197			
987.70	596	226			
987.75	635	257			
987.80	674	290			
987.85	713	324			
987.90	752	361			
987.95	791	399			
988.00	830	440			
988.05	863	482			
988.10	897	526			
988.15	930	572			
988.20	964	619			
988.25	998	668			
988.30	1,031	719			
988.35	1,065	772			
988.40	1,098	826			
988.45	1,132	881			
988.50	1,165	939			
988.55	1,198	998			
988.60	1,232	1,059			
988.65	1,265	1,121			
988.70	1,299	1,185			
988.75	1,333	1,251			
988.80	1,366	1,318			
988.85	1,400	1,388			
988.90	1,433	1,458			
988.95	1,467	1,531			
989.00	1,500	1,605			
989.05	1,500	1,680			
989.10	1,500	1,755			
989.15	1,500	1,830			
989.20	1,500	1,905			
989.25	1,500	1,980			
989.30	1,500	2,055			
989.35	1,500	2,130			
989.40	1,500	2,205			
989.45	1,500	2,280			
989.50	1,500	2,355			

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Summary for Pond CB_I9: CB_I9

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
Inflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af
Outflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.2 min
Primary = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 978.11' @ 12.20 hrs Surf.Area= 105 sf Storage= 8 cf

Plug-Flow detention time= 0.3 min calculated for 0.052 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (790.2 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	300	88	88
980.00	300	450	538
984.00	340	1,280	1,818

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.83 cfs @ 12.20 hrs HW=978.11' TW=970.08' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 0.83 cfs @ 1.08 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=969.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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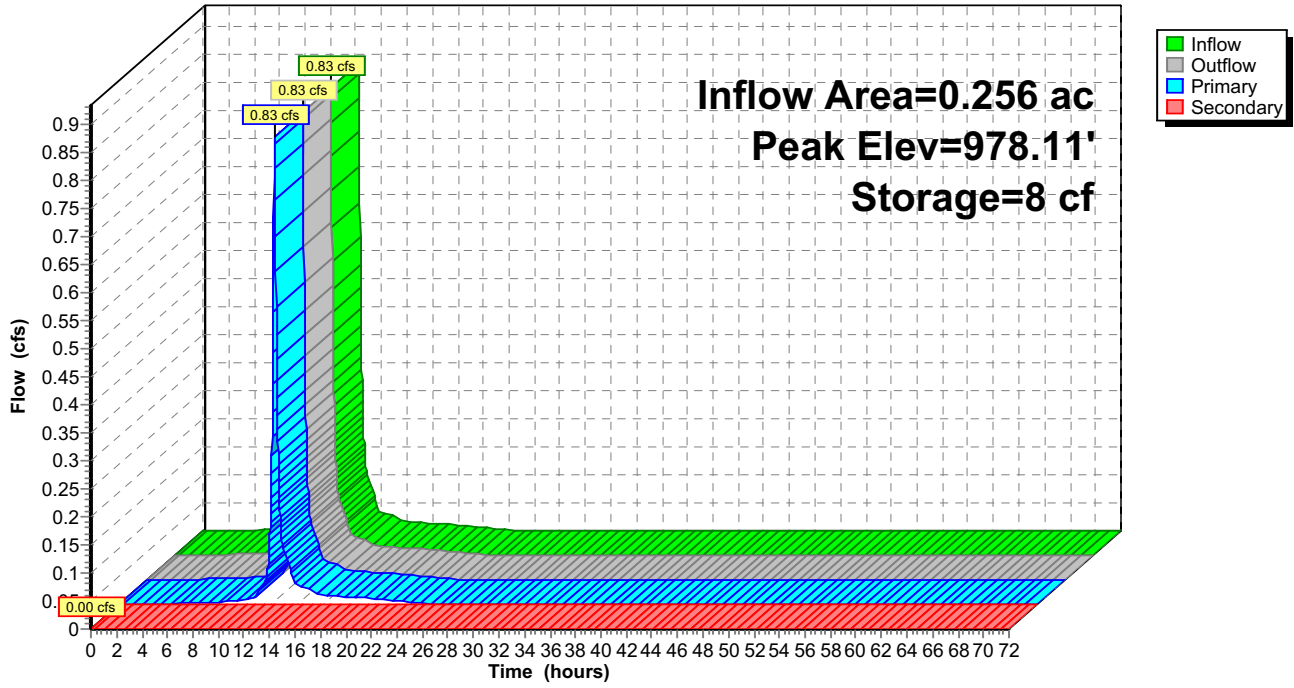
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I9: CB_I9

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Stage-Area-Storage for Pond CB_I9: CB_I9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	983.10	331	1,516
978.10	100	8	983.20	332	1,549
978.20	150	20	983.30	333	1,582
978.30	200	37	983.40	334	1,615
978.40	250	60	983.50	335	1,649
978.50	300	88	983.60	336	1,682
978.60	300	118	983.70	337	1,716
978.70	300	148	983.80	338	1,750
978.80	300	177	983.90	339	1,784
978.90	300	207	984.00	340	1,818
979.00	300	238			
979.10	300	268			
979.20	300	298			
979.30	300	327			
979.40	300	357			
979.50	300	388			
979.60	300	418			
979.70	300	448			
979.80	300	477			
979.90	300	507			
980.00	300	538			
980.10	301	568			
980.20	302	598			
980.30	303	628			
980.40	304	658			
980.50	305	689			
980.60	306	719			
980.70	307	750			
980.80	308	781			
980.90	309	812			
981.00	310	843			
981.10	311	874			
981.20	312	905			
981.30	313	936			
981.40	314	967			
981.50	315	999			
981.60	316	1,030			
981.70	317	1,062			
981.80	318	1,094			
981.90	319	1,126			
982.00	320	1,158			
982.10	321	1,190			
982.20	322	1,222			
982.30	323	1,254			
982.40	324	1,286			
982.50	325	1,319			
982.60	326	1,351			
982.70	327	1,384			
982.80	328	1,417			
982.90	329	1,450			
983.00	330	1,483			

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Summary for Pond CB_J3: CB_J3

Inflow Area = 1.496 ac, 20.32% Impervious, Inflow Depth = 2.25" for 10yr-24hr event
 Inflow = 4.60 cfs @ 12.20 hrs, Volume= 0.281 af
 Outflow = 4.59 cfs @ 12.21 hrs, Volume= 0.281 af, Atten= 0%, Lag= 0.4 min
 Primary = 4.59 cfs @ 12.21 hrs, Volume= 0.281 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.34' @ 12.21 hrs Surf.Area= 475 sf Storage= 89 cf

Plug-Flow detention time= 0.3 min calculated for 0.281 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (797.0 - 796.7)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	4,575 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	1,300	675	675
993.00	1,300	1,300	1,975
995.00	1,300	2,600	4,575

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	992.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.56 cfs @ 12.21 hrs HW=991.34' TW=974.16' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 4.56 cfs @ 1.90 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=991.00' TW=973.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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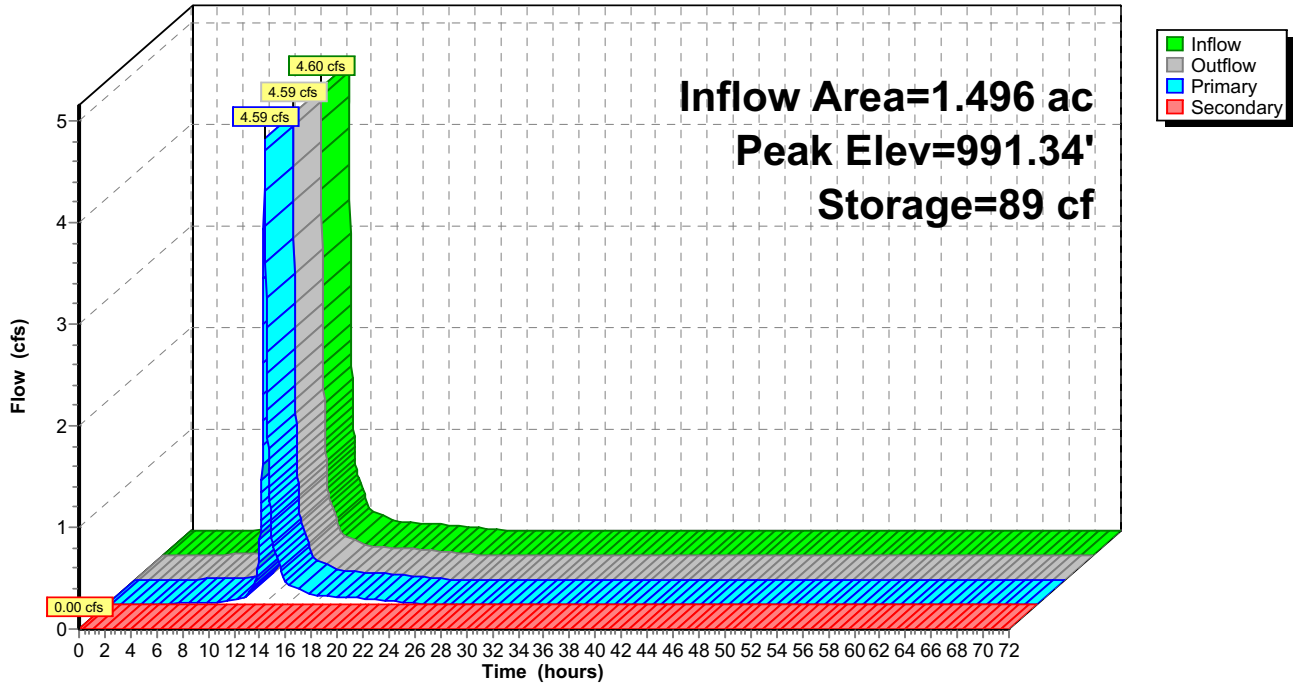
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_J3: CB_J3

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Stage-Area-Storage for Pond CB_J3: CB_J3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
991.00	50	0	993.55	1,300	2,690
991.05	112	4	993.60	1,300	2,755
991.10	175	11	993.65	1,300	2,820
991.15	237	22	993.70	1,300	2,885
991.20	300	35	993.75	1,300	2,950
991.25	363	52	993.80	1,300	3,015
991.30	425	71	993.85	1,300	3,080
991.35	488	94	993.90	1,300	3,145
991.40	550	120	993.95	1,300	3,210
991.45	613	149	994.00	1,300	3,275
991.50	675	181	994.05	1,300	3,340
991.55	737	217	994.10	1,300	3,405
991.60	800	255	994.15	1,300	3,470
991.65	862	297	994.20	1,300	3,535
991.70	925	341	994.25	1,300	3,600
991.75	988	389	994.30	1,300	3,665
991.80	1,050	440	994.35	1,300	3,730
991.85	1,113	494	994.40	1,300	3,795
991.90	1,175	551	994.45	1,300	3,860
991.95	1,238	612	994.50	1,300	3,925
992.00	1,300	675	994.55	1,300	3,990
992.05	1,300	740	994.60	1,300	4,055
992.10	1,300	805	994.65	1,300	4,120
992.15	1,300	870	994.70	1,300	4,185
992.20	1,300	935	994.75	1,300	4,250
992.25	1,300	1,000	994.80	1,300	4,315
992.30	1,300	1,065	994.85	1,300	4,380
992.35	1,300	1,130	994.90	1,300	4,445
992.40	1,300	1,195	994.95	1,300	4,510
992.45	1,300	1,260	995.00	1,300	4,575
992.50	1,300	1,325			
992.55	1,300	1,390			
992.60	1,300	1,455			
992.65	1,300	1,520			
992.70	1,300	1,585			
992.75	1,300	1,650			
992.80	1,300	1,715			
992.85	1,300	1,780			
992.90	1,300	1,845			
992.95	1,300	1,910			
993.00	1,300	1,975			
993.05	1,300	2,040			
993.10	1,300	2,105			
993.15	1,300	2,170			
993.20	1,300	2,235			
993.25	1,300	2,300			
993.30	1,300	2,365			
993.35	1,300	2,430			
993.40	1,300	2,495			
993.45	1,300	2,560			
993.50	1,300	2,625			

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Summary for Pond CB_J4: CB_J4

Inflow Area = 0.993 ac, 12.19% Impervious, Inflow Depth = 2.07" for 10yr-24hr event
 Inflow = 2.85 cfs @ 12.20 hrs, Volume= 0.171 af
 Outflow = 2.57 cfs @ 12.25 hrs, Volume= 0.171 af, Atten= 10%, Lag= 2.9 min
 Primary = 2.57 cfs @ 12.25 hrs, Volume= 0.171 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.81' @ 12.25 hrs Surf.Area= 1,160 sf Storage= 489 cf

Plug-Flow detention time= 3.8 min calculated for 0.171 af (100% of inflow)
 Center-of-Mass det. time= 3.4 min (808.9 - 805.5)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	5,650 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	2,800	2,850	2,850
997.00	2,800	2,800	5,650

Device	Routing	Invert	Outlet Devices
#1	Secondary	995.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	994.00'	15.0" Round Culvert L= 166.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 994.00' / 991.00' S= 0.0181 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=2.56 cfs @ 12.25 hrs HW=994.81' TW=974.31' (Dynamic Tailwater)
 ↑**2=Culvert** (Inlet Controls 2.56 cfs @ 3.06 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=991.00' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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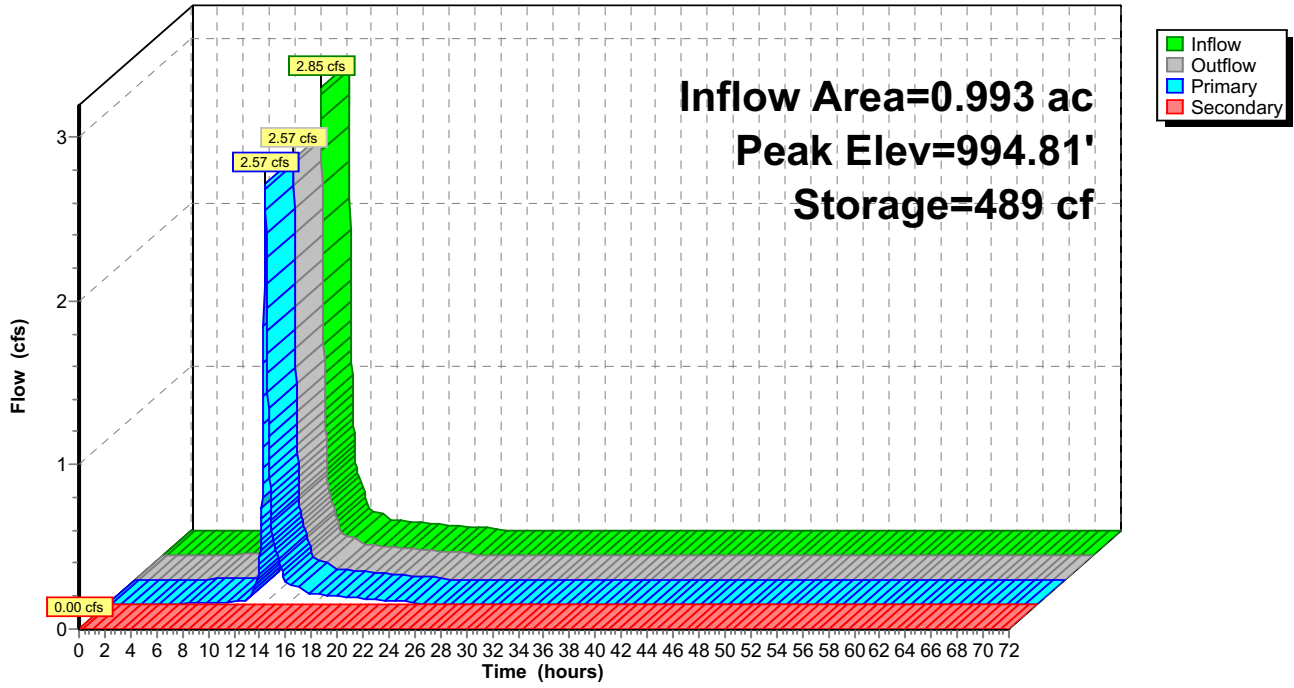
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_J4: CB_J4

Hydrograph



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Hollydale - Proposed Conditions - 07.07.21

MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_J4: CB_J4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
994.00	50	0	996.55	2,800	4,390
994.05	119	4	996.60	2,800	4,530
994.10	188	12	996.65	2,800	4,670
994.15	256	23	996.70	2,800	4,810
994.20	325	38	996.75	2,800	4,950
994.25	394	55	996.80	2,800	5,090
994.30	462	77	996.85	2,800	5,230
994.35	531	102	996.90	2,800	5,370
994.40	600	130	996.95	2,800	5,510
994.45	669	162	997.00	2,800	5,650
994.50	738	197			
994.55	806	235			
994.60	875	278			
994.65	944	323			
994.70	1,013	372			
994.75	1,081	424			
994.80	1,150	480			
994.85	1,219	539			
994.90	1,287	602			
994.95	1,356	668			
995.00	1,425	738			
995.05	1,494	810			
995.10	1,563	887			
995.15	1,631	967			
995.20	1,700	1,050			
995.25	1,769	1,137			
995.30	1,837	1,227			
995.35	1,906	1,320			
995.40	1,975	1,417			
995.45	2,044	1,518			
995.50	2,113	1,622			
995.55	2,181	1,729			
995.60	2,250	1,840			
995.65	2,319	1,954			
995.70	2,388	2,072			
995.75	2,456	2,193			
995.80	2,525	2,317			
995.85	2,594	2,445			
995.90	2,662	2,577			
995.95	2,731	2,712			
996.00	2,800	2,850			
996.05	2,800	2,990			
996.10	2,800	3,130			
996.15	2,800	3,270			
996.20	2,800	3,410			
996.25	2,800	3,550			
996.30	2,800	3,690			
996.35	2,800	3,830			
996.40	2,800	3,970			
996.45	2,800	4,110			
996.50	2,800	4,250			

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Hollydale - Proposed Conditions - 07.07.21
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L4: CB_L4

Inflow Area = 0.167 ac, 20.96% Impervious, Inflow Depth = 2.24" for 10yr-24hr event
 Inflow = 0.51 cfs @ 12.20 hrs, Volume= 0.031 af
 Outflow = 0.51 cfs @ 12.21 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.3 min
 Primary = 0.51 cfs @ 12.21 hrs, Volume= 0.031 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.08' @ 12.21 hrs Surf.Area= 160 sf Storage= 8 cf

Plug-Flow detention time= 0.4 min calculated for 0.031 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (796.6 - 796.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	750	200	200
980.00	750	1,125	1,325

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.51 cfs @ 12.21 hrs HW=978.08' TW=969.27' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.51 cfs @ 0.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=967.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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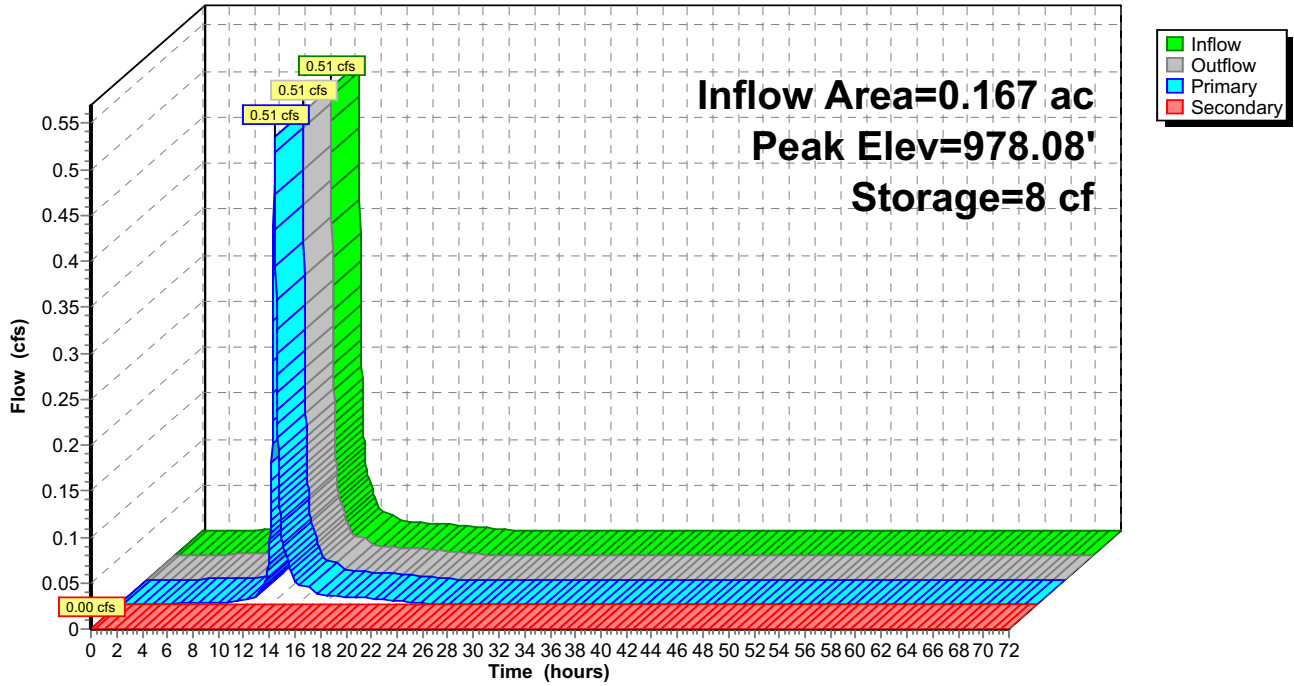
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Pond CB_L4: CB_L4

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_L4: CB_L4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	979.02	750	590
978.02	78	1	979.04	750	605
978.04	106	3	979.06	750	620
978.06	134	6	979.08	750	635
978.08	162	8	979.10	750	650
978.10	190	12	979.12	750	665
978.12	218	16	979.14	750	680
978.14	246	21	979.16	750	695
978.16	274	26	979.18	750	710
978.18	302	32	979.20	750	725
978.20	330	38	979.22	750	740
978.22	358	45	979.24	750	755
978.24	386	52	979.26	750	770
978.26	414	60	979.28	750	785
978.28	442	69	979.30	750	800
978.30	470	78	979.32	750	815
978.32	498	88	979.34	750	830
978.34	526	98	979.36	750	845
978.36	554	109	979.38	750	860
978.38	582	120	979.40	750	875
978.40	610	132	979.42	750	890
978.42	638	144	979.44	750	905
978.44	666	158	979.46	750	920
978.46	694	171	979.48	750	935
978.48	722	185	979.50	750	950
978.50	750	200	979.52	750	965
978.52	750	215	979.54	750	980
978.54	750	230	979.56	750	995
978.56	750	245	979.58	750	1,010
978.58	750	260	979.60	750	1,025
978.60	750	275	979.62	750	1,040
978.62	750	290	979.64	750	1,055
978.64	750	305	979.66	750	1,070
978.66	750	320	979.68	750	1,085
978.68	750	335	979.70	750	1,100
978.70	750	350	979.72	750	1,115
978.72	750	365	979.74	750	1,130
978.74	750	380	979.76	750	1,145
978.76	750	395	979.78	750	1,160
978.78	750	410	979.80	750	1,175
978.80	750	425	979.82	750	1,190
978.82	750	440	979.84	750	1,205
978.84	750	455	979.86	750	1,220
978.86	750	470	979.88	750	1,235
978.88	750	485	979.90	750	1,250
978.90	750	500	979.92	750	1,265
978.92	750	515	979.94	750	1,280
978.94	750	530	979.96	750	1,295
978.96	750	545	979.98	750	1,310
978.98	750	560	980.00	750	1,325
979.00	750	575			

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Summary for Pond CB_L5: CB_L5

Inflow Area = 0.763 ac, 22.02% Impervious, Inflow Depth = 3.43" for 10yr-24hr event
Inflow = 3.23 cfs @ 12.22 hrs, Volume= 0.218 af
Outflow = 3.23 cfs @ 12.22 hrs, Volume= 0.218 af, Atten= 0%, Lag= 0.3 min
Primary = 3.23 cfs @ 12.22 hrs, Volume= 0.218 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 977.77' @ 12.22 hrs Surf.Area= 362 sf Storage= 55 cf

Plug-Flow detention time= 0.3 min calculated for 0.218 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (801.3 - 801.0)

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	6,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	50	0	0
978.00	630	170	170
980.00	5,700	6,330	6,500

Device	Routing	Invert	Outlet Devices
#1	Primary	977.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.22 cfs @ 12.22 hrs HW=977.77' TW=969.36' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 3.22 cfs @ 1.70 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' TW=978.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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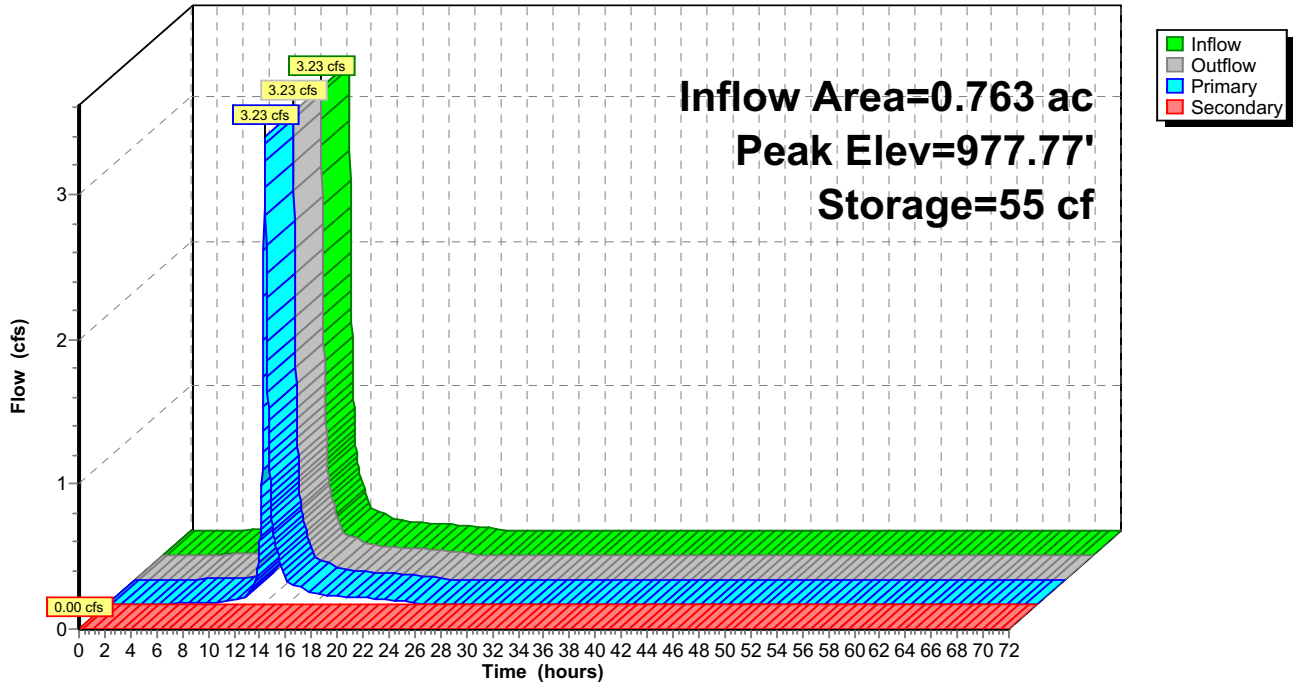
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L5: CB_L5

Hydrograph



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Stage-Area-Storage for Pond CB_L5: CB_L5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
977.50	50	0
977.55	108	4
977.60	166	11
977.65	224	21
977.70	282	33
977.75	340	49
977.80	398	67
977.85	456	89
977.90	514	113
977.95	572	140
978.00	630	170
978.05	757	205
978.10	884	246
978.15	1,010	293
978.20	1,137	347
978.25	1,264	407
978.30	1,390	473
978.35	1,517	546
978.40	1,644	625
978.45	1,771	710
978.50	1,898	802
978.55	2,024	900
978.60	2,151	1,004
978.65	2,278	1,115
978.70	2,405	1,232
978.75	2,531	1,355
978.80	2,658	1,485
978.85	2,785	1,621
978.90	2,911	1,764
978.95	3,038	1,912
979.00	3,165	2,068
979.05	3,292	2,229
979.10	3,419	2,397
979.15	3,545	2,571
979.20	3,672	2,751
979.25	3,799	2,938
979.30	3,925	3,131
979.35	4,052	3,331
979.40	4,179	3,536
979.45	4,306	3,748
979.50	4,433	3,967
979.55	4,559	4,192
979.60	4,686	4,423
979.65	4,813	4,660
979.70	4,940	4,904
979.75	5,066	5,154
979.80	5,193	5,411
979.85	5,320	5,674
979.90	5,446	5,943
979.95	5,573	6,218
980.00	5,700	6,500

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Summary for Pond CB_L6: CB_L6

Inflow Area = 1.091 ac, 19.98% Impervious, Inflow Depth = 2.24" for 10yr-24hr event
 Inflow = 3.34 cfs @ 12.20 hrs, Volume= 0.204 af
 Outflow = 2.75 cfs @ 12.27 hrs, Volume= 0.204 af, Atten= 18%, Lag= 4.2 min
 Primary = 1.77 cfs @ 12.27 hrs, Volume= 0.132 af
 Secondary = 0.98 cfs @ 12.27 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.27 hrs Surf.Area= 1,301 sf Storage= 1,219 cf

Plug-Flow detention time= 16.2 min calculated for 0.204 af (100% of inflow)
 Center-of-Mass det. time= 15.9 min (813.0 - 797.1)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	13,500 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	100	0	0
980.00	13,400	13,500	13,500

Device	Routing	Invert	Outlet Devices
#1	Secondary	978.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.77 cfs @ 12.27 hrs HW=978.18' TW=969.60' (Dynamic Tailwater)
 ↑**2=Grate** (Weir Controls 1.77 cfs @ 1.39 fps)

Secondary OutFlow Max=0.97 cfs @ 12.27 hrs HW=978.18' TW=977.75' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir**(Weir Controls 0.97 cfs @ 1.08 fps)

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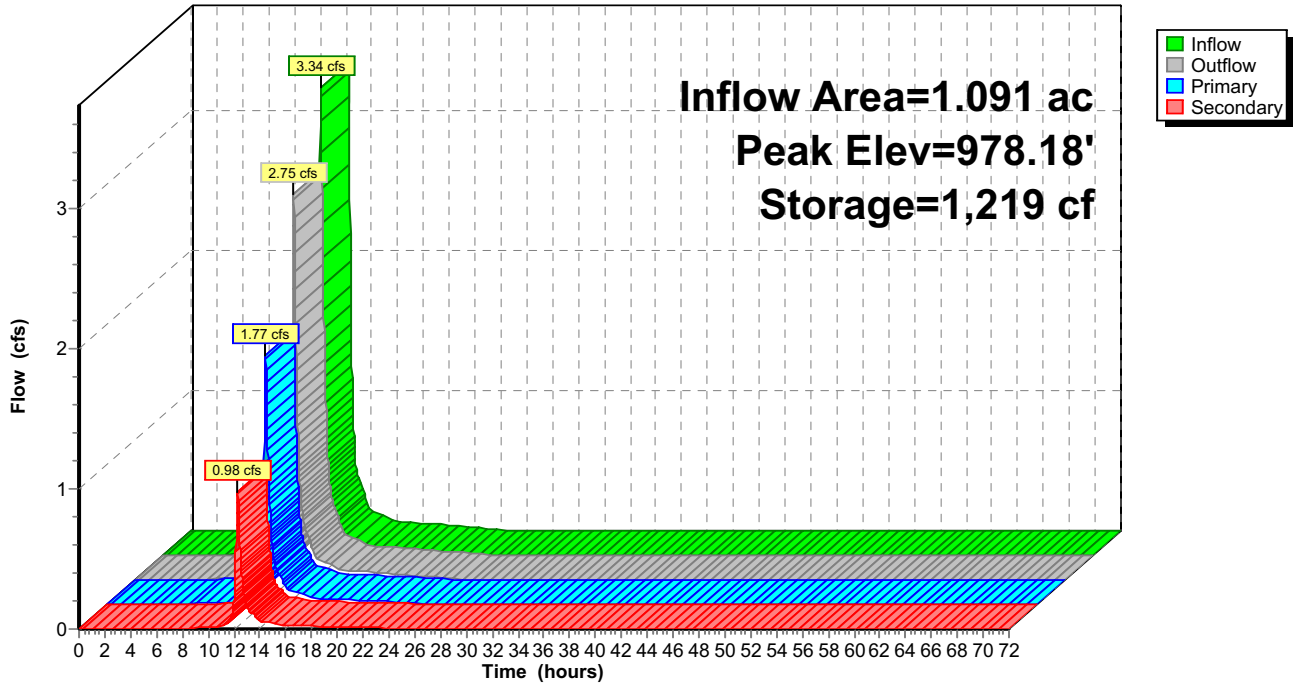
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Pond CB_L6: CB_L6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_L6: CB_L6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	100	0	979.02	6,883	6,885
978.02	233	135	979.04	7,016	7,020
978.04	366	270	979.06	7,149	7,155
978.06	499	405	979.08	7,282	7,290
978.08	632	540	979.10	7,415	7,425
978.10	765	675	979.12	7,548	7,560
978.12	898	810	979.14	7,681	7,695
978.14	1,031	945	979.16	7,814	7,830
978.16	1,164	1,080	979.18	7,947	7,965
978.18	1,297	1,215	979.20	8,080	8,100
978.20	1,430	1,350	979.22	8,213	8,235
978.22	1,563	1,485	979.24	8,346	8,370
978.24	1,696	1,620	979.26	8,479	8,505
978.26	1,829	1,755	979.28	8,612	8,640
978.28	1,962	1,890	979.30	8,745	8,775
978.30	2,095	2,025	979.32	8,878	8,910
978.32	2,228	2,160	979.34	9,011	9,045
978.34	2,361	2,295	979.36	9,144	9,180
978.36	2,494	2,430	979.38	9,277	9,315
978.38	2,627	2,565	979.40	9,410	9,450
978.40	2,760	2,700	979.42	9,543	9,585
978.42	2,893	2,835	979.44	9,676	9,720
978.44	3,026	2,970	979.46	9,809	9,855
978.46	3,159	3,105	979.48	9,942	9,990
978.48	3,292	3,240	979.50	10,075	10,125
978.50	3,425	3,375	979.52	10,208	10,260
978.52	3,558	3,510	979.54	10,341	10,395
978.54	3,691	3,645	979.56	10,474	10,530
978.56	3,824	3,780	979.58	10,607	10,665
978.58	3,957	3,915	979.60	10,740	10,800
978.60	4,090	4,050	979.62	10,873	10,935
978.62	4,223	4,185	979.64	11,006	11,070
978.64	4,356	4,320	979.66	11,139	11,205
978.66	4,489	4,455	979.68	11,272	11,340
978.68	4,622	4,590	979.70	11,405	11,475
978.70	4,755	4,725	979.72	11,538	11,610
978.72	4,888	4,860	979.74	11,671	11,745
978.74	5,021	4,995	979.76	11,804	11,880
978.76	5,154	5,130	979.78	11,937	12,015
978.78	5,287	5,265	979.80	12,070	12,150
978.80	5,420	5,400	979.82	12,203	12,285
978.82	5,553	5,535	979.84	12,336	12,420
978.84	5,686	5,670	979.86	12,469	12,555
978.86	5,819	5,805	979.88	12,602	12,690
978.88	5,952	5,940	979.90	12,735	12,825
978.90	6,085	6,075	979.92	12,868	12,960
978.92	6,218	6,210	979.94	13,001	13,095
978.94	6,351	6,345	979.96	13,134	13,230
978.96	6,484	6,480	979.98	13,267	13,365
978.98	6,617	6,615	980.00	13,400	13,500
979.00	6,750	6,750			

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L7: CB_L7

Inflow Area = 0.759 ac, 21.21% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
Inflow = 2.35 cfs @ 12.20 hrs, Volume= 0.144 af
Outflow = 2.34 cfs @ 12.21 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.3 min
Primary = 2.34 cfs @ 12.21 hrs, Volume= 0.144 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 979.22' @ 12.21 hrs Surf.Area= 339 sf Storage= 42 cf

Plug-Flow detention time= 0.3 min calculated for 0.144 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (796.2 - 795.9)

Volume	Invert	Avail.Storage	Storage Description
#1	979.00'	715 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
979.00	50	0	0
980.00	1,380	715	715

Device	Routing	Invert	Outlet Devices
#1	Primary	979.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.90'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.33 cfs @ 12.21 hrs HW=979.22' TW=969.27' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 2.33 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=979.00' TW=978.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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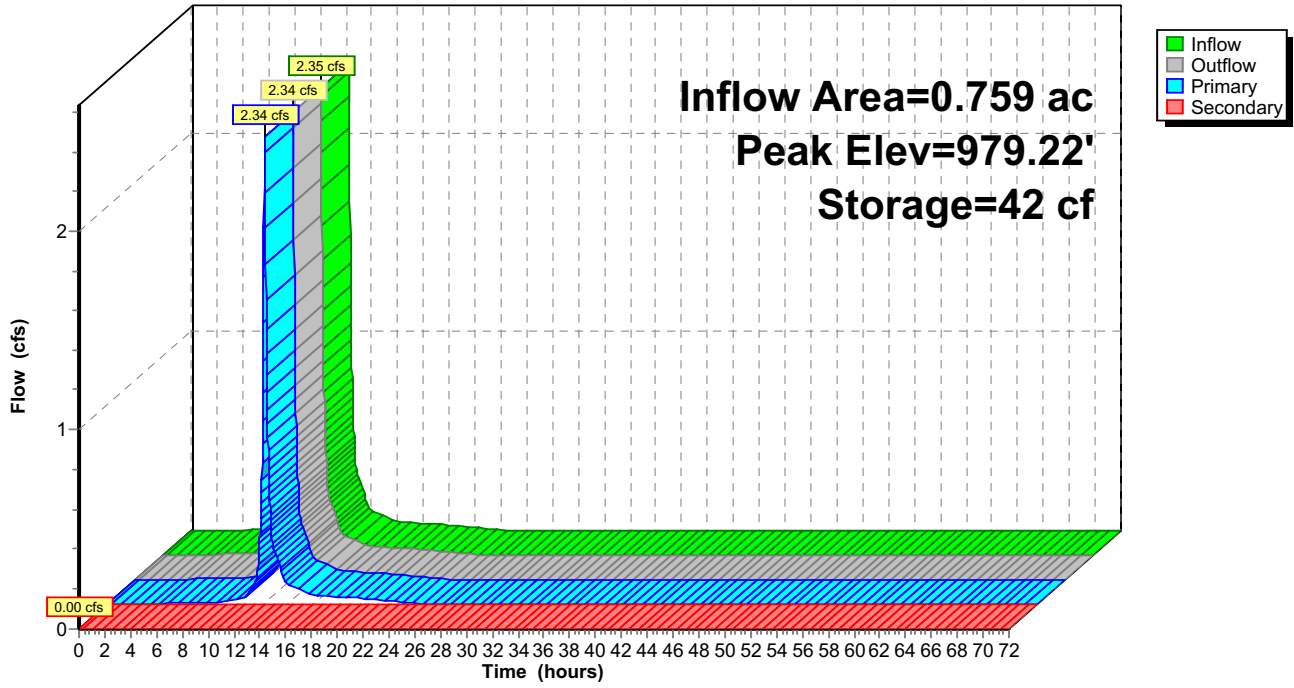
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Pond CB_L7: CB_L7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_L7: CB_L7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
979.00	50	0	979.51	728	198
979.01	63	1	979.52	742	206
979.02	77	1	979.53	755	213
979.03	90	2	979.54	768	221
979.04	103	3	979.55	781	229
979.05	116	4	979.56	795	237
979.06	130	5	979.57	808	245
979.07	143	7	979.58	821	253
979.08	156	8	979.59	835	261
979.09	170	10	979.60	848	269
979.10	183	12	979.61	861	278
979.11	196	14	979.62	875	287
979.12	210	16	979.63	888	295
979.13	223	18	979.64	901	304
979.14	236	20	979.65	914	313
979.15	249	22	979.66	928	323
979.16	263	25	979.67	941	332
979.17	276	28	979.68	954	341
979.18	289	31	979.69	968	351
979.19	303	34	979.70	981	361
979.20	316	37	979.71	994	371
979.21	329	40	979.72	1,008	381
979.22	343	43	979.73	1,021	391
979.23	356	47	979.74	1,034	401
979.24	369	50	979.75	1,048	412
979.25	383	54	979.76	1,061	422
979.26	396	58	979.77	1,074	433
979.27	409	62	979.78	1,087	444
979.28	422	66	979.79	1,101	455
979.29	436	70	979.80	1,114	466
979.30	449	75	979.81	1,127	477
979.31	462	79	979.82	1,141	488
979.32	476	84	979.83	1,154	500
979.33	489	89	979.84	1,167	511
979.34	502	94	979.85	1,181	523
979.35	516	99	979.86	1,194	535
979.36	529	104	979.87	1,207	547
979.37	542	110	979.88	1,220	559
979.38	555	115	979.89	1,234	571
979.39	569	121	979.90	1,247	584
979.40	582	126	979.91	1,260	596
979.41	595	132	979.92	1,274	609
979.42	609	138	979.93	1,287	622
979.43	622	144	979.94	1,300	635
979.44	635	151	979.95	1,314	648
979.45	649	157	979.96	1,327	661
979.46	662	164	979.97	1,340	674
979.47	675	170	979.98	1,353	688
979.48	688	177	979.99	1,367	701
979.49	702	184	980.00	1,380	715
979.50	715	191			

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Hollydale - Proposed Conditions - 07.07.21
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L8: CB_L8

Inflow Area = 1.441 ac, 22.07% Impervious, Inflow Depth = 2.19" for 10yr-24hr event
 Inflow = 4.27 cfs @ 12.20 hrs, Volume= 0.263 af
 Outflow = 4.14 cfs @ 12.22 hrs, Volume= 0.263 af, Atten= 3%, Lag= 1.5 min
 Primary = 4.14 cfs @ 12.22 hrs, Volume= 0.263 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 980.32' @ 12.22 hrs Surf.Area= 1,854 sf Storage= 303 cf

Plug-Flow detention time= 0.8 min calculated for 0.263 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (795.0 - 794.2)

Volume	Invert	Avail.Storage	Storage Description
#1	980.00'	11,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
980.00	50	0	0
982.00	11,400	11,450	11,450

Device	Routing	Invert	Outlet Devices
#1	Primary	980.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	981.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.13 cfs @ 12.22 hrs HW=980.32' TW=969.38' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 4.13 cfs @ 1.84 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=980.00' TW=979.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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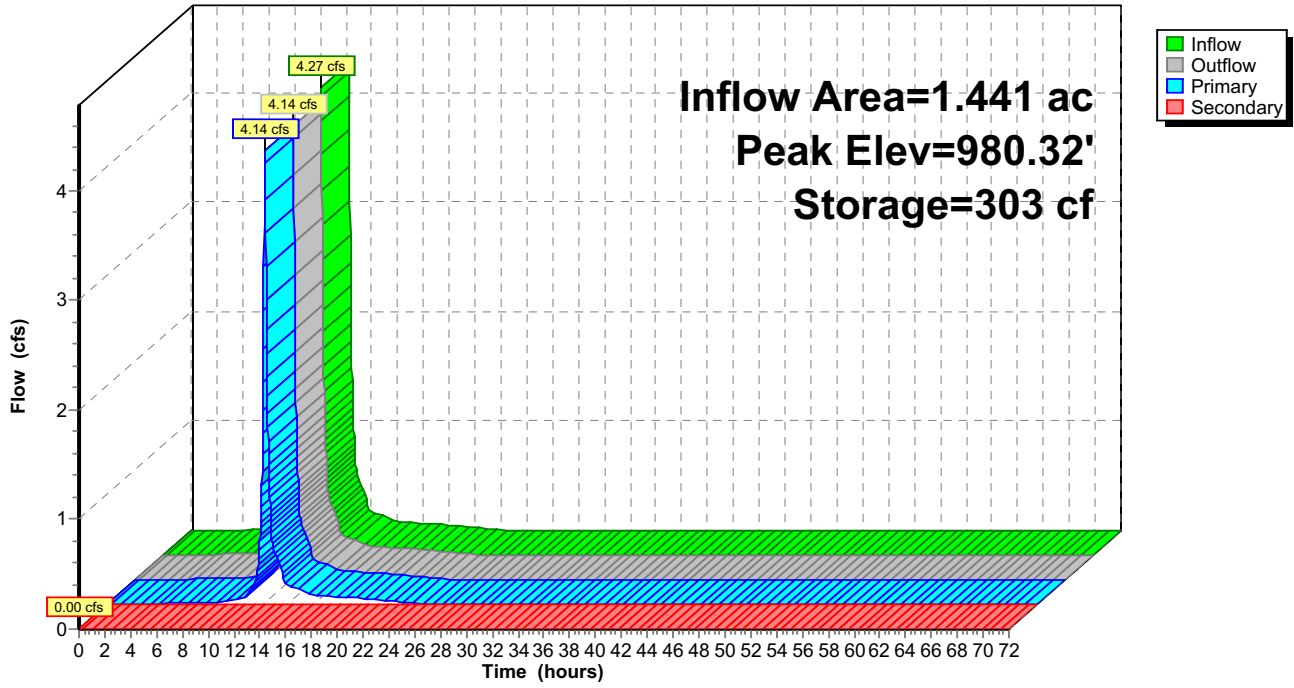
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L8: CB_L8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_L8: CB_L8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
980.00	50	0	981.02	5,838	3,003
980.02	163	2	981.04	5,952	3,121
980.04	277	7	981.06	6,065	3,241
980.06	390	13	981.08	6,179	3,364
980.08	504	22	981.10	6,293	3,488
980.10	618	33	981.12	6,406	3,615
980.12	731	47	981.14	6,519	3,745
980.14	844	63	981.16	6,633	3,876
980.16	958	81	981.18	6,746	4,010
980.18	1,071	101	981.20	6,860	4,146
980.20	1,185	124	981.22	6,974	4,284
980.22	1,299	148	981.24	7,087	4,425
980.24	1,412	175	981.26	7,200	4,568
980.26	1,525	205	981.28	7,314	4,713
980.28	1,639	236	981.30	7,427	4,860
980.30	1,752	270	981.32	7,541	5,010
980.32	1,866	307	981.34	7,655	5,162
980.34	1,980	345	981.36	7,768	5,316
980.36	2,093	386	981.38	7,881	5,473
980.38	2,206	429	981.40	7,995	5,631
980.40	2,320	474	981.42	8,108	5,793
980.42	2,433	522	981.44	8,222	5,956
980.44	2,547	571	981.46	8,336	6,121
980.46	2,661	623	981.48	8,449	6,289
980.48	2,774	678	981.50	8,563	6,459
980.50	2,888	734	981.52	8,676	6,632
980.52	3,001	793	981.54	8,789	6,806
980.54	3,114	854	981.56	8,903	6,983
980.56	3,228	918	981.58	9,017	7,163
980.58	3,342	984	981.60	9,130	7,344
980.60	3,455	1,052	981.62	9,244	7,528
980.62	3,569	1,122	981.64	9,357	7,714
980.64	3,682	1,194	981.66	9,470	7,902
980.66	3,795	1,269	981.68	9,584	8,093
980.68	3,909	1,346	981.70	9,698	8,285
980.70	4,023	1,425	981.72	9,811	8,480
980.72	4,136	1,507	981.74	9,925	8,678
980.74	4,250	1,591	981.76	10,038	8,877
980.76	4,363	1,677	981.78	10,151	9,079
980.78	4,476	1,765	981.80	10,265	9,283
980.80	4,590	1,856	981.82	10,379	9,490
980.82	4,704	1,949	981.84	10,492	9,699
980.84	4,817	2,044	981.86	10,606	9,910
980.86	4,931	2,142	981.88	10,719	10,123
980.88	5,044	2,241	981.90	10,832	10,338
980.90	5,157	2,343	981.92	10,946	10,556
980.92	5,271	2,448	981.94	11,060	10,776
980.94	5,385	2,554	981.96	11,173	10,999
980.96	5,498	2,663	981.98	11,287	11,223
980.98	5,612	2,774	982.00	11,400	11,450
981.00	5,725	2,888			

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Summary for Pond CB_L9: CB_L9

Inflow Area = 2.129 ac, 19.16% Impervious, Inflow Depth = 2.22" for 10yr-24hr event
Inflow = 6.47 cfs @ 12.20 hrs, Volume= 0.394 af
Outflow = 4.77 cfs @ 12.29 hrs, Volume= 0.394 af, Atten= 26%, Lag= 5.5 min
Primary = 4.77 cfs @ 12.29 hrs, Volume= 0.394 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 983.28' @ 12.29 hrs Surf.Area= 2,943 sf Storage= 1,943 cf

Plug-Flow detention time= 6.2 min calculated for 0.394 af (100% of inflow)
Center-of-Mass det. time= 5.8 min (803.7 - 797.9)

Volume	Invert	Avail.Storage	Storage Description
#1	982.00'	7,815 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
982.00	100	0	0
983.50	3,440	2,655	2,655
985.00	3,440	5,160	7,815

Device	Routing	Invert	Outlet Devices
#1	Primary	982.00'	15.0" Round Culvert L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 982.00' / 975.68' S= 0.0388 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	983.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.77 cfs @ 12.29 hrs HW=983.28' TW=969.68' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 4.77 cfs @ 3.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=982.00' TW=980.00' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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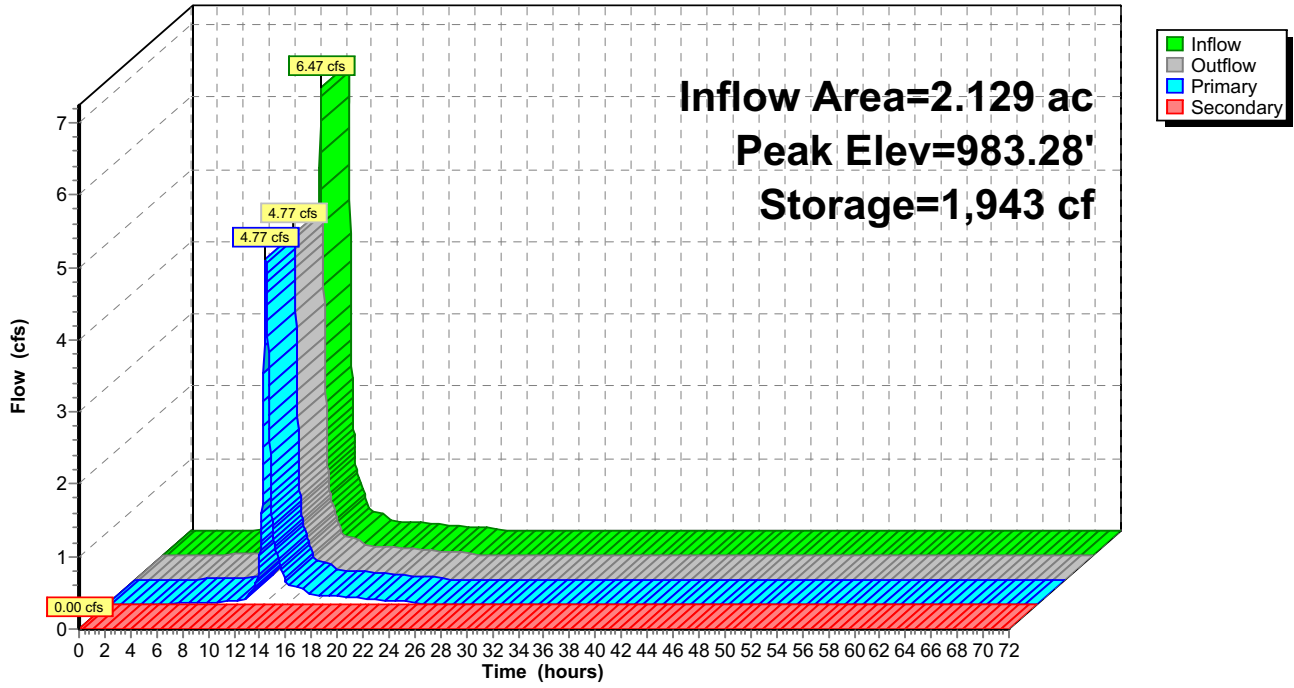
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L9: CB_L9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_L9: CB_L9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
982.00	100	0	984.55	3,440	6,267
982.05	211	8	984.60	3,440	6,439
982.10	323	21	984.65	3,440	6,611
982.15	434	40	984.70	3,440	6,783
982.20	545	65	984.75	3,440	6,955
982.25	657	95	984.80	3,440	7,127
982.30	768	130	984.85	3,440	7,299
982.35	879	171	984.90	3,440	7,471
982.40	991	218	984.95	3,440	7,643
982.45	1,102	270	985.00	3,440	7,815
982.50	1,213	328			
982.55	1,325	392			
982.60	1,436	461			
982.65	1,547	535			
982.70	1,659	616			
982.75	1,770	701			
982.80	1,881	793			
982.85	1,993	889			
982.90	2,104	992			
982.95	2,215	1,100			
983.00	2,327	1,213			
983.05	2,438	1,332			
983.10	2,549	1,457			
983.15	2,661	1,587			
983.20	2,772	1,723			
983.25	2,883	1,865			
983.30	2,995	2,012			
983.35	3,106	2,164			
983.40	3,217	2,322			
983.45	3,329	2,486			
983.50	3,440	2,655			
983.55	3,440	2,827			
983.60	3,440	2,999			
983.65	3,440	3,171			
983.70	3,440	3,343			
983.75	3,440	3,515			
983.80	3,440	3,687			
983.85	3,440	3,859			
983.90	3,440	4,031			
983.95	3,440	4,203			
984.00	3,440	4,375			
984.05	3,440	4,547			
984.10	3,440	4,719			
984.15	3,440	4,891			
984.20	3,440	5,063			
984.25	3,440	5,235			
984.30	3,440	5,407			
984.35	3,440	5,579			
984.40	3,440	5,751			
984.45	3,440	5,923			
984.50	3,440	6,095			

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Summary for Pond CB_O10: CB_O10

Inflow Area = 0.609 ac, 15.44% Impervious, Inflow Depth = 2.14" for 10yr-24hr event
Inflow = 1.80 cfs @ 12.20 hrs, Volume= 0.109 af
Outflow = 1.79 cfs @ 12.21 hrs, Volume= 0.109 af, Atten= 1%, Lag= 0.6 min
Primary = 1.79 cfs @ 12.21 hrs, Volume= 0.109 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 978.18' @ 12.21 hrs Surf.Area= 521 sf Storage= 52 cf

Plug-Flow detention time= 0.4 min calculated for 0.109 af (100% of inflow)
Center-of-Mass det. time= 0.4 min (802.2 - 801.8)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	25,530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
980.00	5,240	5,290	5,290
982.00	15,000	20,240	25,530

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	980.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.78 cfs @ 12.21 hrs HW=978.18' TW=969.30' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 1.78 cfs @ 1.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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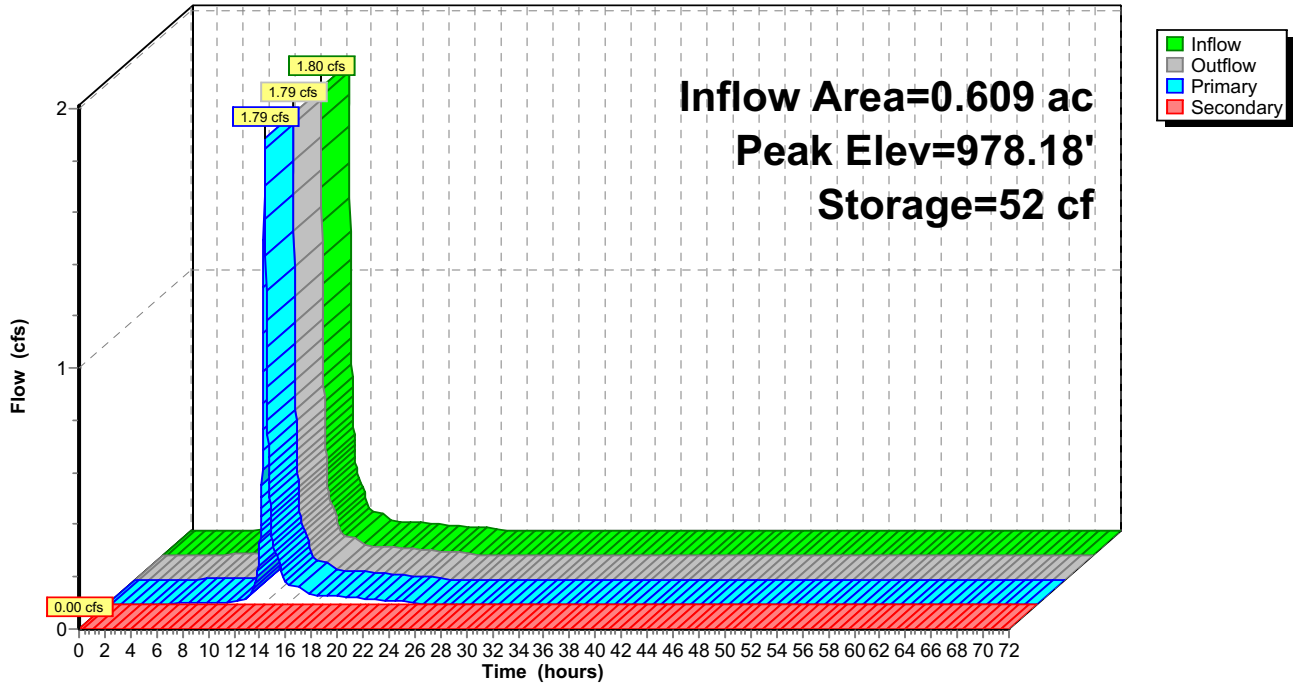
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Pond CB_O10: CB_O10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Stage-Area-Storage for Pond CB_O10: CB_O10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	980.55	7,924	8,910
978.05	180	6	980.60	8,168	9,312
978.10	310	18	980.65	8,412	9,727
978.15	439	37	980.70	8,656	10,154
978.20	569	62	980.75	8,900	10,593
978.25	699	94	980.80	9,144	11,044
978.30	828	132	980.85	9,388	11,507
978.35	958	176	980.90	9,632	11,982
978.40	1,088	228	980.95	9,876	12,470
978.45	1,218	285	981.00	10,120	12,970
978.50	1,348	349	981.05	10,364	13,482
978.55	1,477	420	981.10	10,608	14,006
978.60	1,607	497	981.15	10,852	14,543
978.65	1,737	581	981.20	11,096	15,092
978.70	1,867	671	981.25	11,340	15,653
978.75	1,996	767	981.30	11,584	16,226
978.80	2,126	870	981.35	11,828	16,811
978.85	2,256	980	981.40	12,072	17,408
978.90	2,385	1,096	981.45	12,316	18,018
978.95	2,515	1,218	981.50	12,560	18,640
979.00	2,645	1,348	981.55	12,804	19,274
979.05	2,775	1,483	981.60	13,048	19,920
979.10	2,905	1,625	981.65	13,292	20,579
979.15	3,034	1,773	981.70	13,536	21,250
979.20	3,164	1,928	981.75	13,780	21,933
979.25	3,294	2,090	981.80	14,024	22,628
979.30	3,423	2,258	981.85	14,268	23,335
979.35	3,553	2,432	981.90	14,512	24,054
979.40	3,683	2,613	981.95	14,756	24,786
979.45	3,813	2,800	982.00	15,000	25,530
979.50	3,943	2,994			
979.55	4,072	3,195			
979.60	4,202	3,402			
979.65	4,332	3,615			
979.70	4,462	3,835			
979.75	4,591	4,061			
979.80	4,721	4,294			
979.85	4,851	4,533			
979.90	4,980	4,779			
979.95	5,110	5,031			
980.00	5,240	5,290			
980.05	5,484	5,558			
980.10	5,728	5,838			
980.15	5,972	6,131			
980.20	6,216	6,436			
980.25	6,460	6,753			
980.30	6,704	7,082			
980.35	6,948	7,423			
980.40	7,192	7,776			
980.45	7,436	8,142			
980.50	7,680	8,520			

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Summary for Pond CB_O8: CB_O8

Inflow Area = 0.490 ac, 12.24% Impervious, Inflow Depth = 2.07" for 10yr-24hr event
Inflow = 1.41 cfs @ 12.20 hrs, Volume= 0.085 af
Outflow = 1.41 cfs @ 12.21 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.2 min
Primary = 1.41 cfs @ 12.21 hrs, Volume= 0.085 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 975.65' @ 12.21 hrs Surf.Area= 158 sf Storage= 16 cf

Plug-Flow detention time= 0.3 min calculated for 0.085 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (805.7 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	975.50'	913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
975.50	50	0	0
976.00	400	113	113
978.00	400	800	913

Device	Routing	Invert	Outlet Devices
#1	Primary	975.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	976.00'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.40 cfs @ 12.21 hrs HW=975.65' TW=969.27' (Dynamic Tailwater)
↑1=**Orifice/Grate** (Weir Controls 1.40 cfs @ 1.28 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.50' TW=967.50' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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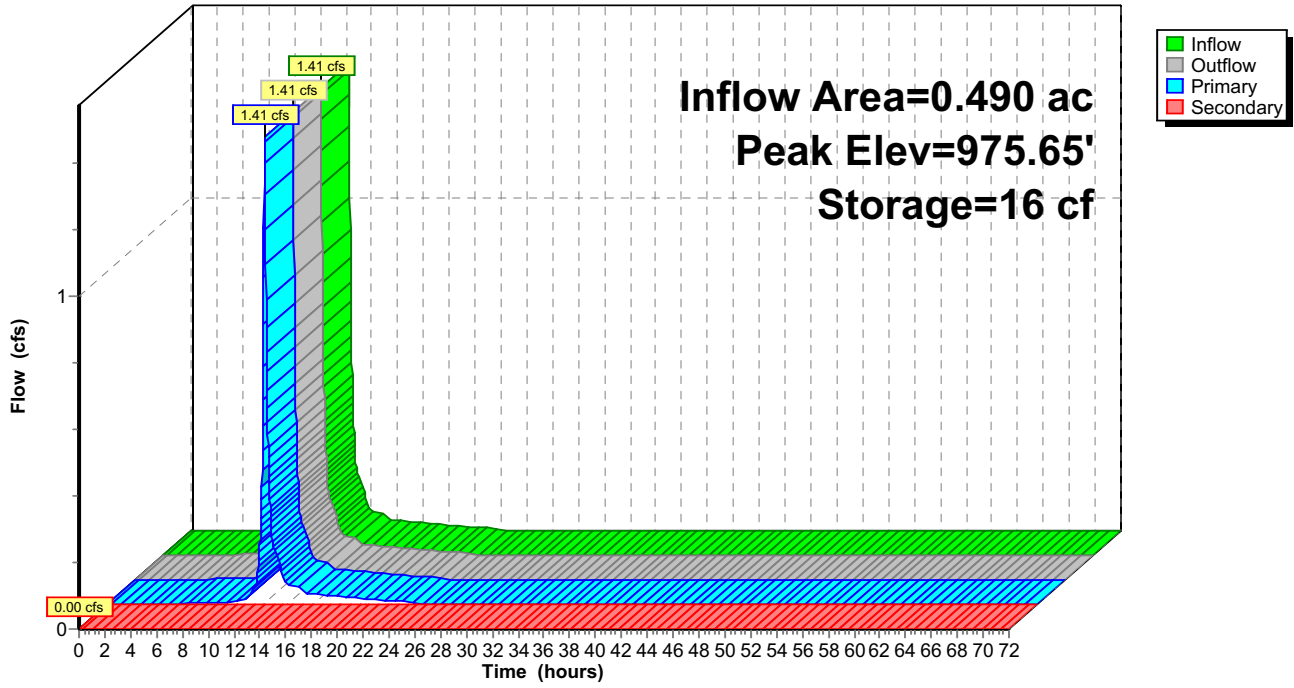
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_O8: CB_O8

Hydrograph



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Stage-Area-Storage for Pond CB_O8: CB_O8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
975.50	50	0
975.55	85	3
975.60	120	9
975.65	155	15
975.70	190	24
975.75	225	34
975.80	260	46
975.85	295	60
975.90	330	76
975.95	365	93
976.00	400	113
976.05	400	132
976.10	400	153
976.15	400	172
976.20	400	193
976.25	400	213
976.30	400	232
976.35	400	253
976.40	400	272
976.45	400	293
976.50	400	313
976.55	400	332
976.60	400	353
976.65	400	372
976.70	400	393
976.75	400	413
976.80	400	432
976.85	400	453
976.90	400	472
976.95	400	493
977.00	400	513
977.05	400	532
977.10	400	553
977.15	400	572
977.20	400	593
977.25	400	613
977.30	400	632
977.35	400	653
977.40	400	672
977.45	400	693
977.50	400	713
977.55	400	732
977.60	400	753
977.65	400	772
977.70	400	793
977.75	400	813
977.80	400	832
977.85	400	853
977.90	400	872
977.95	400	893
978.00	400	913

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Summary for Pond CB_O9: CB_O9

Inflow Area = 1.143 ac, 19.86% Impervious, Inflow Depth = 2.24" for 10yr-24hr event
Inflow = 3.50 cfs @ 12.20 hrs, Volume= 0.214 af
Outflow = 3.49 cfs @ 12.21 hrs, Volume= 0.214 af, Atten= 0%, Lag= 0.4 min
Primary = 3.49 cfs @ 12.21 hrs, Volume= 0.214 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 978.28' @ 12.21 hrs Surf.Area= 461 sf Storage= 72 cf

Plug-Flow detention time= 0.3 min calculated for 0.213 af (100% of inflow)
Center-of-Mass det. time= 0.3 min (797.5 - 797.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	2,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
979.00	1,500	775	775
980.00	1,500	1,500	2,275

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.47 cfs @ 12.21 hrs HW=978.28' TW=969.28' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 3.47 cfs @ 1.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=975.50' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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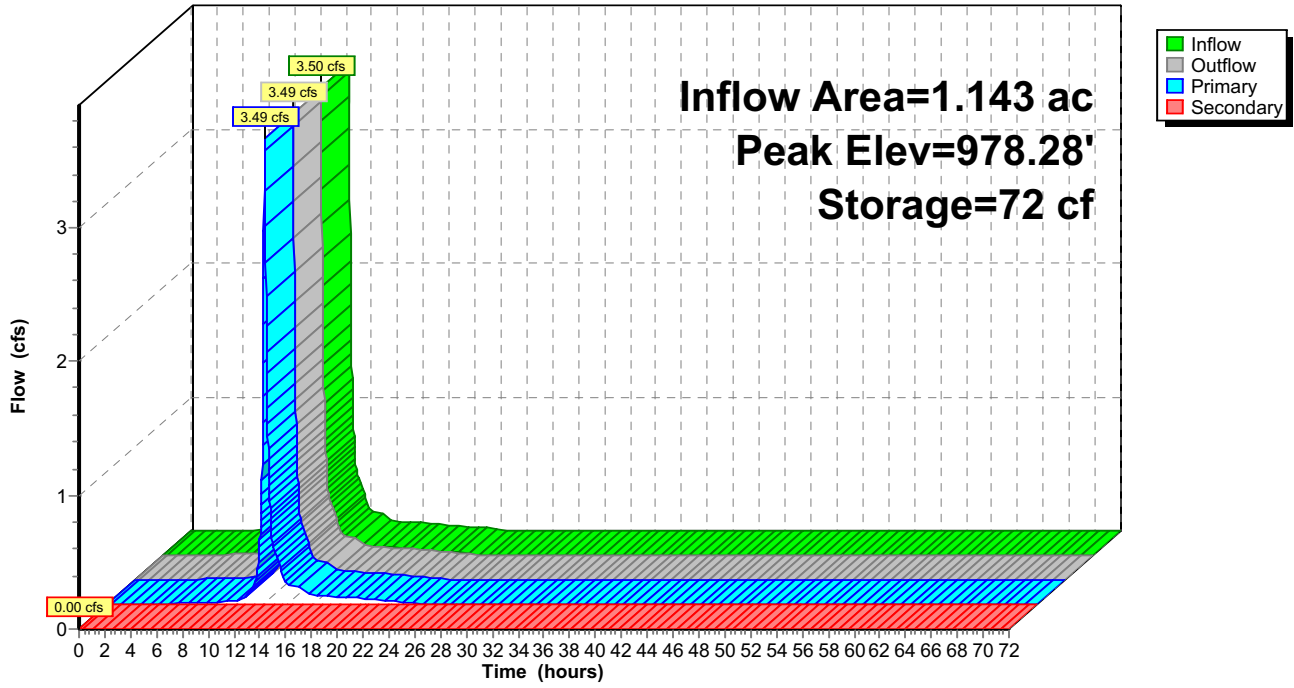
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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_09: CB_09

Hydrograph



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Stage-Area-Storage for Pond CB_09: CB_09

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	979.02	1,500	805
978.02	79	1	979.04	1,500	835
978.04	108	3	979.06	1,500	865
978.06	137	6	979.08	1,500	895
978.08	166	9	979.10	1,500	925
978.10	195	12	979.12	1,500	955
978.12	224	16	979.14	1,500	985
978.14	253	21	979.16	1,500	1,015
978.16	282	27	979.18	1,500	1,045
978.18	311	32	979.20	1,500	1,075
978.20	340	39	979.22	1,500	1,105
978.22	369	46	979.24	1,500	1,135
978.24	398	54	979.26	1,500	1,165
978.26	427	62	979.28	1,500	1,195
978.28	456	71	979.30	1,500	1,225
978.30	485	80	979.32	1,500	1,255
978.32	514	90	979.34	1,500	1,285
978.34	543	101	979.36	1,500	1,315
978.36	572	112	979.38	1,500	1,345
978.38	601	124	979.40	1,500	1,375
978.40	630	136	979.42	1,500	1,405
978.42	659	149	979.44	1,500	1,435
978.44	688	162	979.46	1,500	1,465
978.46	717	176	979.48	1,500	1,495
978.48	746	191	979.50	1,500	1,525
978.50	775	206	979.52	1,500	1,555
978.52	804	222	979.54	1,500	1,585
978.54	833	238	979.56	1,500	1,615
978.56	862	255	979.58	1,500	1,645
978.58	891	273	979.60	1,500	1,675
978.60	920	291	979.62	1,500	1,705
978.62	949	310	979.64	1,500	1,735
978.64	978	329	979.66	1,500	1,765
978.66	1,007	349	979.68	1,500	1,795
978.68	1,036	369	979.70	1,500	1,825
978.70	1,065	390	979.72	1,500	1,855
978.72	1,094	412	979.74	1,500	1,885
978.74	1,123	434	979.76	1,500	1,915
978.76	1,152	457	979.78	1,500	1,945
978.78	1,181	480	979.80	1,500	1,975
978.80	1,210	504	979.82	1,500	2,005
978.82	1,239	528	979.84	1,500	2,035
978.84	1,268	554	979.86	1,500	2,065
978.86	1,297	579	979.88	1,500	2,095
978.88	1,326	605	979.90	1,500	2,125
978.90	1,355	632	979.92	1,500	2,155
978.92	1,384	660	979.94	1,500	2,185
978.94	1,413	688	979.96	1,500	2,215
978.96	1,442	716	979.98	1,500	2,245
978.98	1,471	745	980.00	1,500	2,275
979.00	1,500	775			

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Summary for Pond P1N: Pond 1N

Inflow Area = 5.394 ac, 29.66% Impervious, Inflow Depth = 2.46" for 10yr-24hr event
 Inflow = 17.58 cfs @ 12.20 hrs, Volume= 1.105 af
 Outflow = 1.09 cfs @ 13.96 hrs, Volume= 0.602 af, Atten= 94%, Lag= 105.6 min
 Primary = 1.09 cfs @ 13.96 hrs, Volume= 0.602 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.50' Surf.Area= 0.946 ac Storage= 4.353 af
 Peak Elev= 1,010.26' @ 13.61 hrs Surf.Area= 1.151 ac Storage= 5.140 af (0.788 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 269.9 min (1,058.5 - 788.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	9.367 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,000.00	0.243	0.000	0.000
1,002.00	0.315	0.558	0.558
1,004.00	0.392	0.707	1.265
1,006.00	0.482	0.874	2.139
1,008.00	0.584	1.066	3.205
1,010.00	1.067	1.651	4.856
1,012.00	1.722	2.789	7.645
1,013.00	1.722	1.722	9.367

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	15.0" Round Main outlet (Structure 248 to 249) L= 30.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 1,009.50' / 1,009.10' S= 0.0133 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	1,010.80'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,007.00'	15.0" Round low flow pipe L= 44.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,006.50' / 1,007.00' S= -0.0114 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#4	Secondary	1,012.00'	10.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=1.09 cfs @ 13.96 hrs HW=1,010.25' TW=1,010.12' (Dynamic Tailwater)

1=Main outlet (Structure 248 to 249)(Outlet Controls 1.09 cfs @ 2.04 fps)

2=Orifice/Grate (Controls 0.00 cfs)

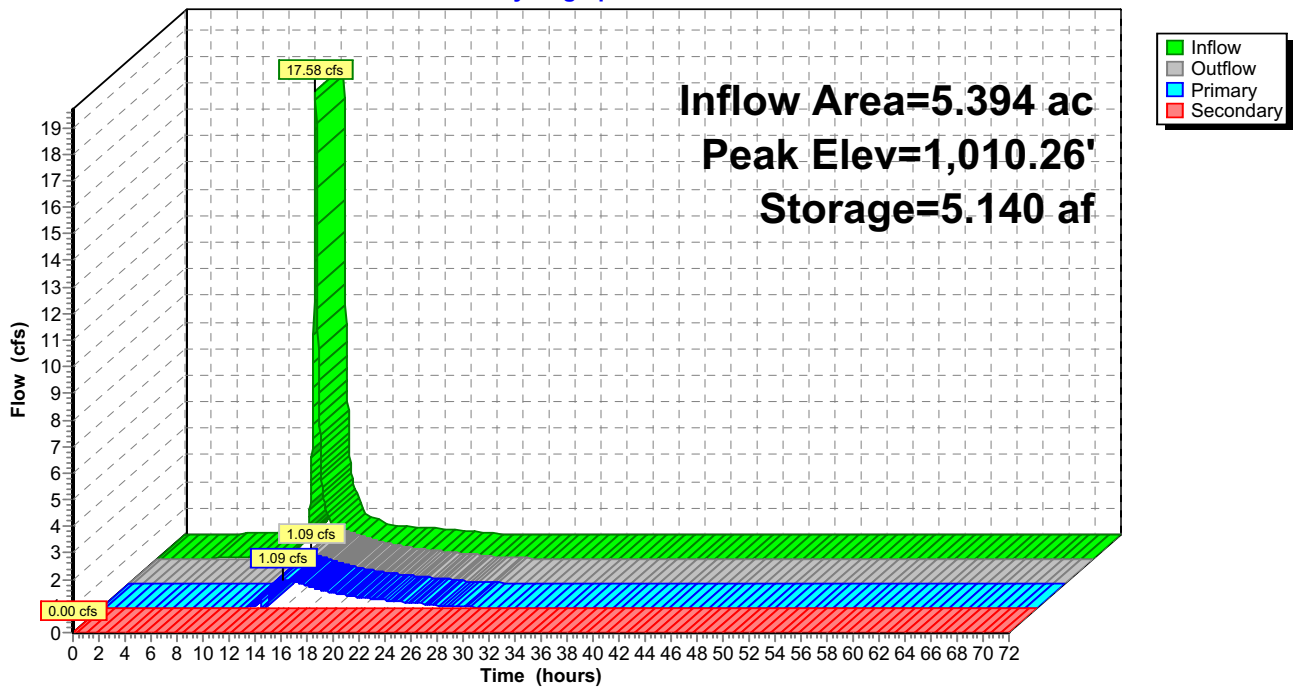
3=low flow pipe (Passes 1.09 cfs of 2.10 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,009.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P1N: Pond 1N

Hydrograph



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Stage-Area-Storage for Pond P1N: Pond 1N

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,000.00	0.243	0.000	1,007.65	0.566	3.004
1,000.15	0.248	0.037	1,007.80	0.574	3.089
1,000.30	0.254	0.075	1,007.95	0.581	3.176
1,000.45	0.259	0.113	1,008.10	0.608	3.265
1,000.60	0.265	0.152	1,008.25	0.644	3.359
1,000.75	0.270	0.192	1,008.40	0.681	3.458
1,000.90	0.275	0.233	1,008.55	0.717	3.563
1,001.05	0.281	0.275	1,008.70	0.753	3.673
1,001.20	0.286	0.318	1,008.85	0.789	3.789
1,001.35	0.292	0.361	1,009.00	0.826	3.910
1,001.50	0.297	0.405	1,009.15	0.862	4.036
1,001.65	0.302	0.450	1,009.30	0.898	4.168
1,001.80	0.308	0.496	1,009.45	0.934	4.306
1,001.95	0.313	0.542	1,009.60	0.970	4.449
1,002.10	0.319	0.590	1,009.75	1.007	4.597
1,002.25	0.325	0.638	1,009.90	1.043	4.751
1,002.40	0.330	0.687	1,010.05	1.083	4.910
1,002.55	0.336	0.737	1,010.20	1.133	5.076
1,002.70	0.342	0.788	1,010.35	1.182	5.250
1,002.85	0.348	0.840	1,010.50	1.231	5.430
1,003.00	0.354	0.892	1,010.65	1.280	5.619
1,003.15	0.359	0.946	1,010.80	1.329	5.814
1,003.30	0.365	1.000	1,010.95	1.378	6.017
1,003.45	0.371	1.055	1,011.10	1.427	6.228
1,003.60	0.377	1.111	1,011.25	1.476	6.446
1,003.75	0.382	1.168	1,011.40	1.525	6.671
1,003.90	0.388	1.226	1,011.55	1.575	6.903
1,004.05	0.394	1.285	1,011.70	1.624	7.143
1,004.20	0.401	1.344	1,011.85	1.673	7.390
1,004.35	0.408	1.405	1,012.00	1.722	7.645
1,004.50	0.415	1.467	1,012.15	1.722	7.903
1,004.65	0.421	1.529	1,012.30	1.722	8.162
1,004.80	0.428	1.593	1,012.45	1.722	8.420
1,004.95	0.435	1.658	1,012.60	1.722	8.678
1,005.10	0.442	1.723	1,012.75	1.722	8.937
1,005.25	0.448	1.790	1,012.90	1.722	9.195
1,005.40	0.455	1.858			
1,005.55	0.462	1.927			
1,005.70	0.469	1.996			
1,005.85	0.475	2.067			
1,006.00	0.482	2.139			
1,006.15	0.490	2.212			
1,006.30	0.497	2.286			
1,006.45	0.505	2.361			
1,006.60	0.513	2.437			
1,006.75	0.520	2.515			
1,006.90	0.528	2.593			
1,007.05	0.536	2.673			
1,007.20	0.543	2.754			
1,007.35	0.551	2.836			
1,007.50	0.558	2.919			

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Summary for Pond P1S: Pond 1S

Inflow Area = 106.817 ac, 34.75% Impervious, Inflow Depth > 2.40" for 10yr-24hr event
 Inflow = 81.81 cfs @ 12.23 hrs, Volume= 21.325 af
 Outflow = 21.79 cfs @ 13.90 hrs, Volume= 20.904 af, Atten= 73%, Lag= 100.4 min
 Primary = 21.79 cfs @ 13.90 hrs, Volume= 20.904 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.00' Surf.Area= 1.857 ac Storage= 5.676 af
 Peak Elev= 969.37' @ 13.90 hrs Surf.Area= 2.466 ac Storage= 10.824 af (5.148 af above start)

Plug-Flow detention time= 670.8 min calculated for 15.224 af (71% of inflow)
 Center-of-Mass det. time= 205.3 min (1,353.7 - 1,148.4)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	24.421 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
960.00	0.217	0.000	0.000
962.00	0.476	0.693	0.693
964.00	0.854	1.329	2.022
966.00	1.248	2.102	4.124
967.00	1.857	1.552	5.676
968.00	2.126	1.991	7.668
970.00	2.620	4.746	12.414
972.00	3.129	5.749	18.163
974.00	3.129	6.258	24.421

Device	Routing	Invert	Outlet Devices
#1	Primary	967.00'	30.0" Round Main outlet (Structure 294 to 295) L= 31.4' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.00' / 966.84' S= 0.0051 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	971.00'	48.0" Horiz. Structure 294 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	30.0" Round low flow pipe L= 25.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0391 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#4	Secondary	971.00'	10.0' long x 4.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=21.79 cfs @ 13.90 hrs HW=969.37' TW=0.00' (Dynamic Tailwater)

1=Main outlet (Structure 294 to 295)(Barrel Controls 21.79 cfs @ 5.83 fps)

2=Structure 294 Grate (Controls 0.00 cfs)

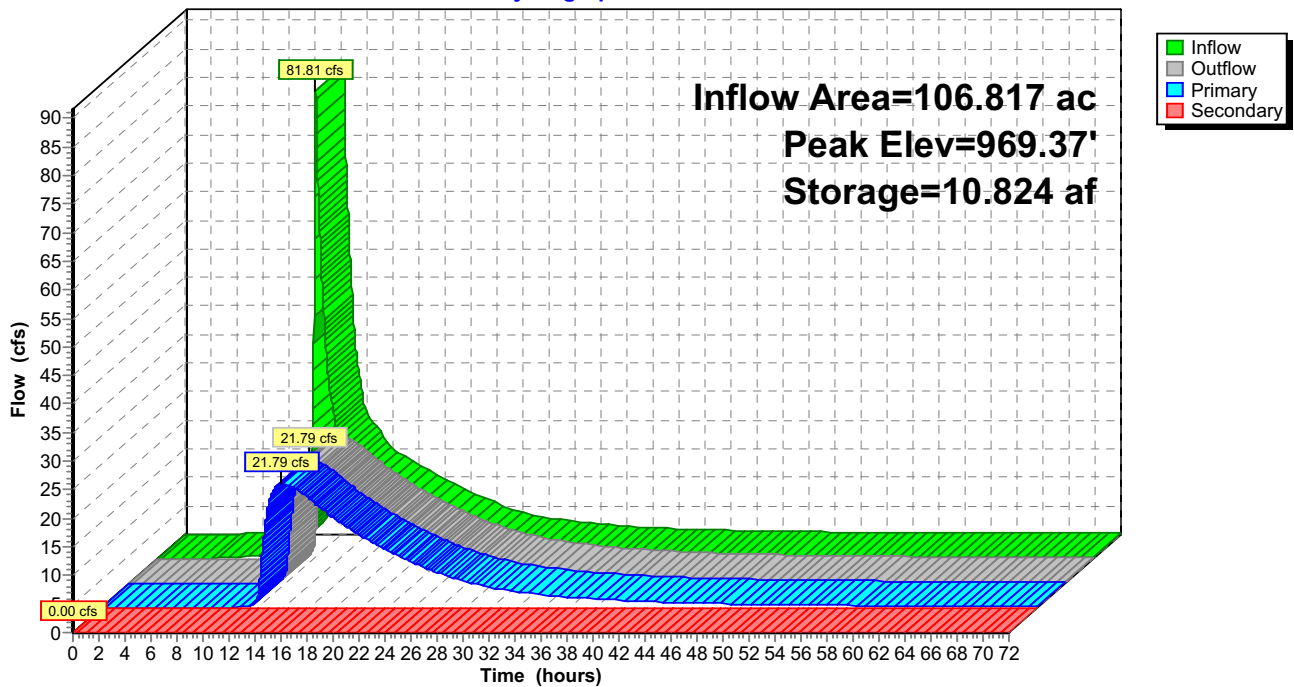
3=low flow pipe (Passes 21.79 cfs of 25.27 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.00' TW=0.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P1S: Pond 1S

Hydrograph



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Stage-Area-Storage for Pond P1S: Pond 1S

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
960.00	0.217	0.000	967.65	2.032	6.940
960.15	0.236	0.034	967.80	2.072	7.248
960.30	0.256	0.071	967.95	2.113	7.562
960.45	0.275	0.111	968.10	2.151	7.881
960.60	0.295	0.154	968.25	2.188	8.207
960.75	0.314	0.199	968.40	2.225	8.538
960.90	0.334	0.248	968.55	2.262	8.874
961.05	0.353	0.299	968.70	2.299	9.216
961.20	0.372	0.354	968.85	2.336	9.564
961.35	0.392	0.411	969.00	2.373	9.917
961.50	0.411	0.471	969.15	2.410	10.276
961.65	0.431	0.534	969.30	2.447	10.640
961.80	0.450	0.600	969.45	2.484	11.010
961.95	0.469	0.669	969.60	2.521	11.386
962.10	0.495	0.741	969.75	2.559	11.767
962.25	0.523	0.818	969.90	2.596	12.153
962.40	0.551	0.898	970.05	2.633	12.545
962.55	0.580	0.983	970.20	2.671	12.943
962.70	0.608	1.072	970.35	2.709	13.347
962.85	0.636	1.166	970.50	2.747	13.756
963.00	0.665	1.263	970.65	2.786	14.171
963.15	0.693	1.365	970.80	2.824	14.592
963.30	0.721	1.471	970.95	2.862	15.018
963.45	0.750	1.581	971.10	2.900	15.450
963.60	0.778	1.696	971.25	2.938	15.888
963.75	0.806	1.815	971.40	2.976	16.332
963.90	0.835	1.938	971.55	3.015	16.781
964.05	0.863	2.065	971.70	3.053	17.236
964.20	0.893	2.197	971.85	3.091	17.697
964.35	0.923	2.333	972.00	3.129	18.163
964.50	0.952	2.474	972.15	3.129	18.633
964.65	0.982	2.619	972.30	3.129	19.102
964.80	1.011	2.768	972.45	3.129	19.571
964.95	1.041	2.922	972.60	3.129	20.041
965.10	1.070	3.081	972.75	3.129	20.510
965.25	1.100	3.243	972.90	3.129	20.979
965.40	1.130	3.411	973.05	3.129	21.449
965.55	1.159	3.582	973.20	3.129	21.918
965.70	1.189	3.758	973.35	3.129	22.387
965.85	1.218	3.939	973.50	3.129	22.857
966.00	1.248	4.124	973.65	3.129	23.326
966.15	1.339	4.318	973.80	3.129	23.795
966.30	1.431	4.526	973.95	3.129	24.265
966.45	1.522	4.747			
966.60	1.613	4.982			
966.75	1.705	5.231			
966.90	1.796	5.494			
967.05	1.870	5.769			
967.20	1.911	6.053			
967.35	1.951	6.343			
967.50	1.991	6.638			

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Summary for Pond P2S: Pond 2S

Inflow Area = 7.044 ac, 38.20% Impervious, Inflow Depth = 2.65" for 10yr-24hr event
 Inflow = 24.57 cfs @ 12.20 hrs, Volume= 1.557 af
 Outflow = 7.91 cfs @ 12.48 hrs, Volume= 1.547 af, Atten= 68%, Lag= 16.6 min
 Primary = 7.91 cfs @ 12.48 hrs, Volume= 1.547 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 969.00' Surf.Area= 20,740 sf Storage= 78,236 cf
 Peak Elev= 970.32' @ 12.48 hrs Surf.Area= 23,259 sf Storage= 107,282 cf (29,047 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 134.9 min (917.1 - 782.1)

Volume	Invert	Avail.Storage	Storage Description
#1	962.00'	201,932 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
962.00	6,080	0	0
964.00	8,581	14,661	14,661
966.00	11,400	19,981	34,642
968.00	14,549	25,949	60,591
969.00	20,740	17,645	78,236
970.00	22,651	21,696	99,931
972.00	26,450	49,101	149,032
974.00	26,450	52,900	201,932

Device	Routing	Invert	Outlet Devices
#1	Primary	969.00'	24.0" Round Main outlet (Structure 251 to 252) L= 30.8' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 968.69' S= 0.0101 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	972.00'	48.0" Horiz. Structure 251 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	24.0" Round low flow pipe L= 36.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0272 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Secondary	972.00'	8.0' long x 32.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=7.90 cfs @ 12.48 hrs HW=970.32' TW=0.00' (Dynamic Tailwater)

1=Main outlet (Structure 251 to 252)(Barrel Controls 7.90 cfs @ 5.10 fps)

2=Structure 251 Grate (Controls 0.00 cfs)

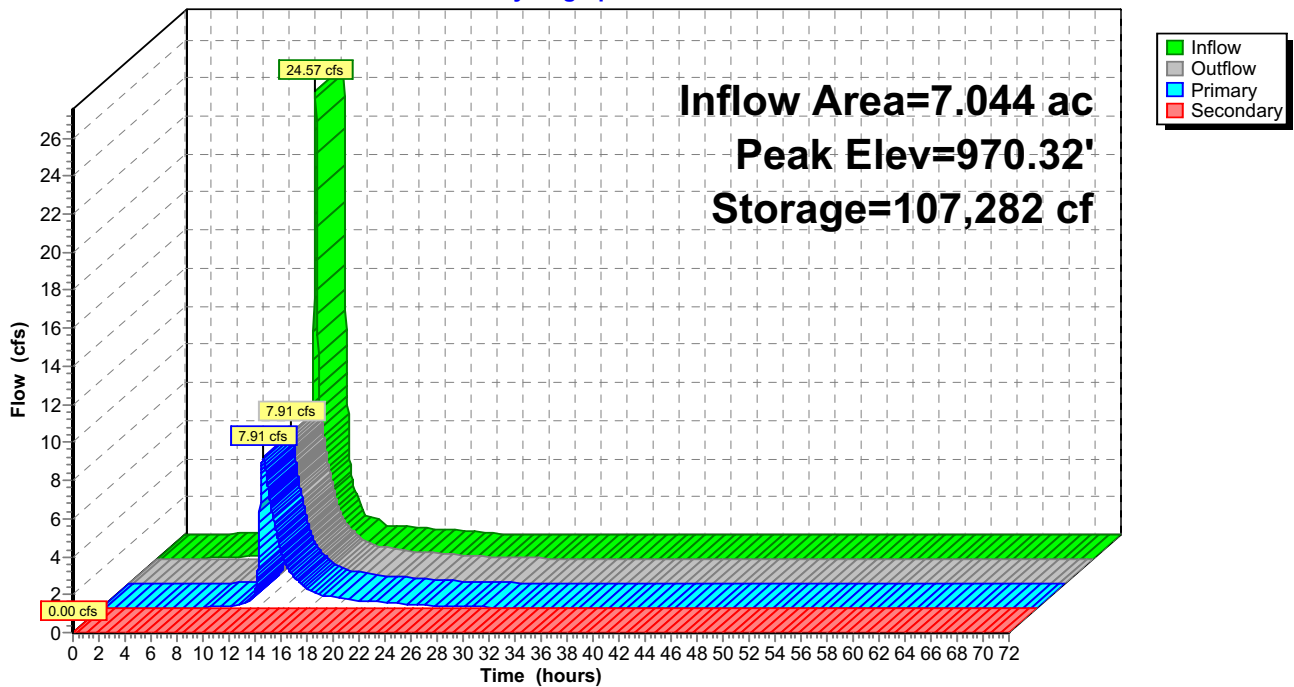
3=low flow pipe (Passes 7.90 cfs of 17.38 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=969.00' TW=0.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P2S: Pond 2S

Hydrograph



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Stage-Area-Storage for Pond P2S: Pond 2S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
962.00	6,080	0	969.65	21,982	92,120
962.15	6,268	926	969.80	22,269	95,439
962.30	6,455	1,880	969.95	22,555	98,801
962.45	6,643	2,863	970.10	22,841	102,206
962.60	6,830	3,873	970.25	23,126	105,653
962.75	7,018	4,912	970.40	23,411	109,143
962.90	7,205	5,978	970.55	23,696	112,676
963.05	7,393	7,073	970.70	23,981	116,252
963.20	7,581	8,196	970.85	24,266	119,871
963.35	7,768	9,348	971.00	24,551	123,532
963.50	7,956	10,527	971.15	24,835	127,236
963.65	8,143	11,734	971.30	25,120	130,982
963.80	8,331	12,970	971.45	25,405	134,772
963.95	8,518	14,234	971.60	25,690	138,604
964.10	8,722	15,526	971.75	25,975	142,479
964.25	8,933	16,850	971.90	26,260	146,396
964.40	9,145	18,206	972.05	26,450	150,354
964.55	9,356	19,594	972.20	26,450	154,322
964.70	9,568	21,013	972.35	26,450	158,290
964.85	9,779	22,464	972.50	26,450	162,257
965.00	9,991	23,947	972.65	26,450	166,224
965.15	10,202	25,461	972.80	26,450	170,192
965.30	10,413	27,007	972.95	26,450	174,160
965.45	10,625	28,585	973.10	26,450	178,127
965.60	10,836	30,195	973.25	26,450	182,095
965.75	11,048	31,836	973.40	26,450	186,062
965.90	11,259	33,509	973.55	26,450	190,029
966.05	11,479	35,214	973.70	26,450	193,997
966.20	11,715	36,953	973.85	26,450	197,965
966.35	11,951	38,728	974.00	26,450	201,932
966.50	12,187	40,539			
966.65	12,423	42,385			
966.80	12,660	44,266			
966.95	12,896	46,182			
967.10	13,132	48,135			
967.25	13,368	50,122			
967.40	13,604	52,145			
967.55	13,840	54,203			
967.70	14,077	56,297			
967.85	14,313	58,426			
968.00	14,549	60,591			
968.15	15,478	62,843			
968.30	16,406	65,234			
968.45	17,335	67,765			
968.60	18,264	70,435			
968.75	19,192	73,244			
968.90	20,121	76,192			
969.05	20,836	79,275			
969.20	21,122	82,422			
969.35	21,409	85,612			
969.50	21,696	88,844			

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Summary for Pond P3S: Pond 3S

Inflow Area = 12.637 ac, 40.00% Impervious, Inflow Depth = 2.69" for 10yr-24hr event
 Inflow = 44.43 cfs @ 12.20 hrs, Volume= 2.835 af
 Outflow = 9.35 cfs @ 12.60 hrs, Volume= 2.800 af, Atten= 79%, Lag= 24.2 min
 Primary = 9.35 cfs @ 12.60 hrs, Volume= 2.800 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 973.00' Surf.Area= 34,587 sf Storage= 138,303 cf
 Peak Elev= 974.67' @ 12.60 hrs Surf.Area= 40,585 sf Storage= 200,905 cf (62,602 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 203.3 min (984.0 - 780.8)

Volume	Invert	Avail.Storage	Storage Description
#1	966.00'	769,728 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
966.00	10,237	0	0
968.00	15,246	25,483	25,483
970.00	20,473	35,719	61,202
972.00	26,223	46,696	107,898
973.00	34,587	30,405	138,303
974.00	38,115	36,351	174,654
976.00	45,520	83,635	258,289
978.00	65,471	110,991	369,280
980.00	103,978	169,449	538,729
982.00	127,021	230,999	769,728

Device	Routing	Invert	Outlet Devices
#1	Primary	967.20'	24.0" Round H2 to H1 L= 55.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.20' / 967.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	967.70'	24.0" Round H2A to H1 L= 149.2' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.70' / 967.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#3	Device 2	967.90'	24.0" Round H3 to H2 L= 86.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.90' / 967.70' S= 0.0023 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Device 3	968.00'	21.0" Round H4 to H3 L= 42.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 968.00' / 967.90' S= 0.0024 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#5	Device 4	968.50'	21.0" Round H5 to H4 L= 184.0' RCP, groove end w/headwall, Ke= 0.200

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			Inlet / Outlet Invert= 968.50' / 968.00' S= 0.0027 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#6	Device 5	972.50'	21.0" Round H9 to H5 L= 146.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.50' / 968.50' S= 0.0274 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#7	Device 6	973.00'	21.0" Round H10 to H9 L= 92.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 973.00' / 972.50' S= 0.0054 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#8	Device 7	976.10'	48.0" Horiz. I13 Grate C= 0.600 Limited to weir flow at low heads
#9	Device 7	970.00'	21.0" Round low flow pipe L= 88.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 968.00' / 970.00' S= -0.0227 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#10	Secondary	978.00'	5.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.35 cfs @ 12.60 hrs HW=974.67' TW=968.79' (Dynamic Tailwater)

- ↑ 1=H2 to H1 (Passes 9.35 cfs of 43.71 cfs potential flow)
- ↑ 2=H2A to H1 (Passes 9.35 cfs of 33.70 cfs potential flow)
- ↑ 3=H3 to H2 (Passes 9.35 cfs of 37.28 cfs potential flow)
- ↑ 4=H4 to H3 (Passes 9.35 cfs of 32.00 cfs potential flow)
- ↑ 5=H5 to H4 (Passes 9.35 cfs of 21.56 cfs potential flow)
- ↑ 6=H9 to H5 (Passes 9.35 cfs of 16.46 cfs potential flow)
- ↑ 7=H10 to H9 (Barrel Controls 9.35 cfs @ 5.08 fps)
- ↑ 8=I13 Grate (Controls 0.00 cfs)
- ↑ 9=low flow pipe (Passes 9.35 cfs of 14.87 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=972.00' (Dynamic Tailwater)

- ↑ 10=EOF (Controls 0.00 cfs)

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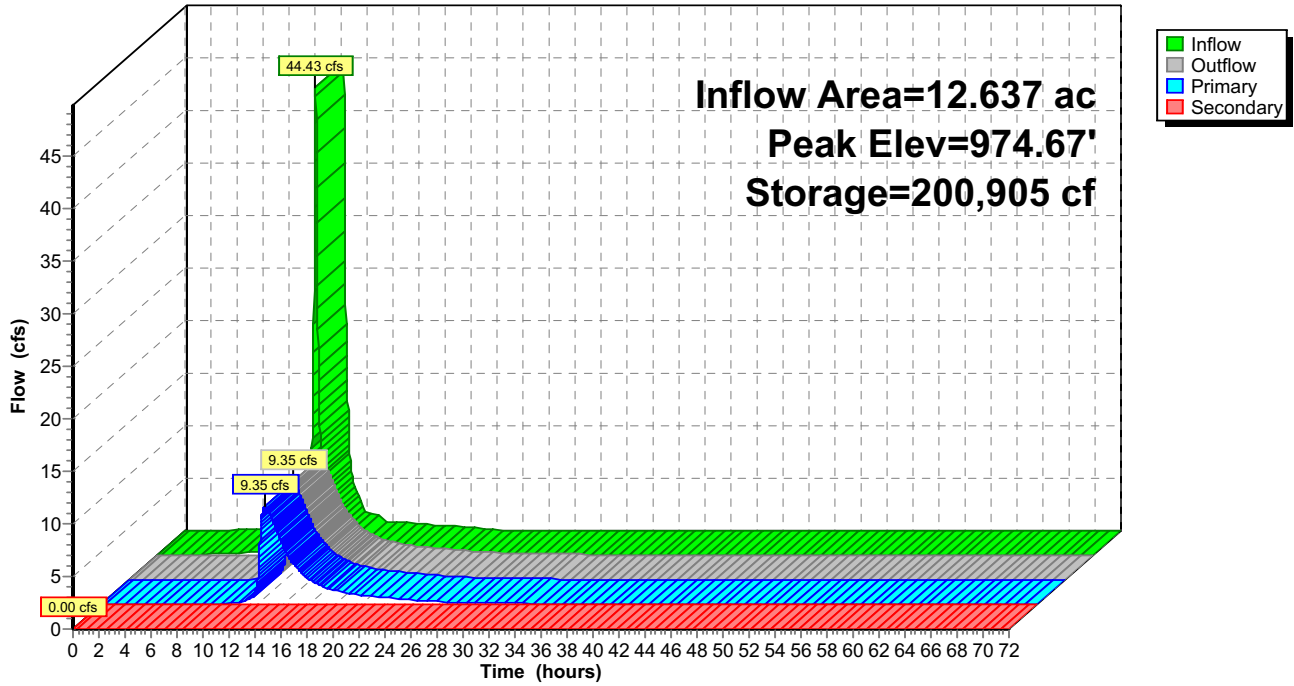
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Pond P3S: Pond 3S

Hydrograph



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Stage-Area-Storage for Pond P3S: Pond 3S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
966.00	10,237	0	976.20	47,515	267,593
966.20	10,738	2,097	976.40	49,510	277,295
966.40	11,239	4,295	976.60	51,505	287,397
966.60	11,740	6,593	976.80	53,500	297,897
966.80	12,241	8,991	977.00	55,496	308,797
967.00	12,742	11,489	977.20	57,491	320,095
967.20	13,242	14,088	977.40	59,486	331,793
967.40	13,743	16,786	977.60	61,481	343,890
967.60	14,244	19,585	977.80	63,476	356,385
967.80	14,745	22,484	978.00	65,471	369,280
968.00	15,246	25,483	978.20	69,322	382,759
968.20	15,769	28,584	978.40	73,172	397,009
968.40	16,291	31,790	978.60	77,023	412,028
968.60	16,814	35,101	978.80	80,874	427,818
968.80	17,337	38,516	979.00	84,725	444,378
969.00	17,860	42,036	979.20	88,575	461,708
969.20	18,382	45,660	979.40	92,426	479,808
969.40	18,905	49,389	979.60	96,277	498,678
969.60	19,428	53,222	979.80	100,127	518,318
969.80	19,950	57,160	980.00	103,978	538,729
970.00	20,473	61,202	980.20	106,282	559,755
970.20	21,048	65,354	980.40	108,587	581,242
970.40	21,623	69,621	980.60	110,891	603,190
970.60	22,198	74,003	980.80	113,195	625,598
970.80	22,773	78,500	981.00	115,500	648,468
971.00	23,348	83,113	981.20	117,804	671,798
971.20	23,923	87,840	981.40	120,108	695,589
971.40	24,498	92,682	981.60	122,412	719,841
971.60	25,073	97,639	981.80	124,717	744,554
971.80	25,648	102,711	982.00	127,021	769,728
972.00	26,223	107,898			
972.20	27,896	113,310			
972.40	29,569	119,056			
972.60	31,241	125,137			
972.80	32,914	131,553			
973.00	34,587	138,303			
973.20	35,293	145,291			
973.40	35,998	152,420			
973.60	36,704	159,690			
973.80	37,409	167,102			
974.00	38,115	174,654			
974.20	38,856	182,351			
974.40	39,596	190,196			
974.60	40,337	198,189			
974.80	41,077	206,331			
975.00	41,818	214,620			
975.20	42,558	223,058			
975.40	43,298	231,643			
975.60	44,039	240,377			
975.80	44,779	249,259			
976.00	45,520	258,289			

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Summary for Pond P4S: Pond 4S

Inflow Area = 76.299 ac, 31.96% Impervious, Inflow Depth > 2.33" for 10yr-24hr event
 Inflow = 67.41 cfs @ 12.22 hrs, Volume= 14.788 af
 Outflow = 31.45 cfs @ 12.53 hrs, Volume= 14.670 af, Atten= 53%, Lag= 18.7 min
 Primary = 31.45 cfs @ 12.53 hrs, Volume= 14.670 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.50' Surf.Area= 25,439 sf Storage= 76,590 cf
 Peak Elev= 970.01' @ 12.53 hrs Surf.Area= 35,277 sf Storage= 152,676 cf (76,086 cf above start)

Plug-Flow detention time= 345.5 min calculated for 12.912 af (87% of inflow)
 Center-of-Mass det. time= 82.1 min (1,277.0 - 1,194.9)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	647,869 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	2,396	0	0
962.00	4,400	6,796	6,796
964.00	9,322	13,722	20,518
966.00	15,812	25,134	45,652
967.50	25,439	30,938	76,590
968.00	27,312	13,188	89,778
970.00	35,109	62,421	152,199
972.00	59,939	95,048	247,247
974.00	113,561	173,500	420,747
976.00	113,561	227,122	647,869

Device	Routing	Invert	Outlet Devices
#1	Primary	967.20'	48.0" Round Culvert L= 121.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.20' / 967.00' S= 0.0016 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#2	Device 1	967.30'	48.0" Round Culvert L= 27.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.30' / 967.20' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#3	Device 2	967.50'	48.0" Round Culvert L= 120.9' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.30' S= 0.0017 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#4	Device 3	971.50'	72.0" Horiz. Structure 254 Grate C= 0.600 Limited to weir flow at low heads
#5	Device 3	964.00'	48.0" Round Culvert L= 33.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.00' / 964.00' S= -0.0303 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf

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#6	Secondary	969.00'	72.0" W x 36.0" H Box Box Culvert L= 150.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 969.00' / 968.00' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 18.00 sf
#7	Device 6	971.50'	10.0' long x 4.0' breadth Berm to Secondary EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=31.44 cfs @ 12.53 hrs HW=970.01' TW=968.68' (Dynamic Tailwater)

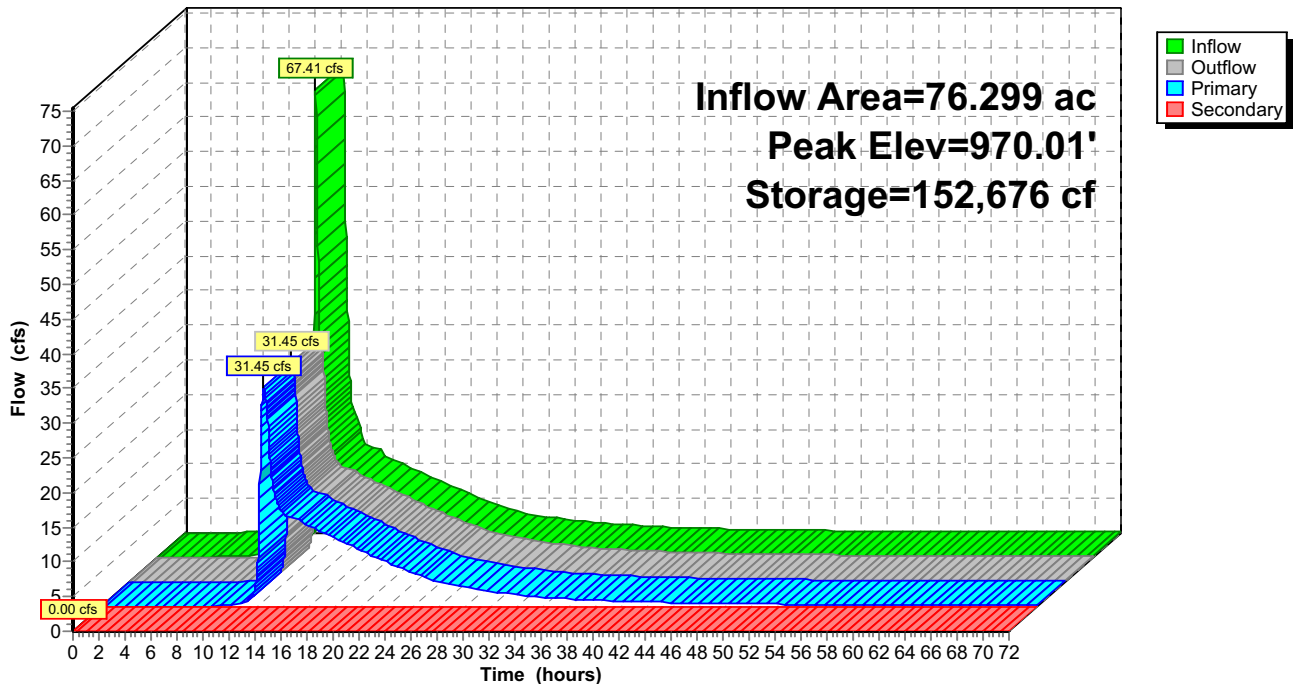
- ↑ 1=Culvert (Passes 31.44 cfs of 38.48 cfs potential flow)
- ↑ 2=Culvert (Passes 31.44 cfs of 39.37 cfs potential flow)
- ↑ 3=Culvert (Barrel Controls 31.44 cfs @ 5.40 fps)
- ↑ 4=Structure 254 Grate (Controls 0.00 cfs)
- ↑ 5=Culvert (Passes 31.44 cfs of 69.78 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.50' TW=967.00' (Dynamic Tailwater)

- ↑ 6=Box Culvert (Controls 0.00 cfs)
- ↑ 7=Berm to Secondary EOF (Controls 0.00 cfs)

Pond P4S: Pond 4S

Hydrograph



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Stage-Area-Storage for Pond P4S: Pond 4S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
960.00	2,396	0	970.20	37,592	159,469
960.20	2,596	499	970.40	40,075	167,236
960.40	2,797	1,039	970.60	42,558	175,499
960.60	2,997	1,618	970.80	45,041	184,259
960.80	3,198	2,237	971.00	47,524	193,516
961.00	3,398	2,897	971.20	50,007	203,269
961.20	3,598	3,597	971.40	52,490	213,518
961.40	3,799	4,336	971.60	54,973	224,265
961.60	3,999	5,116	971.80	57,456	235,507
961.80	4,200	5,936	972.00	59,939	247,247
962.00	4,400	6,796	972.20	65,301	259,771
962.20	4,892	7,725	972.40	70,663	273,367
962.40	5,384	8,753	972.60	76,026	288,036
962.60	5,877	9,879	972.80	81,388	303,778
962.80	6,369	11,104	973.00	86,750	320,592
963.00	6,861	12,427	973.20	92,112	338,478
963.20	7,353	13,848	973.40	97,474	357,436
963.40	7,845	15,368	973.60	102,837	377,467
963.60	8,338	16,986	973.80	108,199	398,571
963.80	8,830	18,703	974.00	113,561	420,747
964.00	9,322	20,518	974.20	113,561	443,459
964.20	9,971	22,447	974.40	113,561	466,171
964.40	10,620	24,506	974.60	113,561	488,884
964.60	11,269	26,695	974.80	113,561	511,596
964.80	11,918	29,014	975.00	113,561	534,308
965.00	12,567	31,463	975.20	113,561	557,020
965.20	13,216	34,041	975.40	113,561	579,732
965.40	13,865	36,749	975.60	113,561	602,445
965.60	14,514	39,587	975.80	113,561	625,157
965.80	15,163	42,554	976.00	113,561	647,869
966.00	15,812	45,652			
966.20	17,096	48,943			
966.40	18,379	52,490			
966.60	19,663	56,294			
966.80	20,946	60,355			
967.00	22,230	64,673			
967.20	23,514	69,247			
967.40	24,797	74,078			
967.60	25,814	79,153			
967.80	26,563	84,391			
968.00	27,312	89,778			
968.20	28,092	95,318			
968.40	28,871	101,015			
968.60	29,651	106,867			
968.80	30,431	112,875			
969.00	31,211	119,039			
969.20	31,990	125,359			
969.40	32,770	131,835			
969.60	33,550	138,467			
969.80	34,329	145,255			
970.00	35,109	152,199			

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Summary for Pond P5S: Pond 5S

Inflow Area = 53.598 ac, 34.53% Impervious, Inflow Depth = 2.49" for 10yr-24hr event
 Inflow = 171.47 cfs @ 12.21 hrs, Volume= 11.108 af
 Outflow = 10.08 cfs @ 13.62 hrs, Volume= 10.489 af, Atten= 94%, Lag= 84.9 min
 Primary = 10.08 cfs @ 13.62 hrs, Volume= 10.489 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 978.00' Surf.Area= 188,571 sf Storage= 1,154,774 cf
 Peak Elev= 979.65' @ 13.62 hrs Surf.Area= 206,920 sf Storage= 1,480,787 cf (326,013 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 575.2 min (1,359.3 - 784.1)

Volume	Invert	Avail.Storage	Storage Description
#1	970.00'	4,080,390 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
970.00	109,989	0	0
972.00	126,585	236,574	236,574
974.00	142,572	269,157	505,731
976.00	158,950	301,522	807,253
978.00	188,571	347,521	1,154,774
980.00	210,830	399,401	1,554,175
982.00	257,265	468,095	2,022,270
984.00	257,265	514,530	2,536,800
990.00	257,265	1,543,590	4,080,390

Device	Routing	Invert	Outlet Devices
#1	Primary	970.00'	18.0" Round Structure 273 to 246 L= 190.9' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 970.00' / 967.50' S= 0.0131 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	972.00'	18.0" Round Structure 272 to 273 L= 70.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 970.00' S= 0.0286 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Device 2	974.00'	18.0" Round Structure 271 to 272 L= 50.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 974.00' / 973.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#4	Device 3	978.00'	18.0" Round Structure 245 to 271 L= 78.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 978.00' / 974.00' S= 0.0513 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#5	Device 4	975.50'	21.0" Round low flow pipe L= 52.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 975.00' / 975.50' S= -0.0096 '/' Cc= 0.900

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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#6	Device 4	981.50'	n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf 48.0" Horiz. Structure 245 grate C= 0.600
#7	Secondary	981.50'	Limited to weir flow at low heads 10.0' long x 2.0' breadth EOF
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

Primary OutFlow Max=10.08 cfs @ 13.62 hrs HW=979.65' TW=969.65' (Dynamic Tailwater)

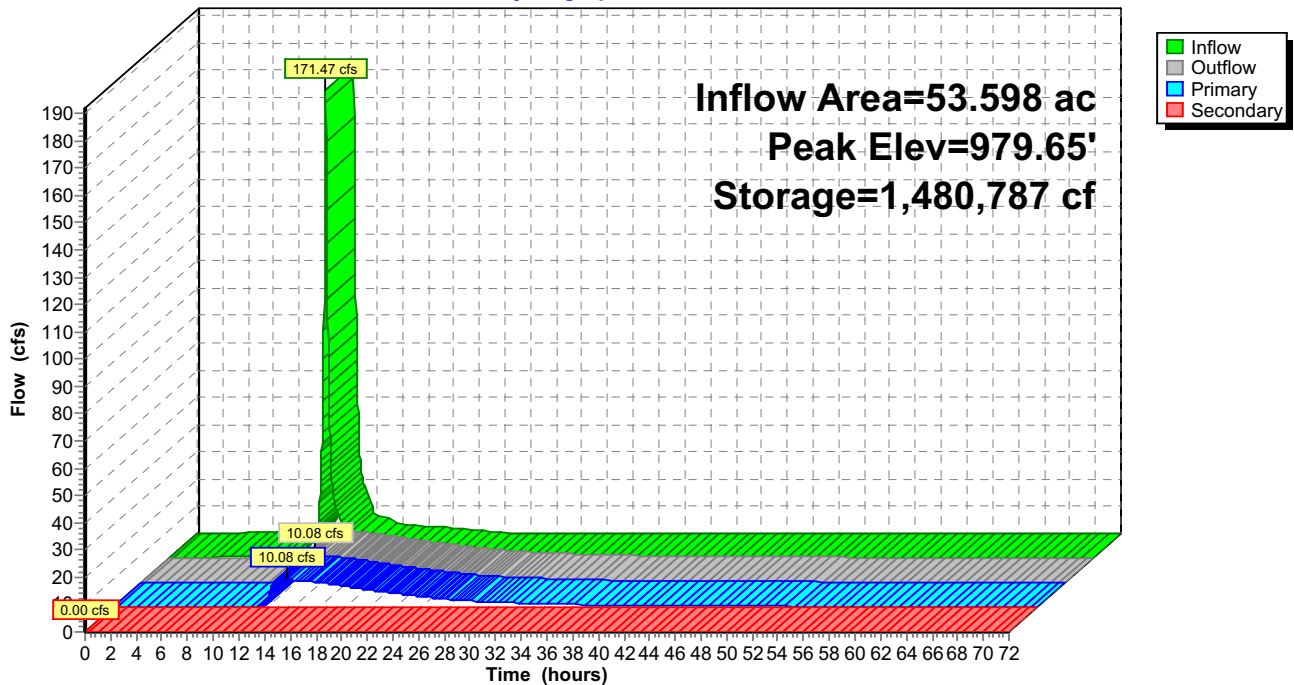
- ↑ 1=Structure 273 to 246 (Passes 10.08 cfs of 20.70 cfs potential flow)
- ↑ 2=Structure 272 to 273 (Passes 10.08 cfs of 25.71 cfs potential flow)
- ↑ 3=Structure 271 to 272 (Passes 10.08 cfs of 22.13 cfs potential flow)
- ↑ 4=Structure 245 to 271 (Inlet Controls 10.08 cfs @ 5.71 fps)
- ↑ 5=low flow pipe (Passes 10.08 cfs of 14.87 cfs potential flow)
- ↑ 6=Structure 245 grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)

- ↑ 7=EOF (Controls 0.00 cfs)

Pond P5S: Pond 5S

Hydrograph



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Stage-Area-Storage for Pond P5S: Pond 5S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
970.00	109,989	0	980.20	215,474	1,596,805
970.20	111,649	22,164	980.40	220,117	1,640,364
970.40	113,308	44,659	980.60	224,761	1,684,852
970.60	114,968	67,487	980.80	229,404	1,730,269
970.80	116,627	90,647	981.00	234,048	1,776,614
971.00	118,287	114,138	981.20	238,691	1,823,888
971.20	119,947	137,961	981.40	243,334	1,872,090
971.40	121,606	162,117	981.60	247,978	1,921,221
971.60	123,266	186,604	981.80	252,621	1,971,281
971.80	124,925	211,423	982.00	257,265	2,022,270
972.00	126,585	236,574	982.20	257,265	2,073,723
972.20	128,184	262,051	982.40	257,265	2,125,176
972.40	129,782	287,847	982.60	257,265	2,176,629
972.60	131,381	313,964	982.80	257,265	2,228,082
972.80	132,980	340,400	983.00	257,265	2,279,535
973.00	134,579	367,156	983.20	257,265	2,330,988
973.20	136,177	394,231	983.40	257,265	2,382,441
973.40	137,776	421,627	983.60	257,265	2,433,894
973.60	139,375	449,342	983.80	257,265	2,485,347
973.80	140,973	477,376	984.00	257,265	2,536,800
974.00	142,572	505,731	984.20	257,265	2,588,253
974.20	144,210	534,409	984.40	257,265	2,639,706
974.40	145,848	563,415	984.60	257,265	2,691,159
974.60	147,485	592,748	984.80	257,265	2,742,612
974.80	149,123	622,409	985.00	257,265	2,794,065
975.00	150,761	652,398	985.20	257,265	2,845,518
975.20	152,399	682,713	985.40	257,265	2,896,971
975.40	154,037	713,357	985.60	257,265	2,948,424
975.60	155,674	744,328	985.80	257,265	2,999,877
975.80	157,312	775,627	986.00	257,265	3,051,330
976.00	158,950	807,253	986.20	257,265	3,102,783
976.20	161,912	839,339	986.40	257,265	3,154,236
976.40	164,874	872,018	986.60	257,265	3,205,689
976.60	167,836	905,289	986.80	257,265	3,257,142
976.80	170,798	939,152	987.00	257,265	3,308,595
977.00	173,761	973,608	987.20	257,265	3,360,048
977.20	176,723	1,008,657	987.40	257,265	3,411,501
977.40	179,685	1,044,297	987.60	257,265	3,462,954
977.60	182,647	1,080,530	987.80	257,265	3,514,407
977.80	185,609	1,117,356	988.00	257,265	3,565,860
978.00	188,571	1,154,774	988.20	257,265	3,617,313
978.20	190,797	1,192,711	988.40	257,265	3,668,766
978.40	193,023	1,231,093	988.60	257,265	3,720,219
978.60	195,249	1,269,920	988.80	257,265	3,771,672
978.80	197,475	1,309,192	989.00	257,265	3,823,125
979.00	199,701	1,348,910	989.20	257,265	3,874,578
979.20	201,926	1,389,072	989.40	257,265	3,926,031
979.40	204,152	1,429,680	989.60	257,265	3,977,484
979.60	206,378	1,470,733	989.80	257,265	4,028,937
979.80	208,604	1,512,232	990.00	257,265	4,080,390
980.00	210,830	1,554,175			

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Summary for Pond Wetland 9: Wetland 9

[80] Warning: Exceeded Pond P1N by 0.09' @ 12.50 hrs (0.86 cfs 0.030 af)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 1.78" for 10yr-24hr event
 Inflow = 9.60 cfs @ 12.23 hrs, Volume= 1.517 af
 Outflow = 5.65 cfs @ 12.61 hrs, Volume= 1.216 af, Atten= 41%, Lag= 22.8 min
 Primary = 5.65 cfs @ 12.61 hrs, Volume= 1.216 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 0.217 ac Storage= 0.150 af
 Peak Elev= 1,010.24' @ 12.61 hrs Surf.Area= 0.384 ac Storage= 0.542 af (0.393 af above start)

Plug-Flow detention time= 230.4 min calculated for 1.067 af (70% of inflow)
 Center-of-Mass det. time= 73.8 min (980.5 - 906.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	1.218 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,008.00	0.082	0.000	0.000
1,009.00	0.217	0.150	0.150
1,010.00	0.384	0.301	0.450
1,012.00	0.384	0.768	1.218

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.65 cfs @ 12.61 hrs HW=1,010.24' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 5.65 cfs @ 1.18 fps)

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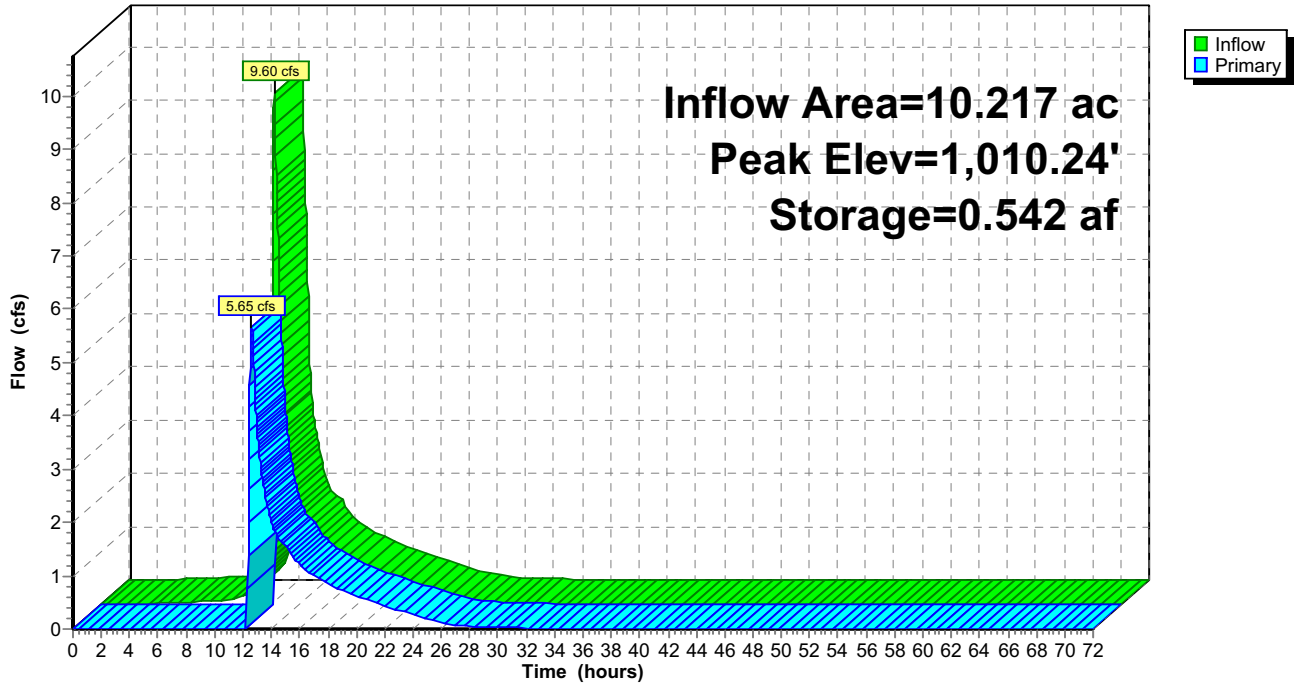
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Pond Wetland 9: Wetland 9

Hydrograph



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Stage-Area-Storage for Pond Wetland 9: Wetland 9

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,008.00	0.082	0.000	1,010.55	0.384	0.661
1,008.05	0.089	0.004	1,010.60	0.384	0.680
1,008.10	0.096	0.009	1,010.65	0.384	0.700
1,008.15	0.102	0.014	1,010.70	0.384	0.719
1,008.20	0.109	0.019	1,010.75	0.384	0.738
1,008.25	0.116	0.025	1,010.80	0.384	0.757
1,008.30	0.122	0.031	1,010.85	0.384	0.776
1,008.35	0.129	0.037	1,010.90	0.384	0.796
1,008.40	0.136	0.044	1,010.95	0.384	0.815
1,008.45	0.143	0.051	1,011.00	0.384	0.834
1,008.50	0.150	0.058	1,011.05	0.384	0.853
1,008.55	0.156	0.066	1,011.10	0.384	0.872
1,008.60	0.163	0.074	1,011.15	0.384	0.892
1,008.65	0.170	0.082	1,011.20	0.384	0.911
1,008.70	0.177	0.090	1,011.25	0.384	0.930
1,008.75	0.183	0.099	1,011.30	0.384	0.949
1,008.80	0.190	0.109	1,011.35	0.384	0.968
1,008.85	0.197	0.118	1,011.40	0.384	0.988
1,008.90	0.203	0.128	1,011.45	0.384	1.007
1,008.95	0.210	0.139	1,011.50	0.384	1.026
1,009.00	0.217	0.150	1,011.55	0.384	1.045
1,009.05	0.225	0.161	1,011.60	0.384	1.064
1,009.10	0.234	0.172	1,011.65	0.384	1.084
1,009.15	0.242	0.184	1,011.70	0.384	1.103
1,009.20	0.250	0.196	1,011.75	0.384	1.122
1,009.25	0.259	0.209	1,011.80	0.384	1.141
1,009.30	0.267	0.222	1,011.85	0.384	1.160
1,009.35	0.275	0.236	1,011.90	0.384	1.180
1,009.40	0.284	0.250	1,011.95	0.384	1.199
1,009.45	0.292	0.264	1,012.00	0.384	1.218
1,009.50	0.301	0.279			
1,009.55	0.309	0.294			
1,009.60	0.317	0.310			
1,009.65	0.326	0.326			
1,009.70	0.334	0.342			
1,009.75	0.342	0.359			
1,009.80	0.351	0.377			
1,009.85	0.359	0.394			
1,009.90	0.367	0.412			
1,009.95	0.376	0.431			
1,010.00	0.384	0.450			
1,010.05	0.384	0.469			
1,010.10	0.384	0.488			
1,010.15	0.384	0.508			
1,010.20	0.384	0.527			
1,010.25	0.384	0.546			
1,010.30	0.384	0.565			
1,010.35	0.384	0.584			
1,010.40	0.384	0.604			
1,010.45	0.384	0.623			
1,010.50	0.384	0.642			

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1N: 1N	Runoff Area=4.840 ac 30.45% Impervious Runoff Depth=5.16" Tc=12.0 min CN=WQ Runoff=33.67 cfs 2.082 af
Subcatchment1N_100: 1N_100	Runoff Area=0.554 ac 22.74% Impervious Runoff Depth=4.93" Flow Length=300' Slope=0.0730 '/' Tc=14.8 min CN=WQ Runoff=3.40 cfs 0.228 af
Subcatchment1S: 1S	Runoff Area=13.529 ac 49.22% Impervious Runoff Depth=5.49" Tc=12.0 min CN=WQ Runoff=96.72 cfs 6.189 af
Subcatchment2S: 2S	Runoff Area=4.152 ac 49.86% Impervious Runoff Depth=5.70" Tc=12.0 min CN=WQ Runoff=30.90 cfs 1.971 af
Subcatchment3S: 3S	Runoff Area=9.641 ac 44.37% Impervious Runoff Depth=5.55" Tc=12.0 min CN=WQ Runoff=70.43 cfs 4.456 af
Subcatchment3S_100: 3S_100	Runoff Area=0.507 ac 69.43% Impervious Runoff Depth=6.24" Tc=12.0 min CN=WQ Runoff=4.02 cfs 0.264 af
Subcatchment4S: 4S	Runoff Area=9.391 ac 35.65% Impervious Runoff Depth=4.92" Tc=12.0 min CN=WQ Runoff=61.28 cfs 3.851 af
Subcatchment5S: 5S	Runoff Area=28.964 ac 47.03% Impervious Runoff Depth=5.31" Tc=12.0 min CN=WQ Runoff=199.43 cfs 12.828 af
Subcatchment5S_100: 5S_100	Runoff Area=0.289 ac 46.02% Impervious Runoff Depth=5.59" Tc=12.0 min CN=WQ Runoff=2.12 cfs 0.135 af
Subcatchment10S: I14_100	Runoff Area=0.378 ac 6.88% Impervious Runoff Depth=4.51" Tc=12.0 min CN=WQ Runoff=2.41 cfs 0.142 af
Subcatchment1000: 1000	Runoff Area=0.038 ac 36.84% Impervious Runoff Depth=5.34" Flow Length=115' Slope=0.0170 '/' Tc=12.3 min CN=WQ Runoff=0.27 cfs 0.017 af
SubcatchmentA10: A10	Runoff Area=0.552 ac 11.05% Impervious Runoff Depth=4.60" Tc=12.0 min CN=WQ Runoff=3.55 cfs 0.211 af
SubcatchmentA11: A11	Runoff Area=1.508 ac 12.07% Impervious Runoff Depth=4.66" Tc=12.0 min CN=WQ Runoff=9.80 cfs 0.585 af
SubcatchmentA12: A12	Runoff Area=0.782 ac 16.75% Impervious Runoff Depth=4.78" Tc=12.0 min CN=WQ Runoff=5.17 cfs 0.312 af
SubcatchmentA12_100: A12_100	Runoff Area=0.211 ac 29.86% Impervious Runoff Depth=5.15" Tc=12.0 min CN=WQ Runoff=1.46 cfs 0.090 af
SubcatchmentA20: A20	Runoff Area=0.095 ac 10.53% Impervious Runoff Depth=4.61" Tc=12.0 min CN=WQ Runoff=0.61 cfs 0.037 af

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SubcatchmentA21: A21	Runoff Area=0.671 ac 21.61% Impervious Runoff Depth=4.92" Tc=12.0 min CN=WQ Runoff=4.52 cfs 0.275 af
SubcatchmentA7: A7	Runoff Area=0.669 ac 25.11% Impervious Runoff Depth=5.02" Tc=12.0 min CN=WQ Runoff=4.56 cfs 0.280 af
SubcatchmentA7_100: A7_100	Runoff Area=0.027 ac 100.00% Impervious Runoff Depth=7.08" Tc=12.0 min CN=98 Runoff=0.24 cfs 0.016 af
SubcatchmentA8: A8	Runoff Area=0.830 ac 33.25% Impervious Runoff Depth=5.24" Tc=12.0 min CN=WQ Runoff=5.83 cfs 0.362 af
SubcatchmentA8_100: A8_100	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=7.08" Tc=12.0 min CN=WQ Runoff=0.30 cfs 0.020 af
SubcatchmentA9: A9	Runoff Area=1.110 ac 6.67% Impervious Runoff Depth=4.49" Tc=12.0 min CN=WQ Runoff=7.04 cfs 0.415 af
SubcatchmentA9_100: A9_100	Runoff Area=0.030 ac 90.00% Impervious Runoff Depth=6.80" Tc=12.0 min CN=WQ Runoff=0.25 cfs 0.017 af
SubcatchmentC10: C10	Runoff Area=1.521 ac 10.72% Impervious Runoff Depth=4.62" Tc=12.0 min CN=WQ Runoff=9.83 cfs 0.585 af
SubcatchmentC10_100: C10_100	Runoff Area=0.546 ac 59.71% Impervious Runoff Depth=5.97" Tc=12.0 min CN=WQ Runoff=4.20 cfs 0.272 af
SubcatchmentC7: C7	Runoff Area=1.440 ac 13.61% Impervious Runoff Depth=4.70" Tc=12.0 min CN=WQ Runoff=9.41 cfs 0.564 af
SubcatchmentC7_100: C7_100	Runoff Area=0.268 ac 62.31% Impervious Runoff Depth=6.04" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=1.95 cfs 0.135 af
SubcatchmentC8: C8	Runoff Area=1.457 ac 13.04% Impervious Runoff Depth=4.68" Tc=12.0 min CN=WQ Runoff=9.50 cfs 0.568 af
SubcatchmentC8_100: C8_100	Runoff Area=0.470 ac 62.77% Impervious Runoff Depth=6.05" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=3.43 cfs 0.237 af
SubcatchmentC9: C9	Runoff Area=1.762 ac 10.95% Impervious Runoff Depth=4.62" Tc=12.0 min CN=WQ Runoff=11.40 cfs 0.679 af
SubcatchmentC9_100: C9_100	Runoff Area=0.301 ac 65.12% Impervious Runoff Depth=6.12" Tc=12.0 min CN=WQ Runoff=2.36 cfs 0.153 af
SubcatchmentE13: E13	Runoff Area=0.605 ac 27.77% Impervious Runoff Depth=5.09" Tc=12.0 min CN=WQ Runoff=4.17 cfs 0.257 af
SubcatchmentE15: E15	Runoff Area=1.926 ac 26.90% Impervious Runoff Depth=5.06" Tc=12.0 min CN=WQ Runoff=13.23 cfs 0.813 af

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SubcatchmentE16: E16	Runoff Area=1.374 ac 25.84% Impervious Runoff Depth=5.03" Tc=12.0 min CN=WQ Runoff=9.40 cfs 0.577 af
SubcatchmentE17: E17	Runoff Area=0.991 ac 20.48% Impervious Runoff Depth=4.89" Tc=12.0 min CN=WQ Runoff=6.65 cfs 0.404 af
SubcatchmentE18: E18	Runoff Area=1.734 ac 9.86% Impervious Runoff Depth=4.59" Tc=15.0 min CN=WQ Runoff=10.14 cfs 0.664 af
SubcatchmentE21: E21	Runoff Area=0.376 ac 3.46% Impervious Runoff Depth=4.42" Tc=12.0 min CN=WQ Runoff=2.36 cfs 0.138 af
SubcatchmentE22: E22	Runoff Area=0.511 ac 11.94% Impervious Runoff Depth=4.65" Tc=12.0 min CN=WQ Runoff=3.32 cfs 0.198 af
SubcatchmentE22_100: E22_100	Runoff Area=0.075 ac 56.00% Impervious Runoff Depth=5.87" Tc=12.0 min CN=WQ Runoff=0.57 cfs 0.037 af
SubcatchmentE23: E23	Runoff Area=1.215 ac 7.98% Impervious Runoff Depth=4.54" Tc=12.0 min CN=WQ Runoff=7.77 cfs 0.460 af
SubcatchmentE29: E29	Runoff Area=1.254 ac 16.11% Impervious Runoff Depth=4.77" Tc=12.0 min CN=WQ Runoff=8.27 cfs 0.498 af
SubcatchmentF5: F5	Runoff Area=1.224 ac 21.24% Impervious Runoff Depth=4.91" Tc=12.0 min CN=WQ Runoff=8.23 cfs 0.501 af
SubcatchmentF6: F6	Runoff Area=0.921 ac 21.06% Impervious Runoff Depth=4.90" Tc=12.0 min CN=WQ Runoff=6.19 cfs 0.376 af
SubcatchmentF7: F7	Runoff Area=0.667 ac 11.69% Impervious Runoff Depth=4.64" Tc=12.0 min CN=WQ Runoff=4.33 cfs 0.258 af
SubcatchmentF8: F8	Runoff Area=1.906 ac 16.00% Impervious Runoff Depth=4.76" Tc=15.0 min CN=WQ Runoff=11.41 cfs 0.757 af
SubcatchmentH5: H5	Runoff Area=2.168 ac 27.21% Impervious Runoff Depth=4.74" Tc=12.0 min CN=WQ Runoff=13.84 cfs 0.856 af
SubcatchmentH6: H6	Runoff Area=1.008 ac 19.54% Impervious Runoff Depth=3.98" Tc=12.0 min CN=WQ Runoff=5.45 cfs 0.334 af
SubcatchmentH7: H7	Runoff Area=1.176 ac 19.64% Impervious Runoff Depth=4.17" Tc=12.0 min CN=WQ Runoff=6.67 cfs 0.408 af
SubcatchmentI14: I14	Runoff Area=0.270 ac 27.78% Impervious Runoff Depth=5.09" Tc=12.0 min CN=WQ Runoff=1.86 cfs 0.114 af
SubcatchmentI7: I7	Runoff Area=0.610 ac 22.62% Impervious Runoff Depth=4.95" Tc=12.0 min CN=WQ Runoff=4.12 cfs 0.251 af

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SubcatchmentI7_100: I7_100	Runoff Area=0.205 ac 7.32% Impervious Runoff Depth=4.52" Tc=12.0 min CN=WQ Runoff=1.31 cfs 0.077 af
SubcatchmentI8: I8	Runoff Area=1.003 ac 25.12% Impervious Runoff Depth=5.02" Tc=12.0 min CN=WQ Runoff=6.84 cfs 0.419 af
SubcatchmentI8_100: I8_100	Runoff Area=0.170 ac 25.88% Impervious Runoff Depth=5.04" Tc=12.0 min CN=WQ Runoff=1.16 cfs 0.071 af
SubcatchmentI9: I9	Runoff Area=0.256 ac 27.73% Impervious Runoff Depth=5.09" Tc=12.0 min CN=WQ Runoff=1.76 cfs 0.109 af
SubcatchmentJ3: J3	Runoff Area=1.496 ac 20.32% Impervious Runoff Depth=4.88" Tc=12.0 min CN=WQ Runoff=10.03 cfs 0.609 af
SubcatchmentJ4: J4	Runoff Area=0.310 ac 0.00% Impervious Runoff Depth=4.32" Tc=12.0 min CN=74 Runoff=1.92 cfs 0.112 af
SubcatchmentJ5: J5	Runoff Area=0.683 ac 17.72% Impervious Runoff Depth=4.81" Tc=12.0 min CN=WQ Runoff=4.53 cfs 0.274 af
SubcatchmentL10: L10	Runoff Area=1.158 ac 17.53% Impervious Runoff Depth=4.81" Tc=12.0 min CN=WQ Runoff=7.68 cfs 0.464 af
SubcatchmentL4: L4	Runoff Area=0.167 ac 20.96% Impervious Runoff Depth=4.86" Tc=12.0 min CN=WQ Runoff=1.11 cfs 0.068 af
SubcatchmentL5: L5	Runoff Area=0.763 ac 22.02% Impervious Runoff Depth=4.93" Tc=12.0 min CN=WQ Runoff=5.15 cfs 0.313 af
SubcatchmentL6: L6	Runoff Area=1.091 ac 19.98% Impervious Runoff Depth=4.87" Tc=12.0 min CN=WQ Runoff=7.30 cfs 0.443 af
SubcatchmentL7: L7	Runoff Area=0.759 ac 21.21% Impervious Runoff Depth=4.91" Tc=12.0 min CN=WQ Runoff=5.10 cfs 0.310 af
SubcatchmentL8: L8	Runoff Area=1.441 ac 22.07% Impervious Runoff Depth=4.73" Tc=12.0 min CN=WQ Runoff=9.25 cfs 0.568 af
SubcatchmentL9: L9	Runoff Area=0.971 ac 21.11% Impervious Runoff Depth=4.89" Tc=12.0 min CN=WQ Runoff=6.51 cfs 0.396 af
SubcatchmentO10: O10	Runoff Area=0.609 ac 15.44% Impervious Runoff Depth=4.75" Tc=12.0 min CN=WQ Runoff=4.01 cfs 0.241 af
SubcatchmentO8: O8	Runoff Area=0.490 ac 12.24% Impervious Runoff Depth=4.66" Tc=12.0 min CN=WQ Runoff=3.19 cfs 0.190 af
SubcatchmentO9: O9	Runoff Area=1.143 ac 19.86% Impervious Runoff Depth=4.87" Tc=12.0 min CN=WQ Runoff=7.65 cfs 0.464 af

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SubcatchmentW6: W6	Runoff Area=9.984 ac 9.85% Impervious Runoff Depth=4.57" Flow Length=780' Tc=27.0 min CN=WQ Runoff=42.65 cfs 3.803 af
SubcatchmentW6_100: W6_100	Runoff Area=0.217 ac 0.00% Impervious Runoff Depth=4.26" Flow Length=550' Tc=42.4 min CN=WQ Runoff=0.67 cfs 0.077 af
SubcatchmentW6_101: W6_101	Runoff Area=2.158 ac 13.44% Impervious Runoff Depth=4.67" Flow Length=605' Tc=19.1 min CN=WQ Runoff=11.25 cfs 0.840 af
SubcatchmentW6_102: W6_102	Runoff Area=0.261 ac 0.00% Impervious Runoff Depth=4.32" Tc=15.5 min CN=74 Runoff=1.43 cfs 0.094 af
SubcatchmentW9: W9	Runoff Area=1.787 ac 12.14% Impervious Runoff Depth=4.65" Tc=12.0 min CN=WQ Runoff=11.59 cfs 0.692 af
SubcatchmentW9_100: W9_100	Runoff Area=2.497 ac 22.31% Impervious Runoff Depth=4.94" Flow Length=1,013' Tc=34.0 min CN=WQ Runoff=9.85 cfs 1.027 af
SubcatchmentW9_101: W9_101	Runoff Area=0.539 ac 49.17% Impervious Runoff Depth=5.68" Flow Length=300' Slope=0.0570 '/' Tc=16.4 min CN=WQ Runoff=3.49 cfs 0.255 af
Reach 1R: Bassett Creek Watershed	Inflow=100.38 cfs 52.132 af Outflow=100.38 cfs 52.132 af
Reach 5R: Elm Creek Watershed	Inflow=19.03 cfs 3.480 af Outflow=19.03 cfs 3.480 af
Reach 8R: Offsite	Inflow=0.27 cfs 0.017 af Outflow=0.27 cfs 0.017 af
Reach Wetland: Wetland 6	Inflow=100.26 cfs 52.115 af Outflow=100.26 cfs 52.115 af
Pond 4P: CB_22 pipe	Peak Elev=971.34' Inflow=1.76 cfs 0.109 af Outflow=1.76 cfs 0.109 af
Pond CB_A10: CB_A10	Peak Elev=998.28' Storage=150 cf Inflow=3.55 cfs 0.211 af Primary=3.51 cfs 0.211 af Secondary=0.00 cfs 0.000 af Outflow=3.51 cfs 0.211 af
Pond CB_A11: CB_A11	Peak Elev=996.64' Storage=825 cf Inflow=12.15 cfs 0.728 af Primary=11.83 cfs 0.728 af Secondary=0.00 cfs 0.000 af Outflow=11.83 cfs 0.728 af
Pond CB_A12: CB_A12	Peak Elev=998.32' Storage=406 cf Inflow=6.64 cfs 0.402 af Primary=4.23 cfs 0.259 af Secondary=2.36 cfs 0.143 af Outflow=6.60 cfs 0.402 af
Pond CB_A20: CB_A20	Peak Elev=1,001.23' Storage=809 cf Inflow=5.13 cfs 0.312 af Primary=4.61 cfs 0.312 af Secondary=0.00 cfs 0.000 af Outflow=4.61 cfs 0.312 af
Pond CB_A7: CB_A7	Peak Elev=998.35' Storage=234 cf Inflow=4.80 cfs 0.296 af Primary=4.73 cfs 0.296 af Secondary=0.00 cfs 0.000 af Outflow=4.73 cfs 0.296 af

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Pond CB_A8: CB_A8	Peak Elev=996.41' Storage=91 cf Inflow=6.13 cfs 0.382 af Outflow=6.12 cfs 0.382 af
Pond CB_A9: CB_A9	Peak Elev=998.46' Storage=138 cf Inflow=7.29 cfs 0.432 af Primary=7.28 cfs 0.432 af Secondary=0.00 cfs 0.000 af Outflow=7.28 cfs 0.432 af
Pond CB_C10: CB_C10	Peak Elev=994.70' Storage=958 cf Inflow=14.03 cfs 0.857 af Primary=13.65 cfs 0.857 af Secondary=0.00 cfs 0.000 af Outflow=13.65 cfs 0.857 af
Pond CB_C7: CB_C7	Peak Elev=993.12' Storage=588 cf Inflow=11.35 cfs 0.699 af Primary=11.17 cfs 0.699 af Secondary=0.00 cfs 0.000 af Outflow=11.17 cfs 0.699 af
Pond CB_C8: CB_C8	Peak Elev=991.68' Storage=209 cf Inflow=12.90 cfs 0.806 af Outflow=12.88 cfs 0.806 af
Pond CB_C9: CB_C9	Peak Elev=992.70' Storage=574 cf Inflow=13.75 cfs 0.832 af Primary=13.60 cfs 0.832 af Secondary=0.00 cfs 0.000 af Outflow=13.60 cfs 0.832 af
Pond CB_E13: CB_E13	Peak Elev=1,009.82' Storage=45 cf Inflow=4.17 cfs 0.257 af Primary=4.17 cfs 0.257 af Secondary=0.00 cfs 0.000 af Outflow=4.17 cfs 0.257 af
Pond CB_E15: CB_E15	Peak Elev=993.81' Storage=1,908 cf Inflow=28.23 cfs 1.149 af Outflow=25.72 cfs 1.149 af
Pond CB_E16: CB_E16	Peak Elev=998.11' Storage=3,497 cf Inflow=25.89 cfs 1.644 af Primary=9.31 cfs 1.308 af Secondary=15.65 cfs 0.336 af Outflow=24.96 cfs 1.644 af
Pond CB_E21: CB_E21	Peak Elev=1,000.22' Storage=95 cf Inflow=2.36 cfs 0.138 af Primary=2.34 cfs 0.138 af Secondary=0.00 cfs 0.000 af Outflow=2.34 cfs 0.138 af
Pond CB_E22: CB_E22	Peak Elev=1,002.30' Storage=157 cf Inflow=3.89 cfs 0.235 af Primary=3.85 cfs 0.235 af Secondary=0.00 cfs 0.000 af Outflow=3.85 cfs 0.235 af
Pond CB_E23: CB_E23	Peak Elev=1,002.48' Storage=465 cf Inflow=7.77 cfs 0.460 af Primary=7.61 cfs 0.460 af Secondary=0.00 cfs 0.000 af Outflow=7.61 cfs 0.460 af
Pond CB_E29: CB_E29	Peak Elev=996.65' Storage=1,991 cf Inflow=8.27 cfs 0.498 af Outflow=5.92 cfs 0.498 af
Pond CB_F5: CB_F5	Peak Elev=983.50' Storage=318 cf Inflow=8.23 cfs 0.501 af Outflow=8.16 cfs 0.501 af
Pond CB_F6: CB_F6	Peak Elev=985.41' Storage=140 cf Inflow=6.19 cfs 0.399 af Primary=6.18 cfs 0.399 af Secondary=0.00 cfs 0.000 af Outflow=6.18 cfs 0.399 af
Pond CB_F7: CB_F7	Peak Elev=985.77' Storage=6,707 cf Inflow=15.60 cfs 1.015 af Primary=8.65 cfs 0.993 af Secondary=1.77 cfs 0.022 af Outflow=10.41 cfs 1.015 af
Pond CB_H5: CB_H5	Peak Elev=972.70' Storage=610 cf Inflow=13.84 cfs 0.856 af Outflow=13.67 cfs 0.856 af

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Pond CB_H6: CB_H6	Peak Elev=973.37' Storage=373 cf Inflow=5.45 cfs 0.334 af Primary=5.30 cfs 0.334 af Secondary=0.00 cfs 0.000 af Outflow=5.30 cfs 0.334 af
Pond CB_H7: CB_H7	Peak Elev=974.42' Storage=1,045 cf Inflow=6.67 cfs 0.408 af Primary=6.40 cfs 0.408 af Secondary=0.00 cfs 0.000 af Outflow=6.40 cfs 0.408 af
Pond CB_I14: CB_I14	Peak Elev=986.09' Storage=439 cf Inflow=4.27 cfs 0.257 af Primary=4.03 cfs 0.257 af Secondary=0.00 cfs 0.000 af Outflow=4.03 cfs 0.257 af
Pond CB_I7: CB_I7	Peak Elev=986.38' Storage=283 cf Inflow=5.43 cfs 0.329 af Primary=5.35 cfs 0.329 af Secondary=0.00 cfs 0.000 af Outflow=5.35 cfs 0.329 af
Pond CB_I8: CB_I8	Peak Elev=987.49' Storage=119 cf Inflow=8.01 cfs 0.491 af Primary=8.00 cfs 0.491 af Secondary=0.00 cfs 0.000 af Outflow=8.00 cfs 0.491 af
Pond CB_I9: CB_I9	Peak Elev=978.18' Storage=17 cf Inflow=1.76 cfs 0.109 af Primary=1.76 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=1.76 cfs 0.109 af
Pond CB_J3: CB_J3	Peak Elev=991.57' Storage=233 cf Inflow=10.03 cfs 0.609 af Primary=10.00 cfs 0.609 af Secondary=0.00 cfs 0.000 af Outflow=10.00 cfs 0.609 af
Pond CB_J4: CB_J4	Peak Elev=995.40' Storage=1,413 cf Inflow=6.45 cfs 0.385 af Primary=5.19 cfs 0.385 af Secondary=0.00 cfs 0.000 af Outflow=5.19 cfs 0.385 af
Pond CB_L4: CB_L4	Peak Elev=978.13' Storage=19 cf Inflow=1.11 cfs 0.068 af Primary=1.11 cfs 0.068 af Secondary=0.00 cfs 0.000 af Outflow=1.11 cfs 0.068 af
Pond CB_L5: CB_L5	Peak Elev=977.96' Storage=147 cf Inflow=7.27 cfs 0.471 af Primary=7.25 cfs 0.471 af Secondary=0.00 cfs 0.000 af Outflow=7.25 cfs 0.471 af
Pond CB_L6: CB_L6	Peak Elev=978.32' Storage=2,142 cf Inflow=7.30 cfs 0.443 af Primary=4.13 cfs 0.286 af Secondary=2.31 cfs 0.157 af Outflow=6.44 cfs 0.443 af
Pond CB_L7: CB_L7	Peak Elev=979.36' Storage=107 cf Inflow=5.10 cfs 0.310 af Primary=5.09 cfs 0.310 af Secondary=0.00 cfs 0.000 af Outflow=5.09 cfs 0.310 af
Pond CB_L8: CB_L8	Peak Elev=980.63' Storage=1,158 cf Inflow=12.13 cfs 0.635 af Primary=11.56 cfs 0.635 af Secondary=0.00 cfs 0.000 af Outflow=11.56 cfs 0.635 af
Pond CB_L9: CB_L9	Peak Elev=984.13' Storage=4,838 cf Inflow=14.19 cfs 0.860 af Primary=7.26 cfs 0.792 af Secondary=3.95 cfs 0.068 af Outflow=11.21 cfs 0.860 af
Pond CB_O10: CB_O10	Peak Elev=978.31' Storage=140 cf Inflow=4.01 cfs 0.241 af Primary=3.98 cfs 0.241 af Secondary=0.00 cfs 0.000 af Outflow=3.98 cfs 0.241 af
Pond CB_O8: CB_O8	Peak Elev=975.77' Storage=38 cf Inflow=3.19 cfs 0.190 af Primary=3.18 cfs 0.190 af Secondary=0.00 cfs 0.000 af Outflow=3.18 cfs 0.190 af
Pond CB_O9: CB_O9	Peak Elev=978.48' Storage=189 cf Inflow=7.65 cfs 0.464 af Primary=7.62 cfs 0.464 af Secondary=0.00 cfs 0.000 af Outflow=7.62 cfs 0.464 af

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Pond P1N: Pond 1N Peak Elev=1,010.81' Storage=5.827 af Inflow=36.95 cfs 2.310 af
Primary=4.15 cfs 1.806 af Secondary=0.00 cfs 0.000 af Outflow=4.15 cfs 1.806 af

Pond P1S: Pond 1S Peak Elev=971.17' Storage=15.662 af Inflow=182.89 cfs 44.638 af
Primary=43.36 cfs 43.983 af Secondary=1.71 cfs 0.173 af Outflow=45.07 cfs 44.156 af

Pond P2S: Pond 2S Peak Elev=971.34' Storage=131,970 cf Inflow=49.83 cfs 3.156 af
Primary=18.11 cfs 3.146 af Secondary=0.00 cfs 0.000 af Outflow=18.11 cfs 3.146 af

Pond P3S: Pond 3S Peak Elev=976.12' Storage=263,835 cf Inflow=89.14 cfs 5.714 af
Primary=16.47 cfs 5.678 af Secondary=0.00 cfs 0.000 af Outflow=16.47 cfs 5.678 af

Pond P4S: Pond 4S Peak Elev=971.54' Storage=221,073 cf Inflow=143.21 cfs 31.307 af
Primary=69.92 cfs 31.171 af Secondary=0.20 cfs 0.002 af Outflow=70.12 cfs 31.173 af

Pond P5S: Pond 5S Peak Elev=981.29' Storage=1,845,057 cf Inflow=349.81 cfs 22.821 af
Primary=16.95 cfs 22.107 af Secondary=0.00 cfs 0.000 af Outflow=16.95 cfs 22.107 af

Pond Wetland 9: Wetland 9 Peak Elev=1,010.51' Storage=0.646 af Inflow=20.70 cfs 3.781 af
Outflow=19.03 cfs 3.480 af

Total Runoff Area = 136.736 ac Runoff Volume = 57.793 af Average Runoff Depth = 5.07"
68.02% Pervious = 93.005 ac 31.98% Impervious = 43.731 ac

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 1N: 1N

Runoff = 33.67 cfs @ 12.20 hrs, Volume= 2.082 af, Depth= 5.16"

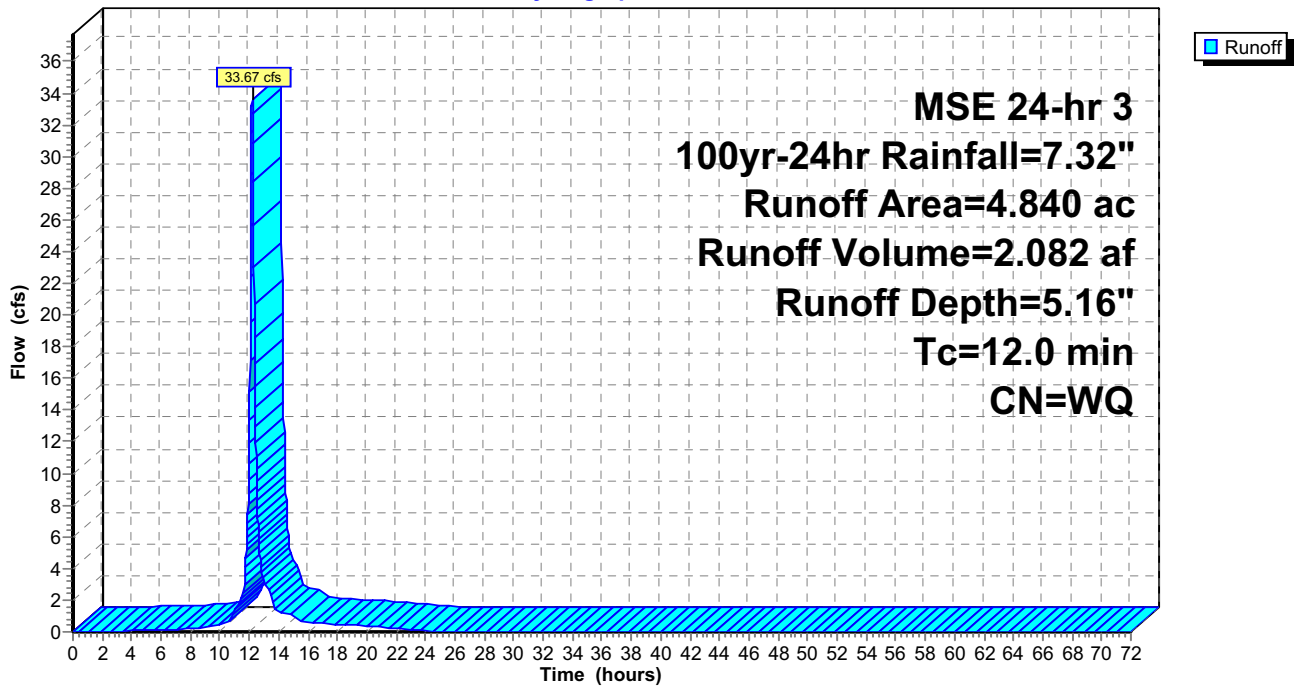
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.646	98	Impervious
3.366	74	>75% Grass cover, Good, HSG C
* 0.828	98	Pond
4.840		Weighted Average
3.366		69.55% Pervious Area
1.474		30.45% Impervious Area

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

Subcatchment 1N: 1N

Hydrograph



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Summary for Subcatchment 1N_100: 1N_100

Runoff = 3.40 cfs @ 12.23 hrs, Volume= 0.228 af, Depth= 4.93"

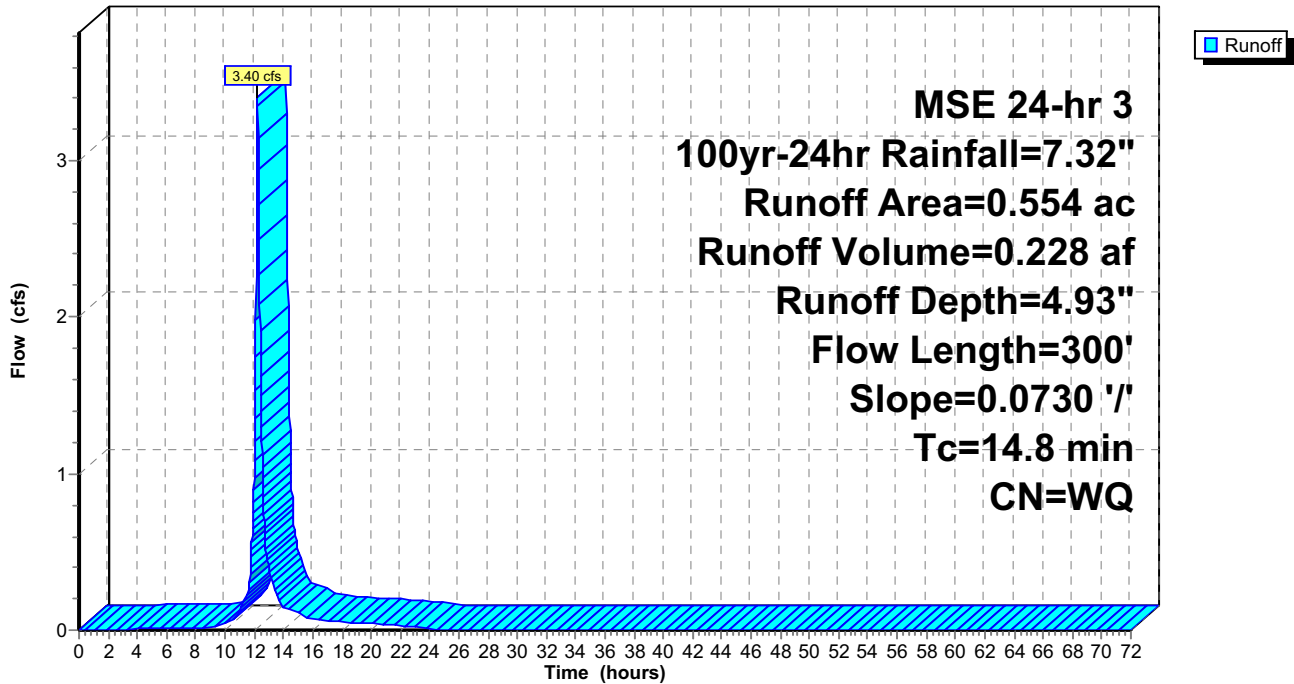
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.318	74	>75% Grass cover, Good, HSG C
* 0.126	98	Impervious
0.110	73	Woods, Fair, HSG C
0.554		Weighted Average
0.428		77.26% Pervious Area
0.126		22.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	300	0.0730	0.34		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1N_100: 1N_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 1S: 1S

Runoff = 96.72 cfs @ 12.20 hrs, Volume= 6.189 af, Depth= 5.49"

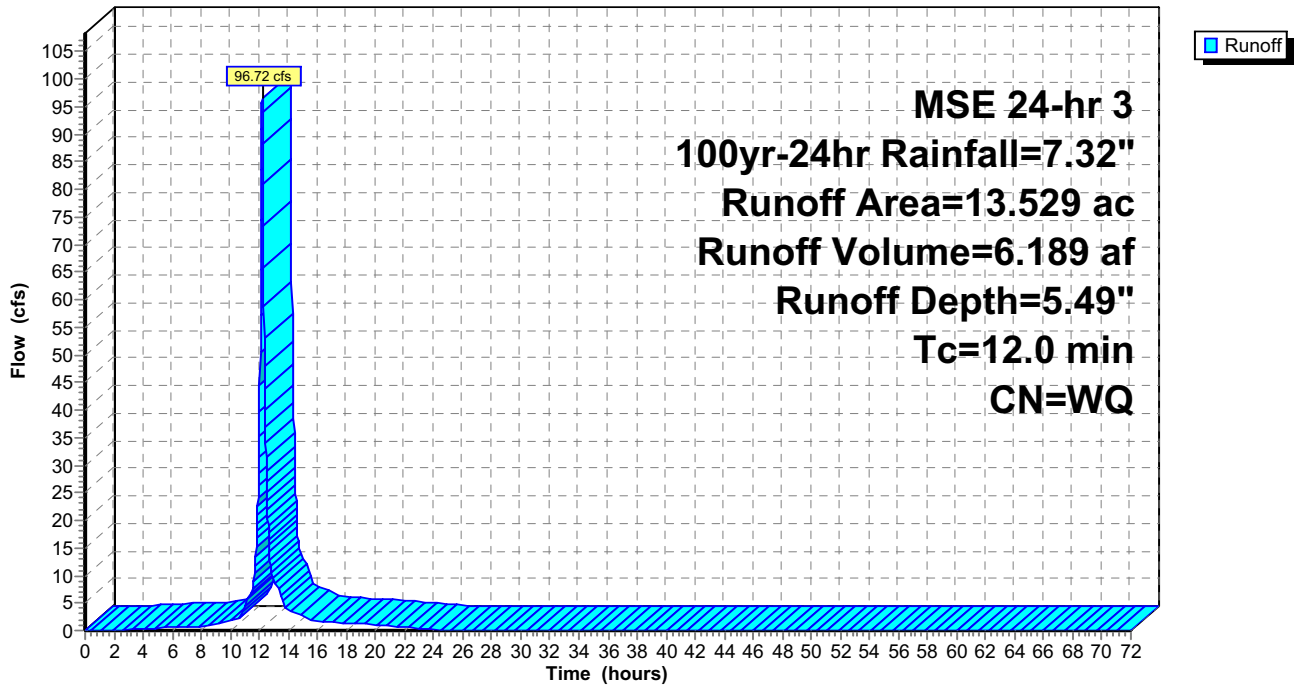
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 4.837	98	Impervious
1.856	61	>75% Grass cover, Good, HSG B
3.595	74	>75% Grass cover, Good, HSG C
1.419	74	>75% Grass cover, Good, HSG C
* 1.822	98	Pond
13.529		Weighted Average
6.870		50.78% Pervious Area
6.659		49.22% Impervious Area

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

Subcatchment 1S: 1S

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 2S: 2S

Runoff = 30.90 cfs @ 12.20 hrs, Volume= 1.971 af, Depth= 5.70"

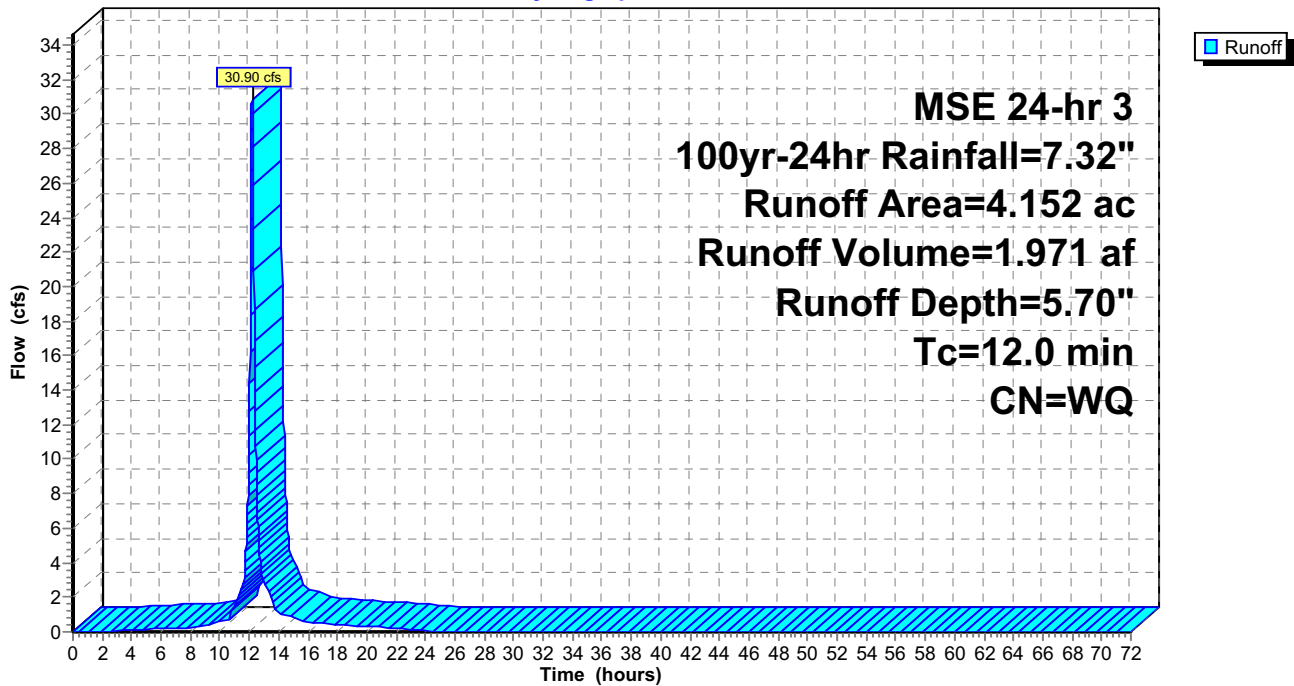
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	1.594	98	Impervious
	2.082	74	>75% Grass cover, Good, HSG C
*	0.476	98	Pond
<hr/>			
	4.152		Weighted Average
	2.082		50.14% Pervious Area
	2.070		49.86% Impervious Area

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

Subcatchment 2S: 2S

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Summary for Subcatchment 3S: 3S

Runoff = 70.43 cfs @ 12.20 hrs, Volume= 4.456 af, Depth= 5.55"

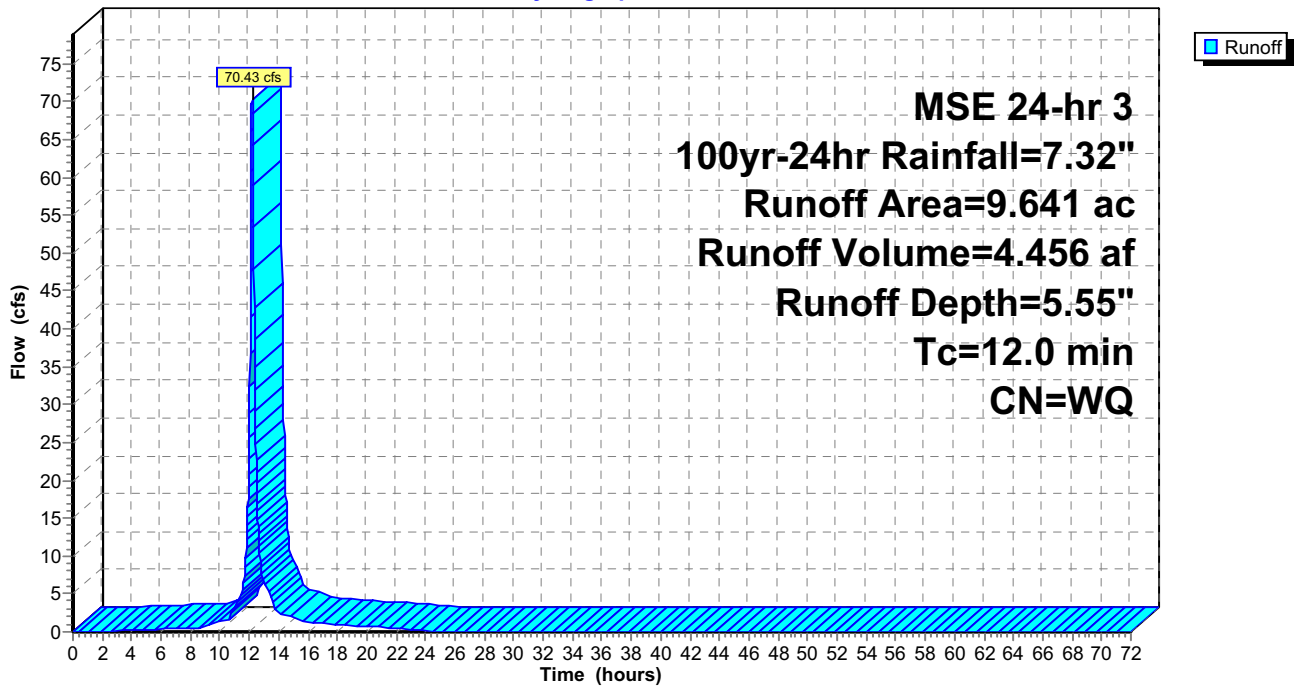
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	3.484	98	Impervious
	5.363	74	>75% Grass cover, Good, HSG C
*	0.794	98	Pond
<hr/>			
	9.641		Weighted Average
	5.363		55.63% Pervious Area
	4.278		44.37% Impervious Area

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

Subcatchment 3S: 3S

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Summary for Subcatchment 3S_100: 3S_100

Runoff = 4.02 cfs @ 12.19 hrs, Volume= 0.264 af, Depth= 6.24"

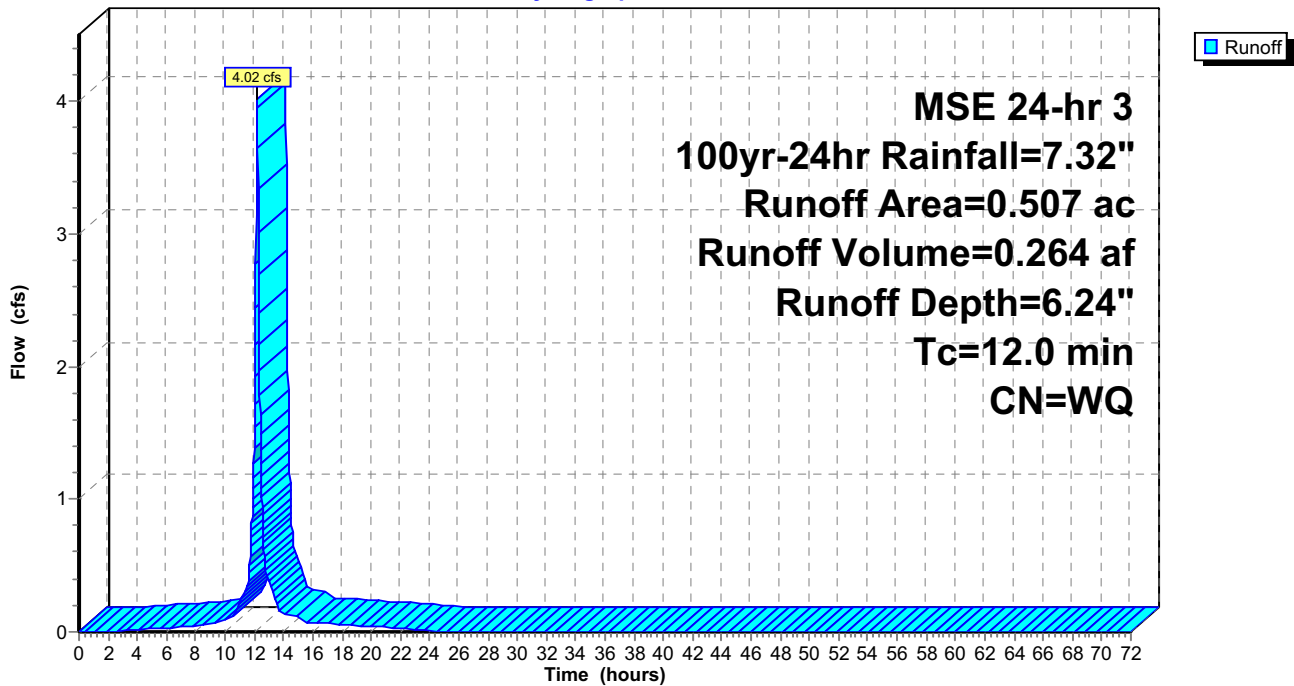
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.352	98	Impervious
0.031	74	>75% Grass cover, Good, HSG C
0.124	74	>75% Grass cover, Good, HSG C
0.507		Weighted Average
0.155		30.57% Pervious Area
0.352		69.43% Impervious Area

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

Subcatchment 3S_100: 3S_100

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Summary for Subcatchment 4S: 4S

Runoff = 61.28 cfs @ 12.20 hrs, Volume= 3.851 af, Depth= 4.92"

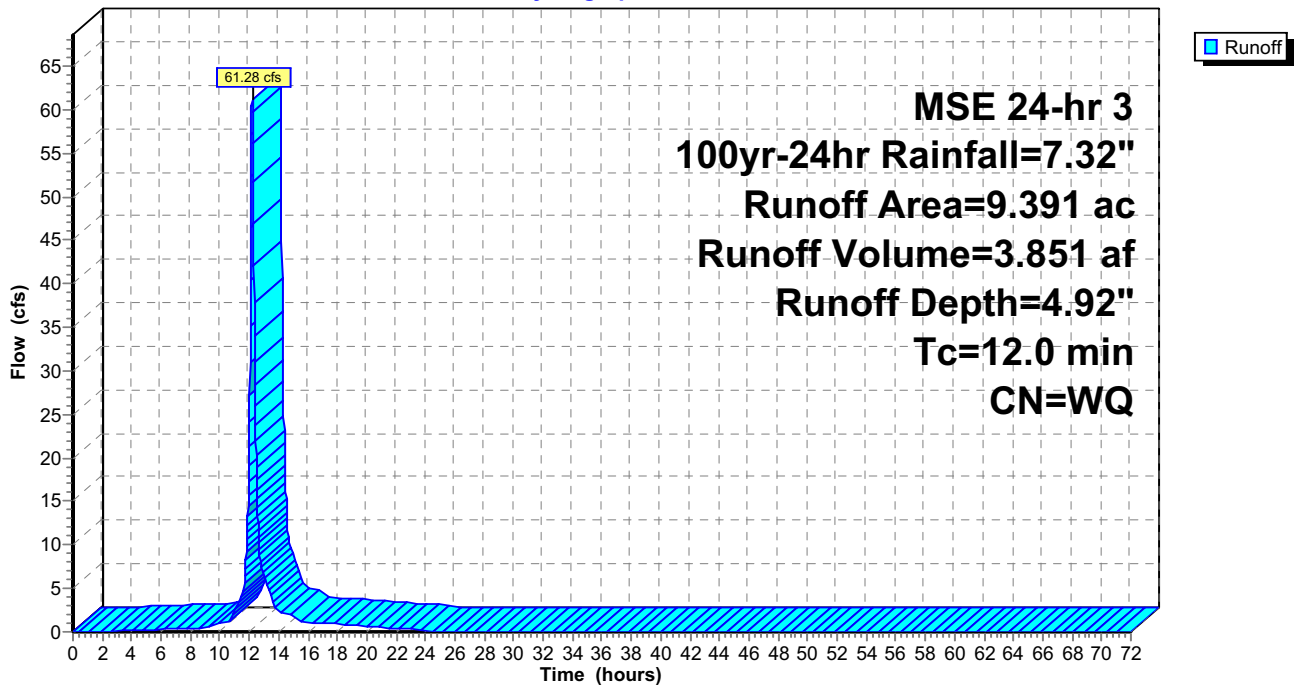
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 2.416	98	Impervious
2.605	61	>75% Grass cover, Good, HSG B
2.644	74	>75% Grass cover, Good, HSG C
0.606	74	>75% Grass cover, Good, HSG C
* 0.680	98	Pond
* 0.052	98	Impervious
* 0.200	98	Impervious
0.188	74	>75% Grass cover, Good, HSG C
9.391		Weighted Average
6.043		64.35% Pervious Area
3.348		35.65% Impervious Area

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

Subcatchment 4S: 4S

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 5S: 5S

Runoff = 199.43 cfs @ 12.20 hrs, Volume= 12.828 af, Depth= 5.31"

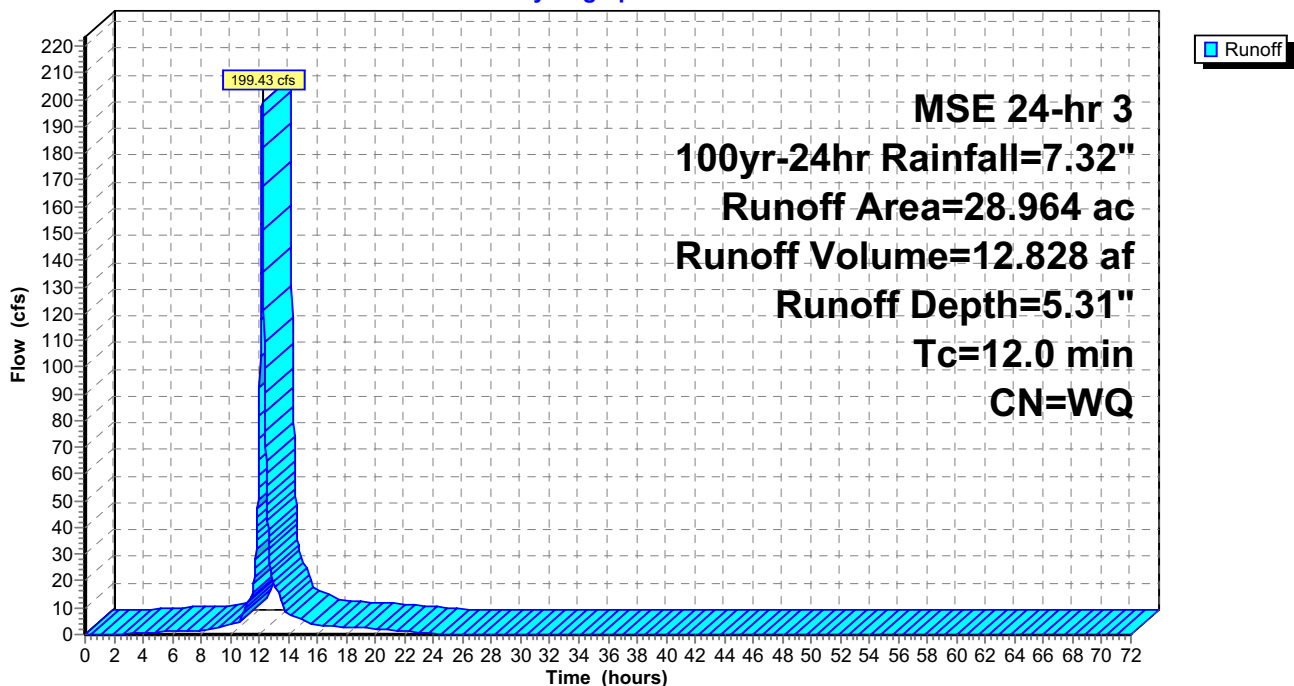
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 9.366	98	Impervious
2.568	39	>75% Grass cover, Good, HSG A
7.861	74	>75% Grass cover, Good, HSG C
4.450	74	>75% Grass cover, Good, HSG C
* 4.073	98	Pond
0.295	74	>75% Grass cover, Good, HSG C
* 0.080	98	Impervious
0.169	74	>75% Grass cover, Good, HSG C
* 0.102	98	Impervious
28.964		Weighted Average
15.343		52.97% Pervious Area
13.621		47.03% Impervious Area

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

Subcatchment 5S: 5S

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 5S_100: 5S_100

Runoff = 2.12 cfs @ 12.20 hrs, Volume= 0.135 af, Depth= 5.59"

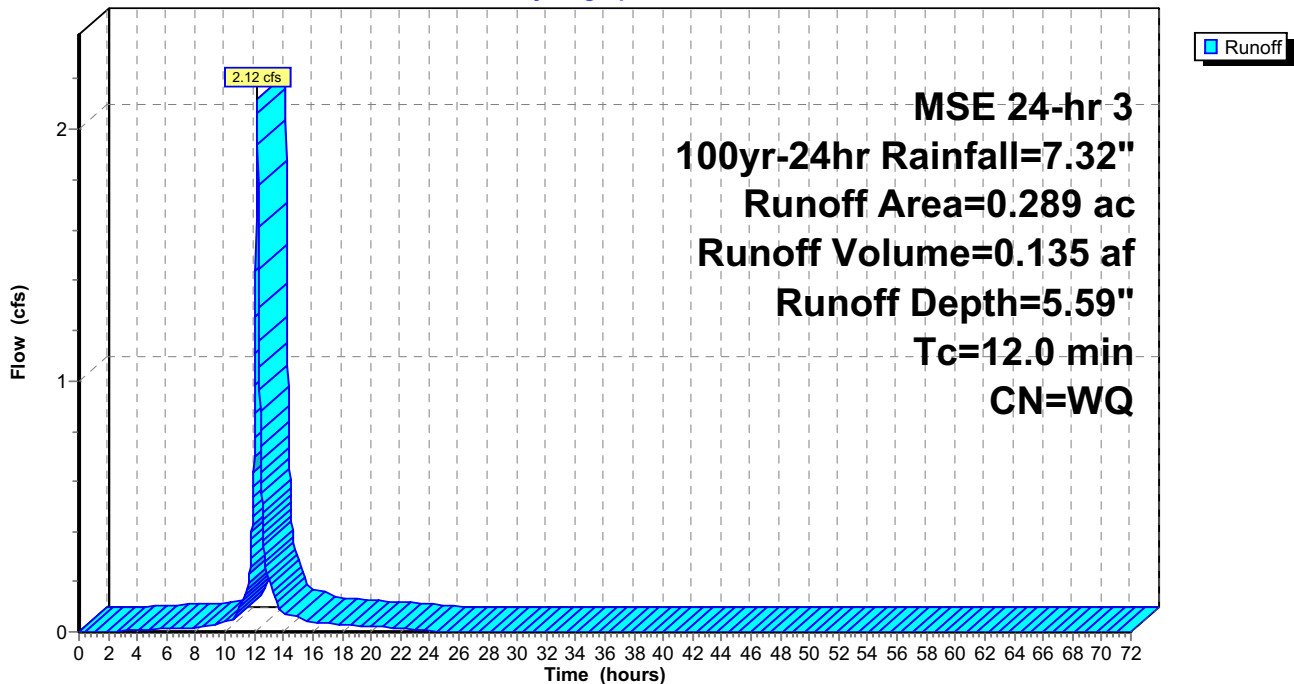
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	0.078	98	Impervious
	0.156	74	>75% Grass cover, Good, HSG C
*	0.055	98	Impervious
	0.289		Weighted Average
	0.156		53.98% Pervious Area
	0.133		46.02% Impervious Area

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

Subcatchment 5S_100: 5S_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 10S: I14_100

Runoff = 2.41 cfs @ 12.20 hrs, Volume= 0.142 af, Depth= 4.51"

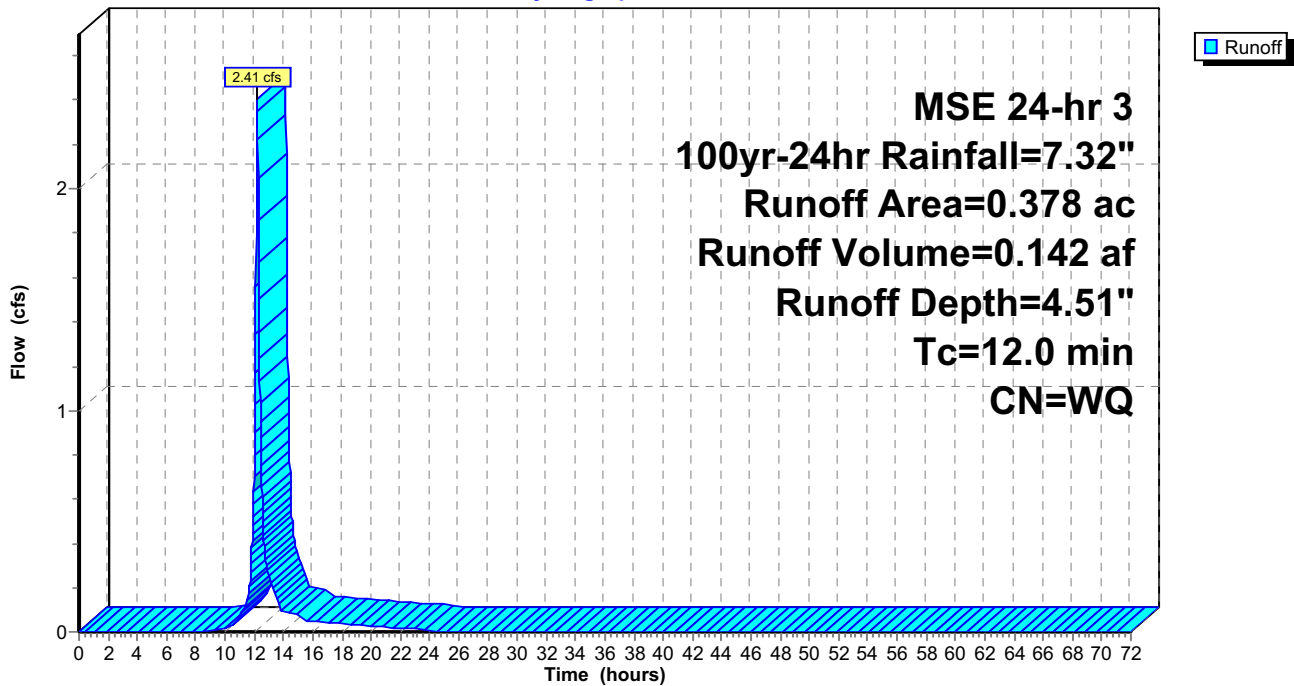
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
* 0.026	98	impervious
0.091	74	>75% Grass cover, Good, HSG C
0.378		Weighted Average
0.352		93.12% Pervious Area
0.026		6.88% Impervious Area

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

Subcatchment 10S: I14_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 1000: 1000

Runoff = 0.27 cfs @ 12.20 hrs, Volume= 0.017 af, Depth= 5.34"

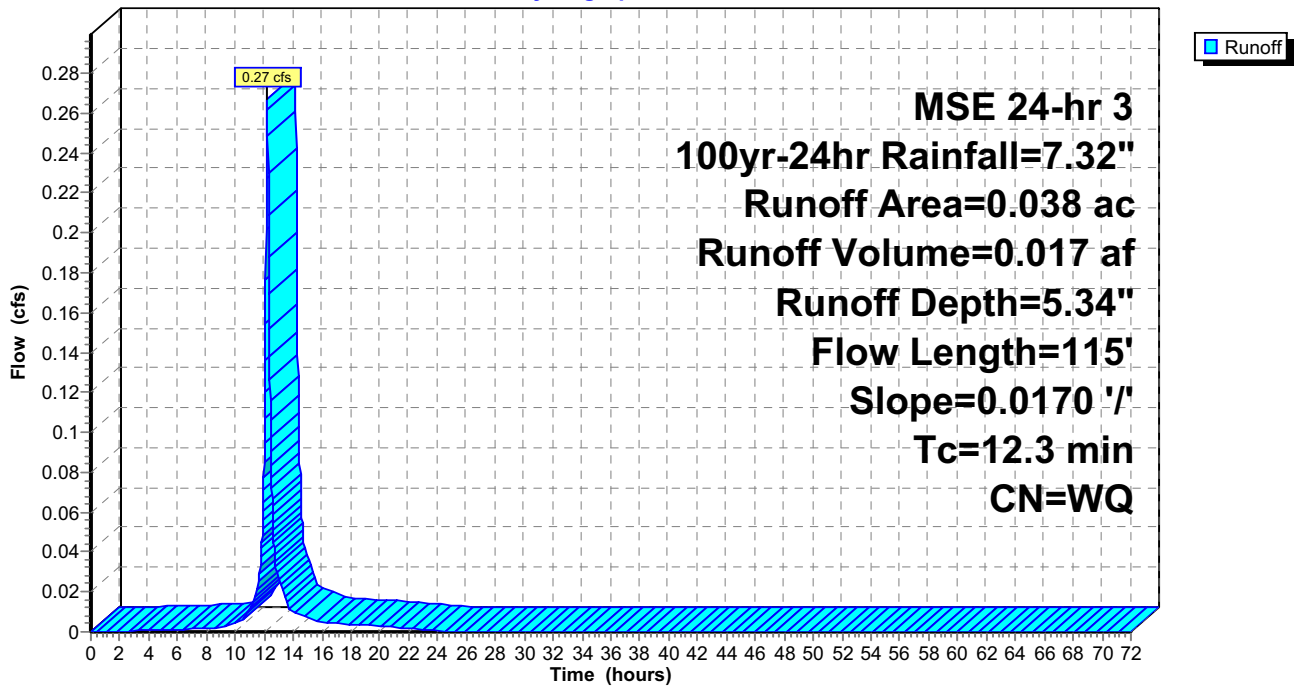
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.014	98	Impervious
0.024	74	>75% Grass cover, Good, HSG C
0.038		Weighted Average
0.024		63.16% Pervious Area
0.014		36.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	115	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1000: 1000

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A10: A10

Runoff = 3.55 cfs @ 12.20 hrs, Volume= 0.211 af, Depth= 4.60"

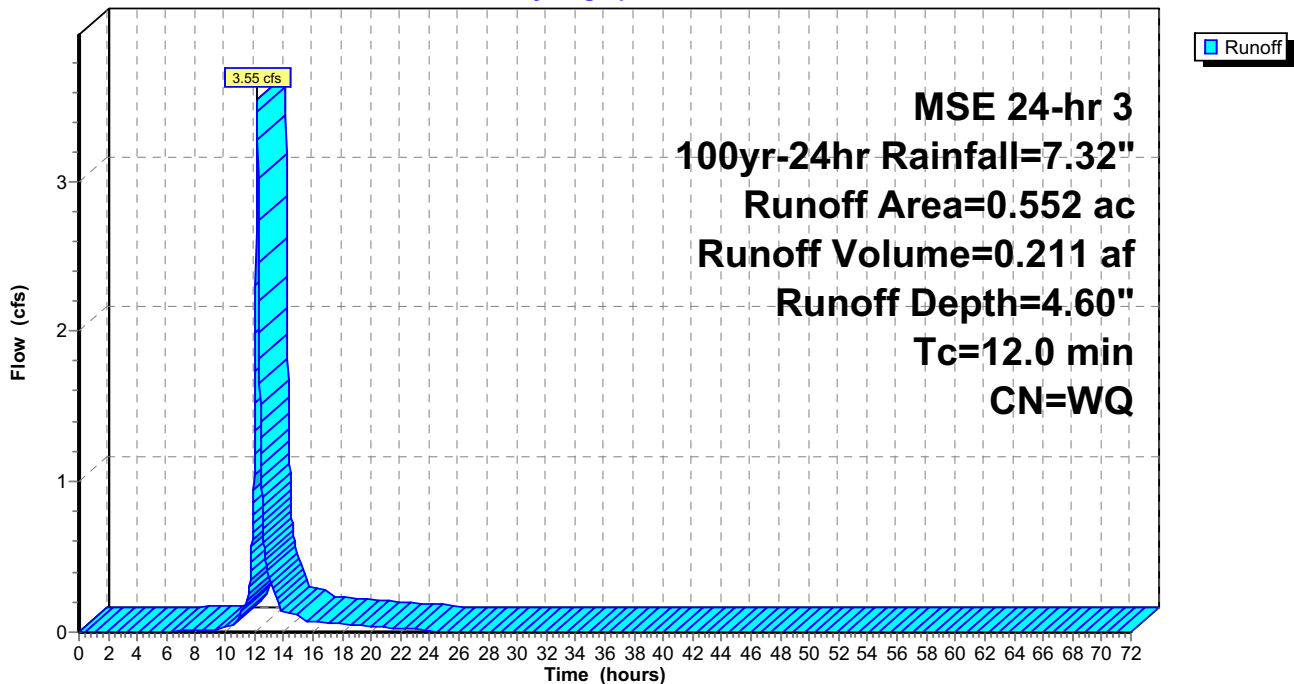
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.040	98	Impervious
0.337	74	>75% Grass cover, Good, HSG C
0.154	73	Woods, Fair, HSG C
* 0.021	98	Impervious
0.552		Weighted Average
0.491		88.95% Pervious Area
0.061		11.05% Impervious Area

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

Subcatchment A10: A10

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Summary for Subcatchment A11: A11

Runoff = 9.80 cfs @ 12.20 hrs, Volume= 0.585 af, Depth= 4.66"

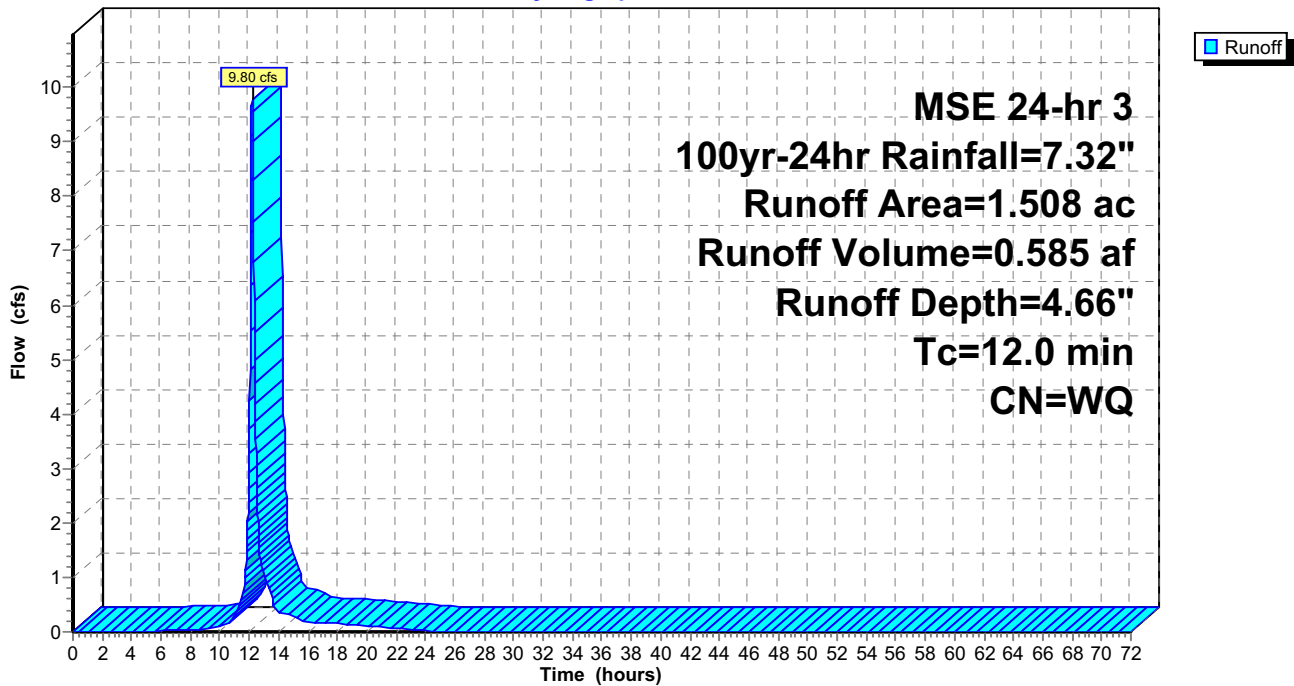
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	0.140	98	Impervious
	1.326	74	>75% Grass cover, Good, HSG C
*	0.042	98	Impervious
	1.508		Weighted Average
	1.326		87.93% Pervious Area
	0.182		12.07% Impervious Area

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

Subcatchment A11: A11

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Summary for Subcatchment A12: A12

Runoff = 5.17 cfs @ 12.20 hrs, Volume= 0.312 af, Depth= 4.78"

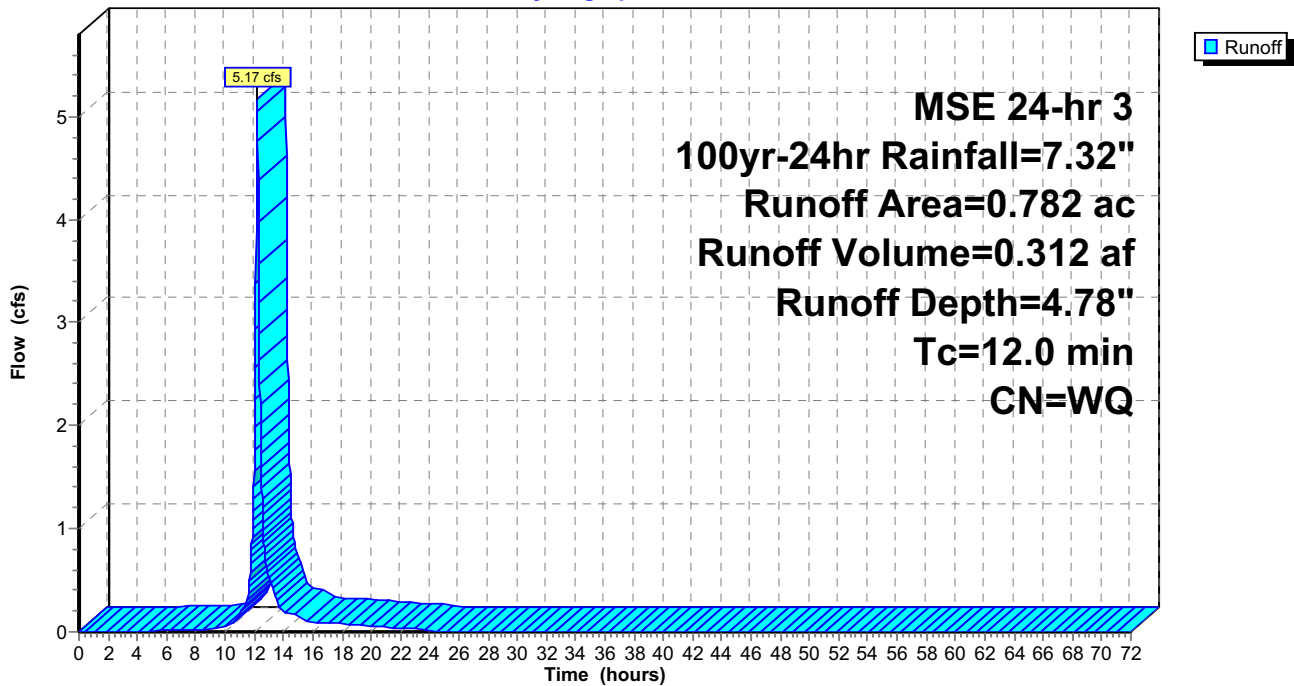
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.651	74	>75% Grass cover, Good, HSG C
* 0.080	98	Pond
* 0.051	98	Impervious
0.782		Weighted Average
0.651		83.25% Pervious Area
0.131		16.75% Impervious Area

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

Subcatchment A12: A12

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Summary for Subcatchment A12_100: A12_100

Runoff = 1.46 cfs @ 12.20 hrs, Volume= 0.090 af, Depth= 5.15"

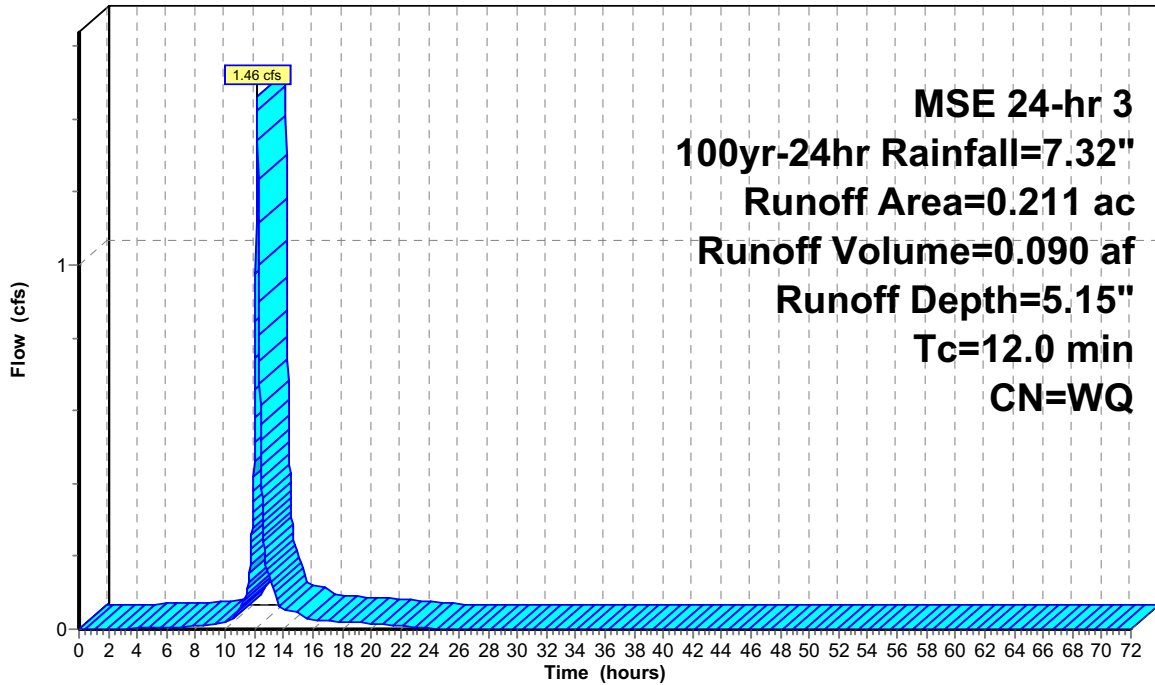
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.148	74	>75% Grass cover, Good, HSG C
* 0.063	98	Impervious
0.211		Weighted Average
0.148		70.14% Pervious Area
0.063		29.86% Impervious Area

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

Subcatchment A12_100: A12_100

Hydrograph



**MSE 24-hr 3
 100yr-24hr Rainfall=7.32"
 Runoff Area=0.211 ac
 Runoff Volume=0.090 af
 Runoff Depth=5.15"
 Tc=12.0 min
 CN=WQ**

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A20: A20

Runoff = 0.61 cfs @ 12.20 hrs, Volume= 0.037 af, Depth= 4.61"

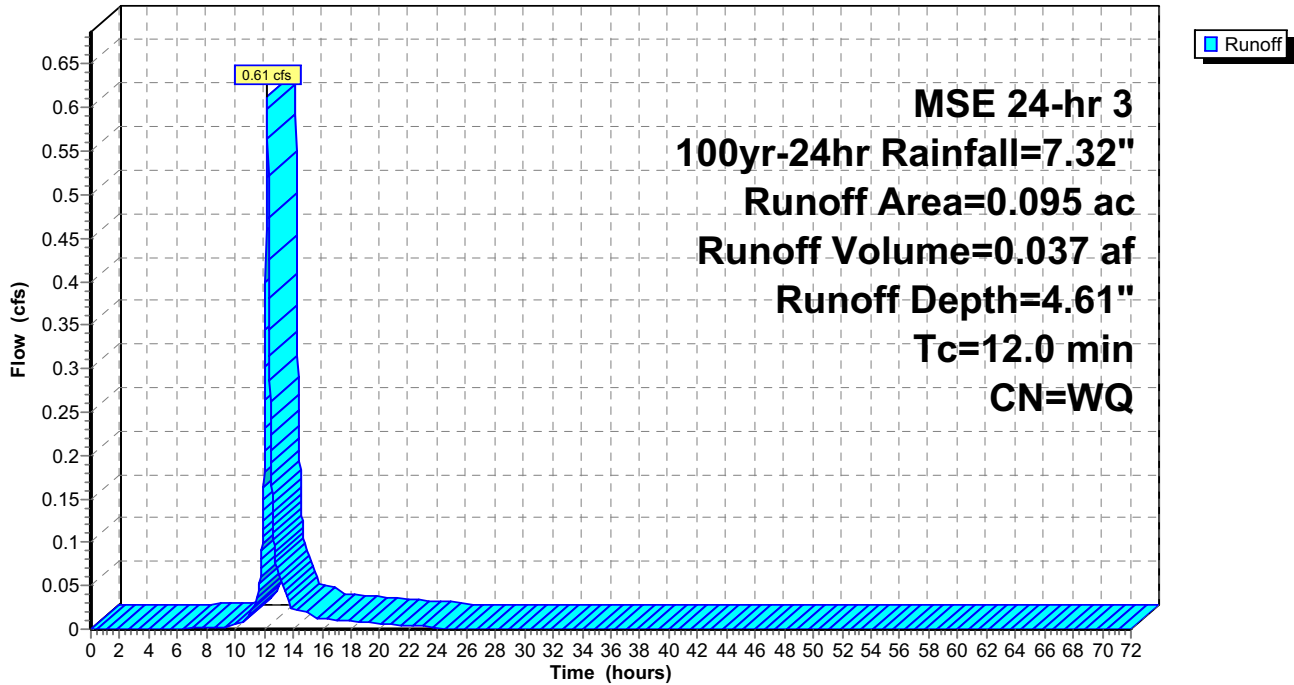
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.010	98	Impervious
0.085	74	>75% Grass cover, Good, HSG C
0.095		Weighted Average
0.085		89.47% Pervious Area
0.010		10.53% Impervious Area

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

Subcatchment A20: A20

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Summary for Subcatchment A21: A21

Runoff = 4.52 cfs @ 12.20 hrs, Volume= 0.275 af, Depth= 4.92"

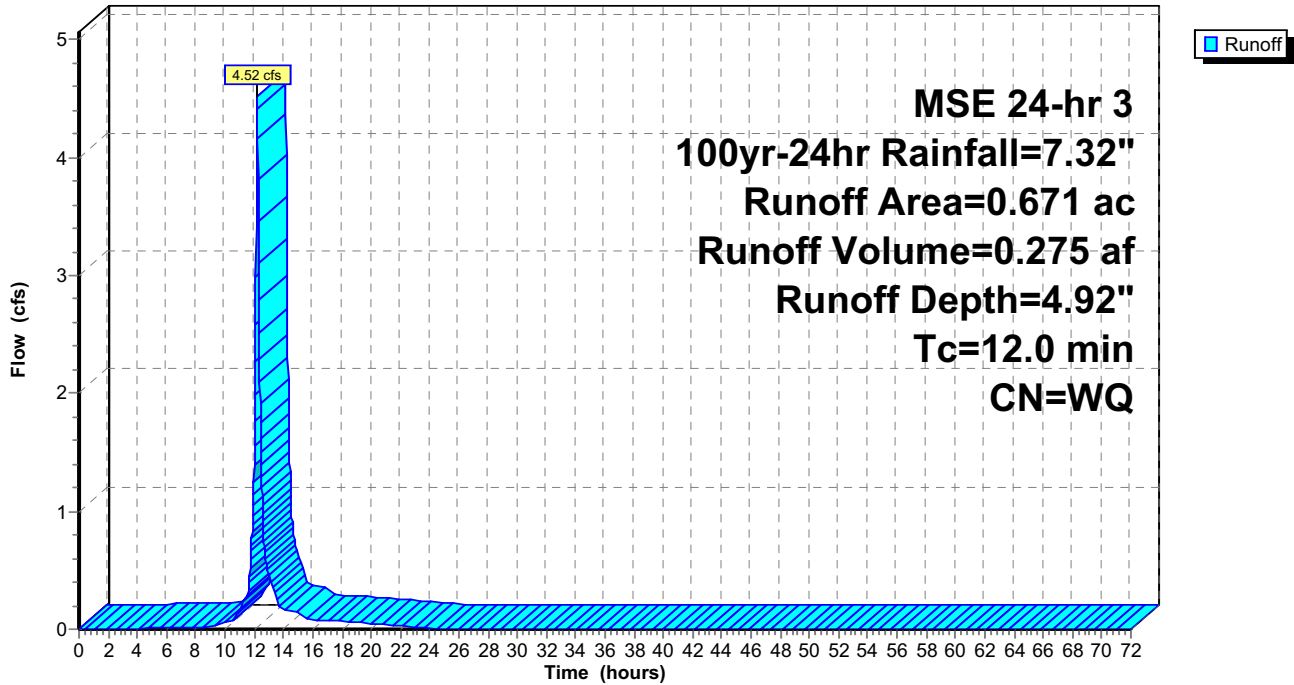
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.145	98	Impervious
0.526	74	>75% Grass cover, Good, HSG C
0.671		Weighted Average
0.526		78.39% Pervious Area
0.145		21.61% Impervious Area

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

Subcatchment A21: A21

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Summary for Subcatchment A7: A7

Runoff = 4.56 cfs @ 12.20 hrs, Volume= 0.280 af, Depth= 5.02"

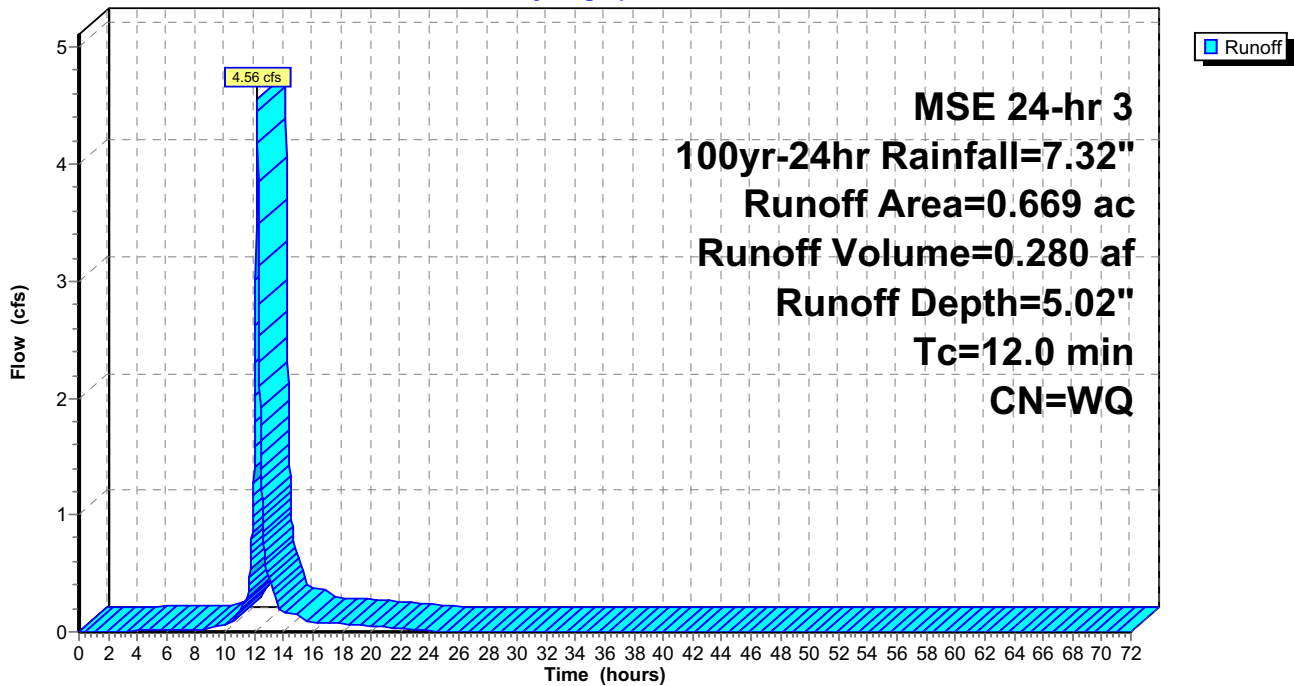
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.119	98	Impervious
0.501	74	>75% Grass cover, Good, HSG C
* 0.049	98	Impervious
0.669		Weighted Average
0.501		74.89% Pervious Area
0.168		25.11% Impervious Area

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

Subcatchment A7: A7

Hydrograph



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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A7_100: A7_100

Runoff = 0.24 cfs @ 12.19 hrs, Volume= 0.016 af, Depth= 7.08"

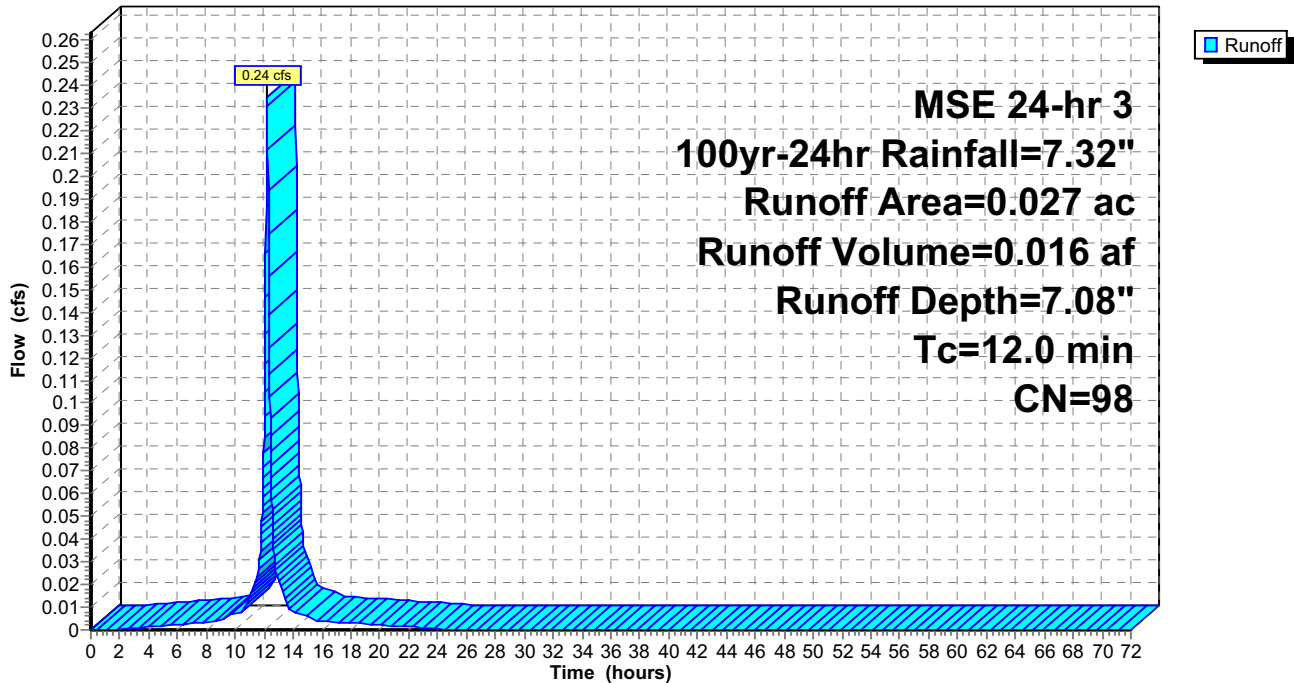
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.027	98	Impervious
0.027		100.00% Impervious Area

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

Subcatchment A7_100: A7_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A8: A8

Runoff = 5.83 cfs @ 12.20 hrs, Volume= 0.362 af, Depth= 5.24"

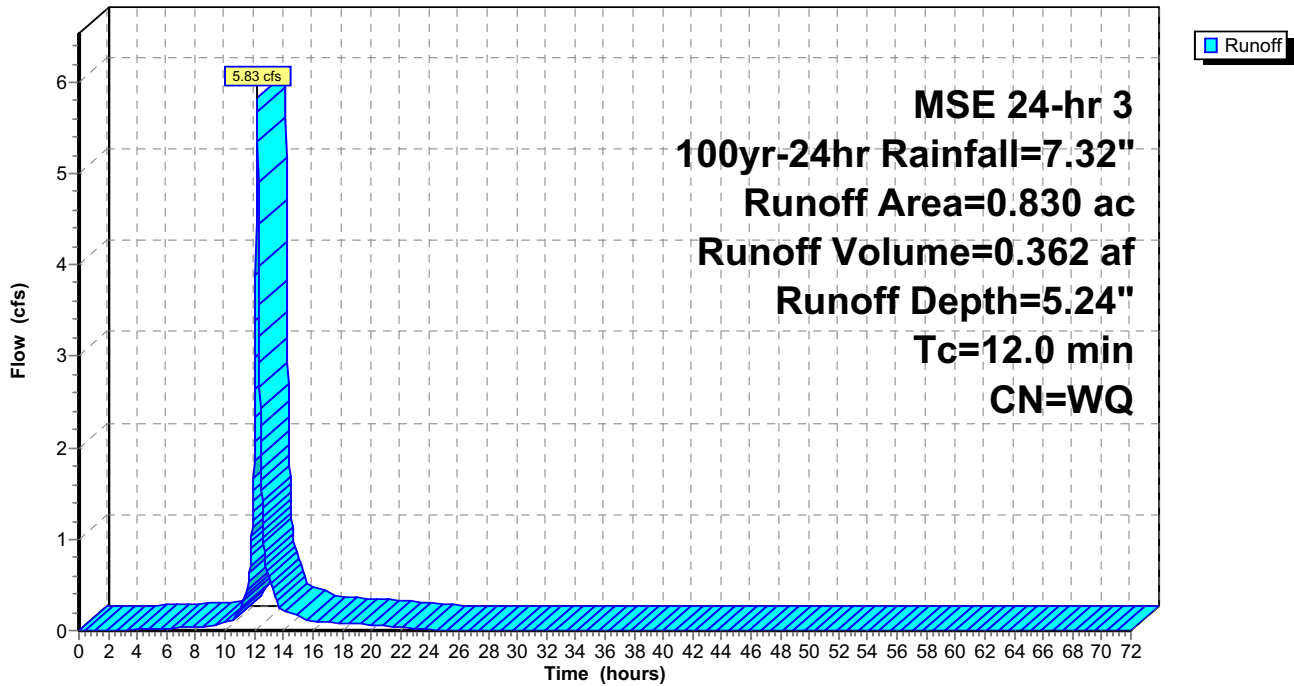
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.109	98	Impervious
0.531	74	>75% Grass cover, Good, HSG C
* 0.057	98	Impervious
* 0.110	98	Impervious
0.023	74	>75% Grass cover, Good, HSG C
0.830		Weighted Average
0.554		66.75% Pervious Area
0.276		33.25% Impervious Area

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

Subcatchment A8: A8

Hydrograph



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Summary for Subcatchment A8_100: A8_100

Runoff = 0.30 cfs @ 12.19 hrs, Volume= 0.020 af, Depth= 7.08"

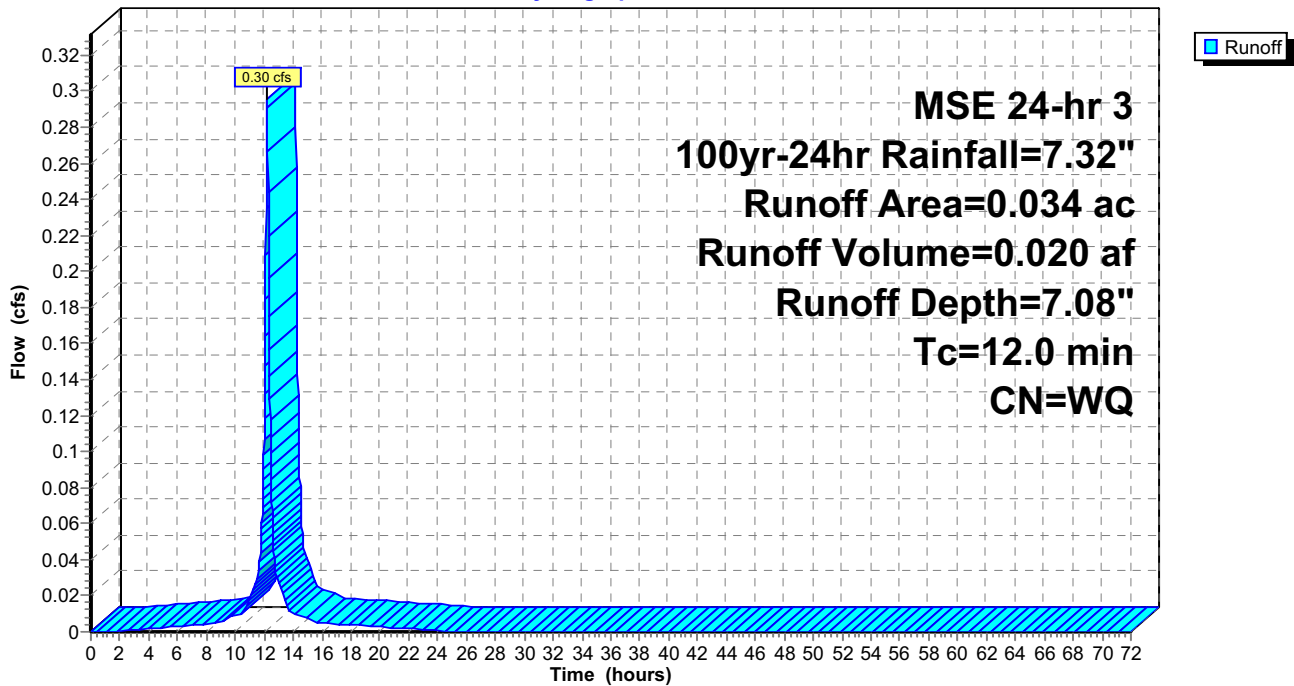
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.024	98	Impervious
* 0.010	98	Impervious
0.034		Weighted Average
0.034		100.00% Impervious Area

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

Subcatchment A8_100: A8_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A9: A9

Runoff = 7.04 cfs @ 12.20 hrs, Volume= 0.415 af, Depth= 4.49"

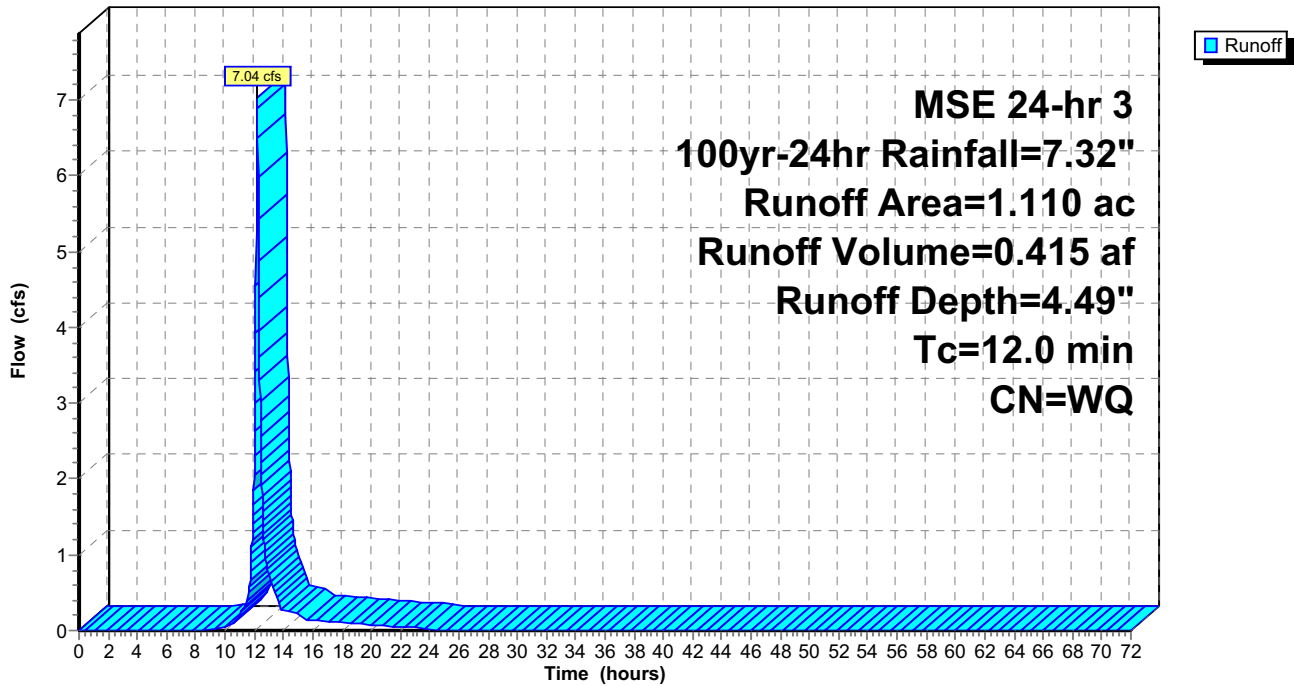
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.127	74	>75% Grass cover, Good, HSG C
0.647	74	>75% Grass cover, Good, HSG C
* 0.074	98	Impervious
0.165	73	Woods, Fair, HSG C
0.097	74	>75% Grass cover, Good, HSG C
1.110		Weighted Average
1.036		93.33% Pervious Area
0.074		6.67% Impervious Area

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

Subcatchment A9: A9

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A9_100: A9_100

Runoff = 0.25 cfs @ 12.19 hrs, Volume= 0.017 af, Depth= 6.80"

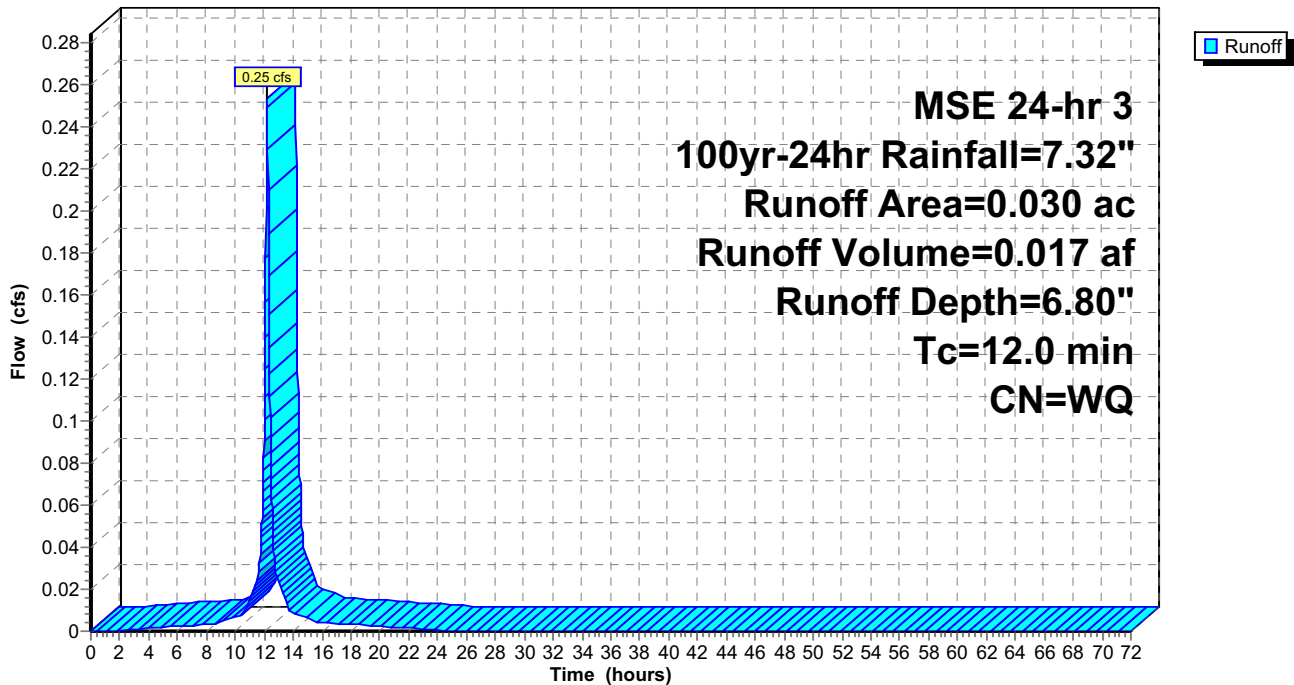
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.003	74	>75% Grass cover, Good, HSG C
* 0.027	98	Impervious
0.030		Weighted Average
0.003		10.00% Pervious Area
0.027		90.00% Impervious Area

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

Subcatchment A9_100: A9_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C10: C10

Runoff = 9.83 cfs @ 12.20 hrs, Volume= 0.585 af, Depth= 4.62"

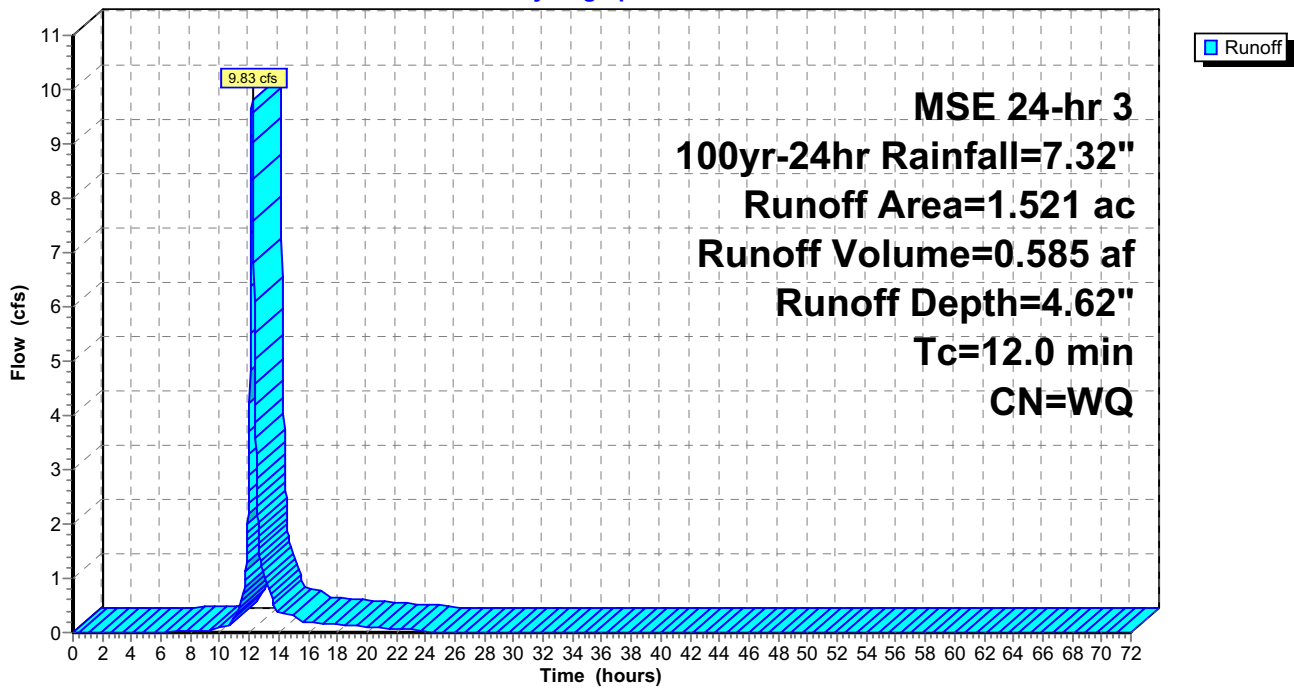
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.036	98	Impervious
1.278	74	>75% Grass cover, Good, HSG C
0.080	74	>75% Grass cover, Good, HSG C
* 0.078	98	Impervious
* 0.049	98	Impervious
1.521		Weighted Average
1.358		89.28% Pervious Area
0.163		10.72% Impervious Area

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

Subcatchment C10: C10

Hydrograph



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Summary for Subcatchment C10_100: C10_100

Runoff = 4.20 cfs @ 12.19 hrs, Volume= 0.272 af, Depth= 5.97"

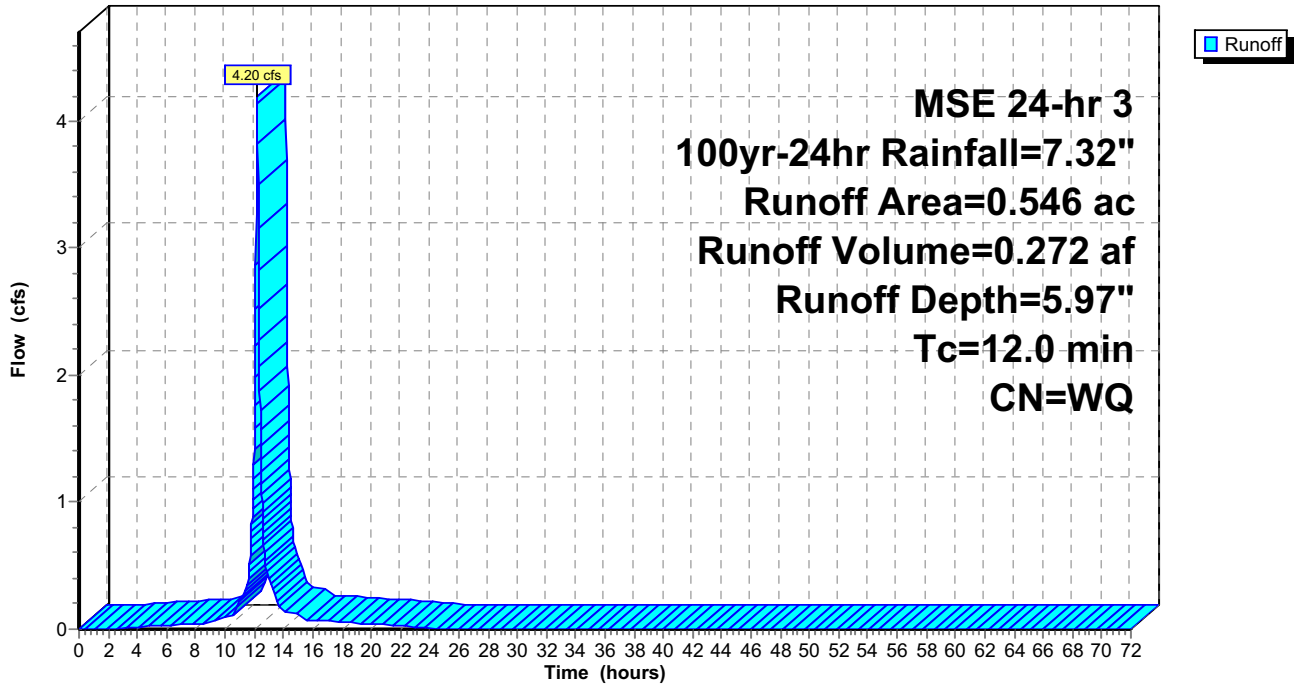
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.220	74	>75% Grass cover, Good, HSG C
* 0.326	98	Impervious
0.546		Weighted Average
0.220		40.29% Pervious Area
0.326		59.71% Impervious Area

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

Subcatchment C10_100: C10_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C7: C7

Runoff = 9.41 cfs @ 12.20 hrs, Volume= 0.564 af, Depth= 4.70"

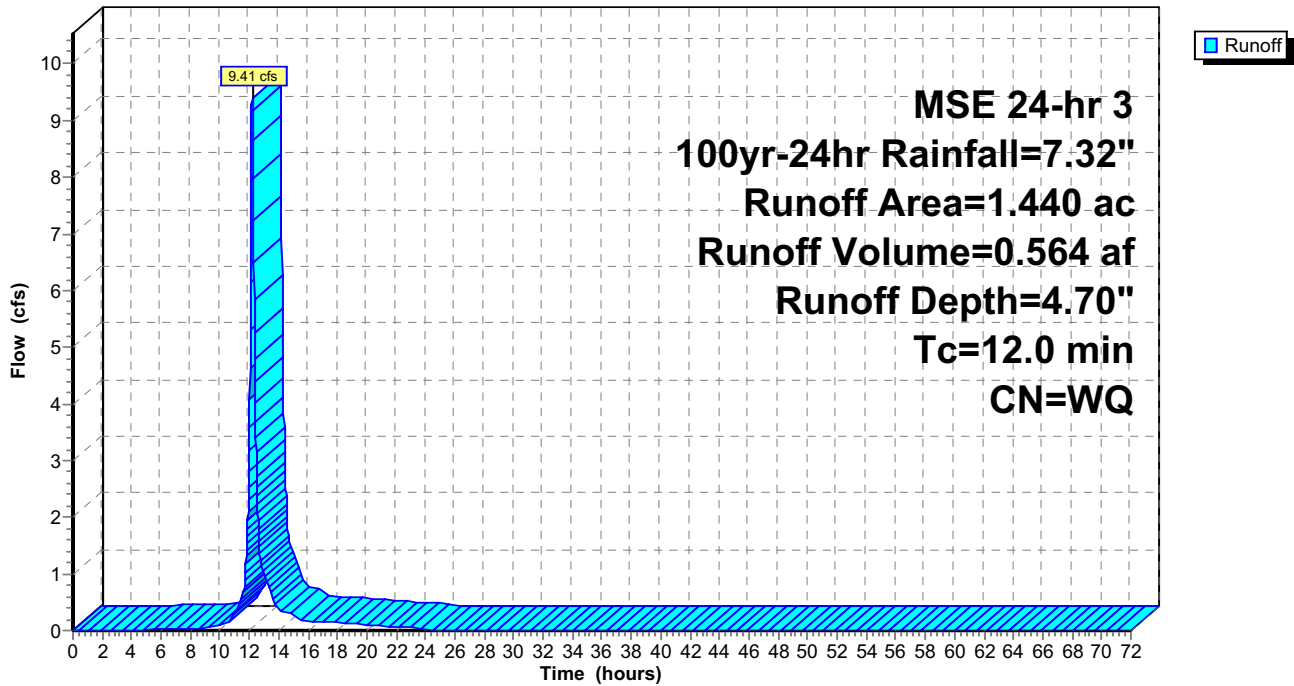
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.018	98	Impervious
1.011	74	>75% Grass cover, Good, HSG C
0.233	74	>75% Grass cover, Good, HSG C
* 0.128	98	Impervious
* 0.050	98	Impervious
1.440		Weighted Average
1.244		86.39% Pervious Area
0.196		13.61% Impervious Area

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

Subcatchment C7: C7

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Summary for Subcatchment C7_100: C7_100

Runoff = 1.95 cfs @ 12.21 hrs, Volume= 0.135 af, Depth= 6.04"

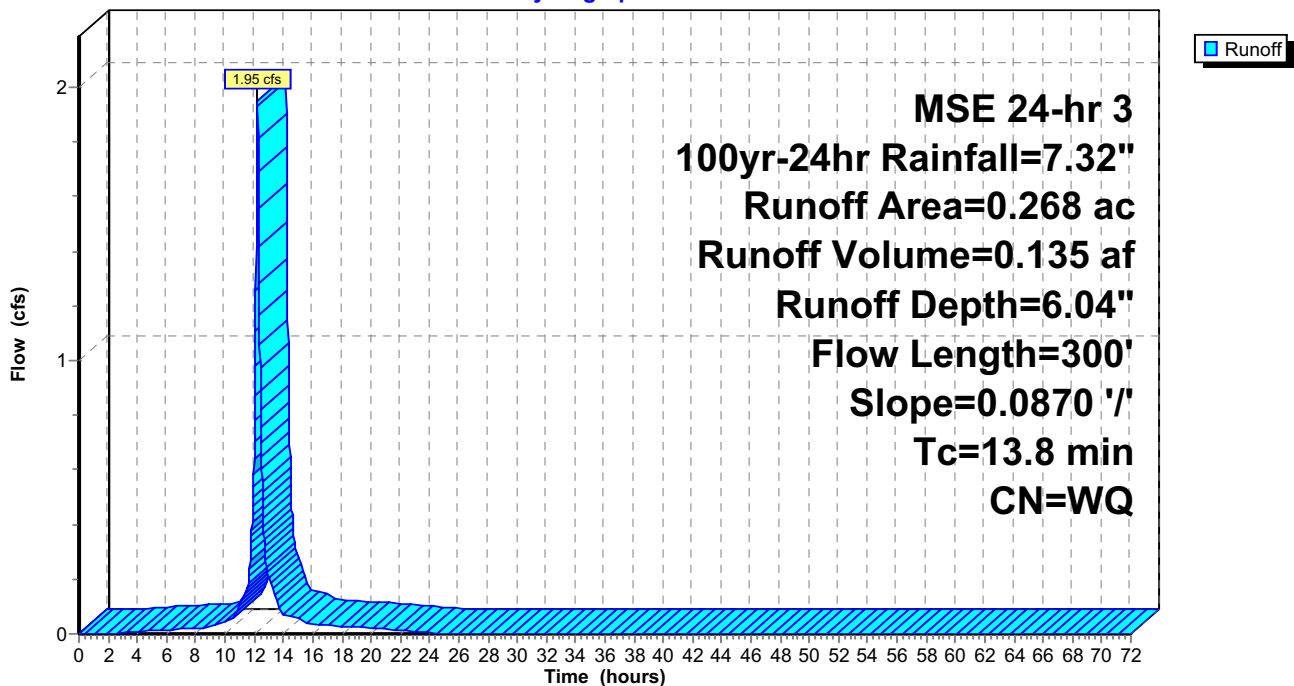
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.101	74	>75% Grass cover, Good, HSG C
* 0.167	98	Impervious
0.268		Weighted Average
0.101		37.69% Pervious Area
0.167		62.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C7_100: C7_100

Hydrograph



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Summary for Subcatchment C8: C8

Runoff = 9.50 cfs @ 12.20 hrs, Volume= 0.568 af, Depth= 4.68"

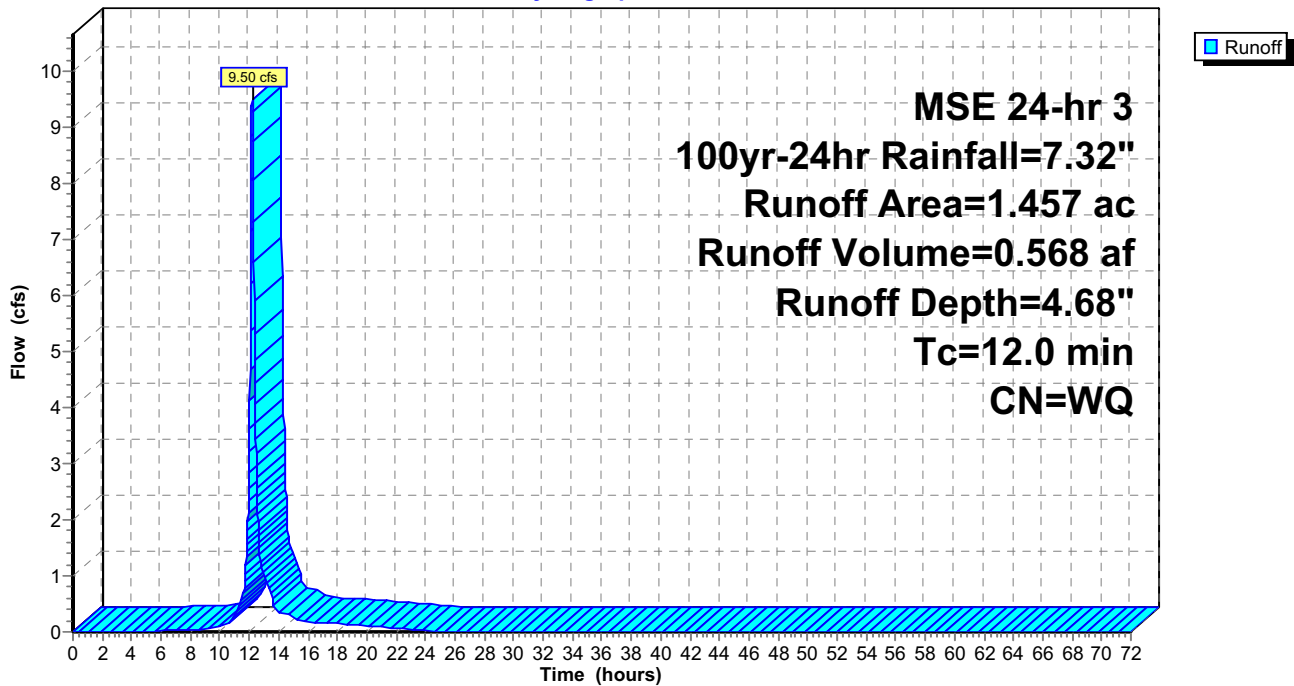
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	0.138	98	Impervious
	1.267	74	>75% Grass cover, Good, HSG C
*	0.052	98	Impervious
			Weighted Average
	1.457		86.96% Pervious Area
	1.267		13.04% Impervious Area
	0.190		

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

Subcatchment C8: C8

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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C8_100: C8_100

Runoff = 3.43 cfs @ 12.21 hrs, Volume= 0.237 af, Depth= 6.05"

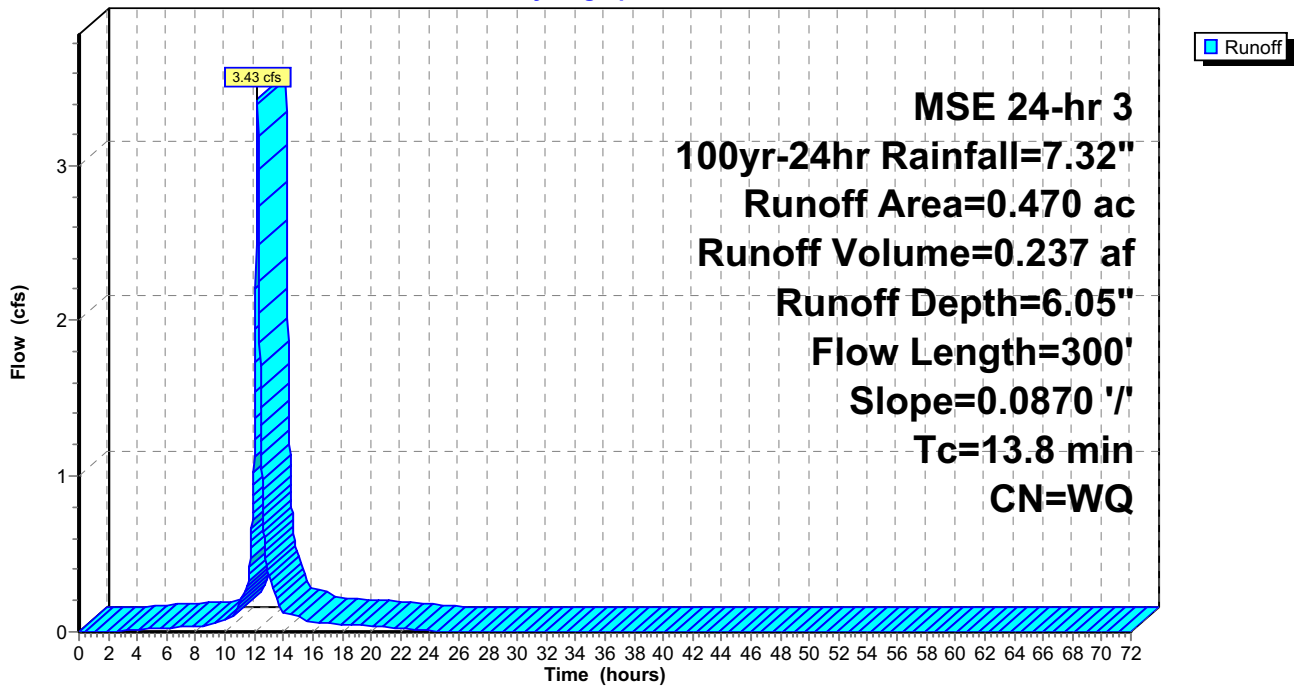
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.175	74	>75% Grass cover, Good, HSG C
* 0.295	98	Impervious
0.470		Weighted Average
0.175		37.23% Pervious Area
0.295		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C8_100: C8_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C9: C9

Runoff = 11.40 cfs @ 12.20 hrs, Volume= 0.679 af, Depth= 4.62"

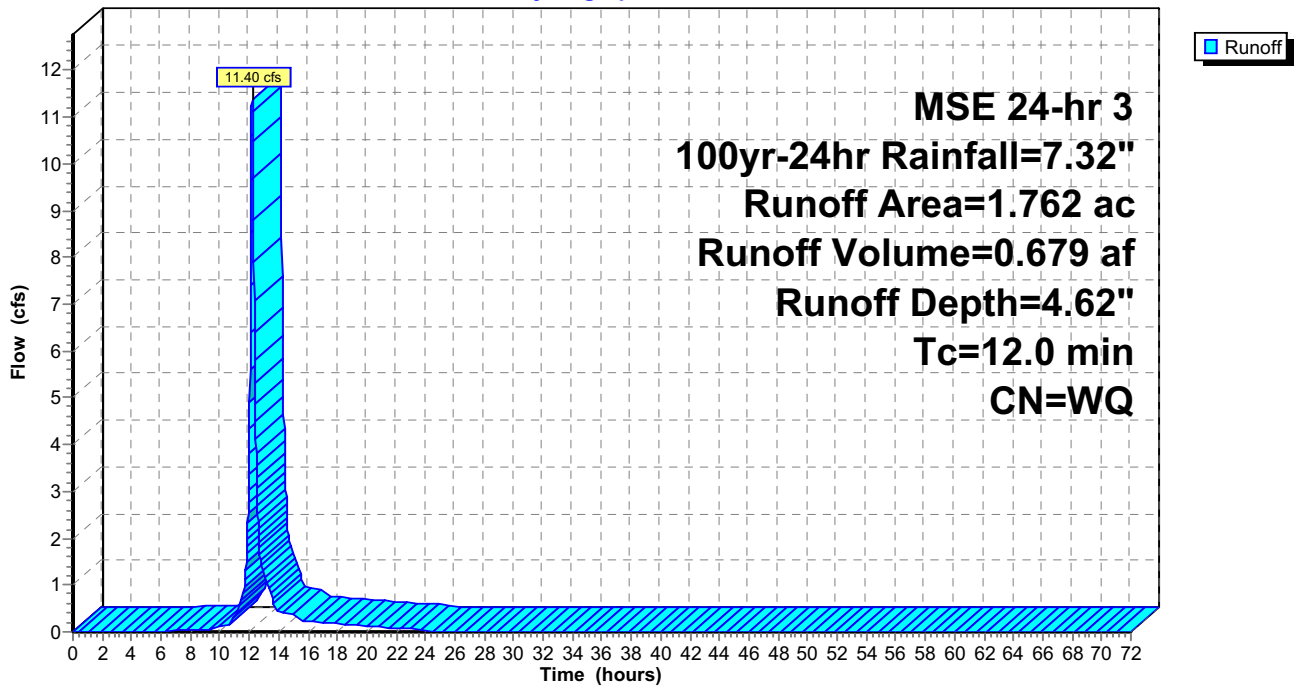
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	0.132	98	Impervious
	1.569	74	>75% Grass cover, Good, HSG C
*	0.061	98	Impervious
	1.762		Weighted Average
	1.569		89.05% Pervious Area
	0.193		10.95% Impervious Area

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

Subcatchment C9: C9

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C9_100: C9_100

Runoff = 2.36 cfs @ 12.19 hrs, Volume= 0.153 af, Depth= 6.12"

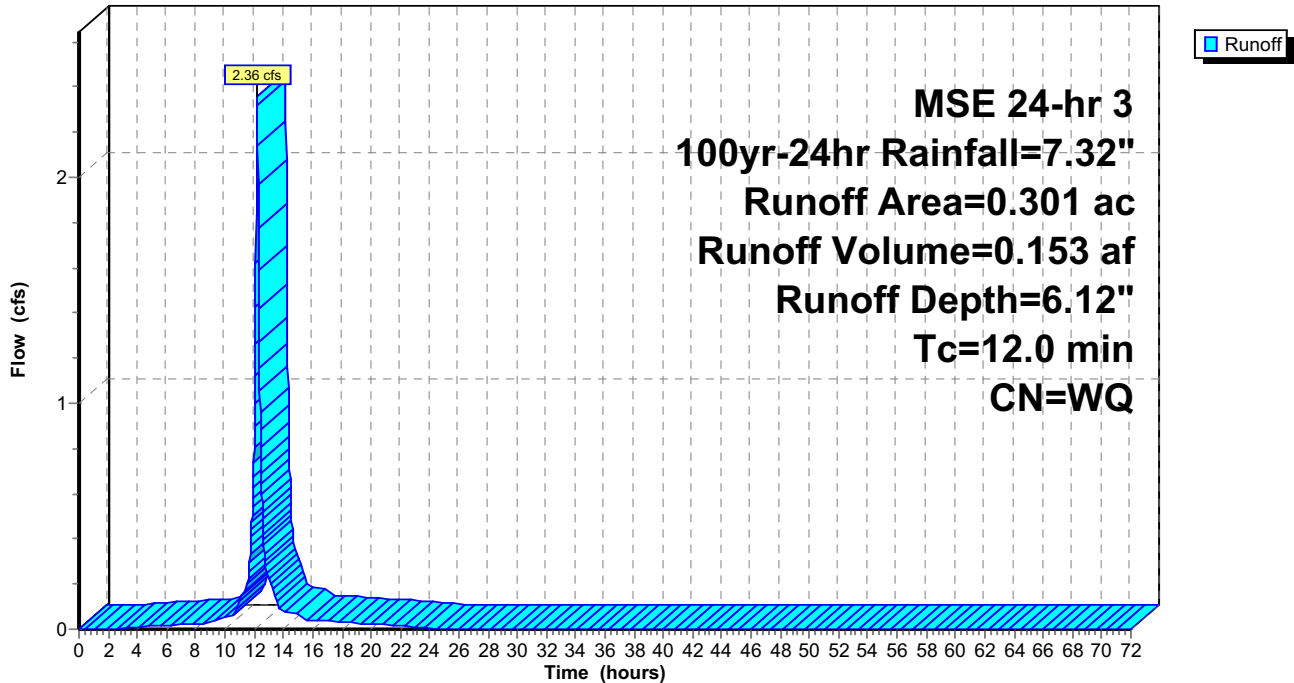
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.105	74	>75% Grass cover, Good, HSG C
* 0.196	98	Impervious
0.301		Weighted Average
0.105		34.88% Pervious Area
0.196		65.12% Impervious Area

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

Subcatchment C9_100: C9_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E13: E13

Runoff = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af, Depth= 5.09"

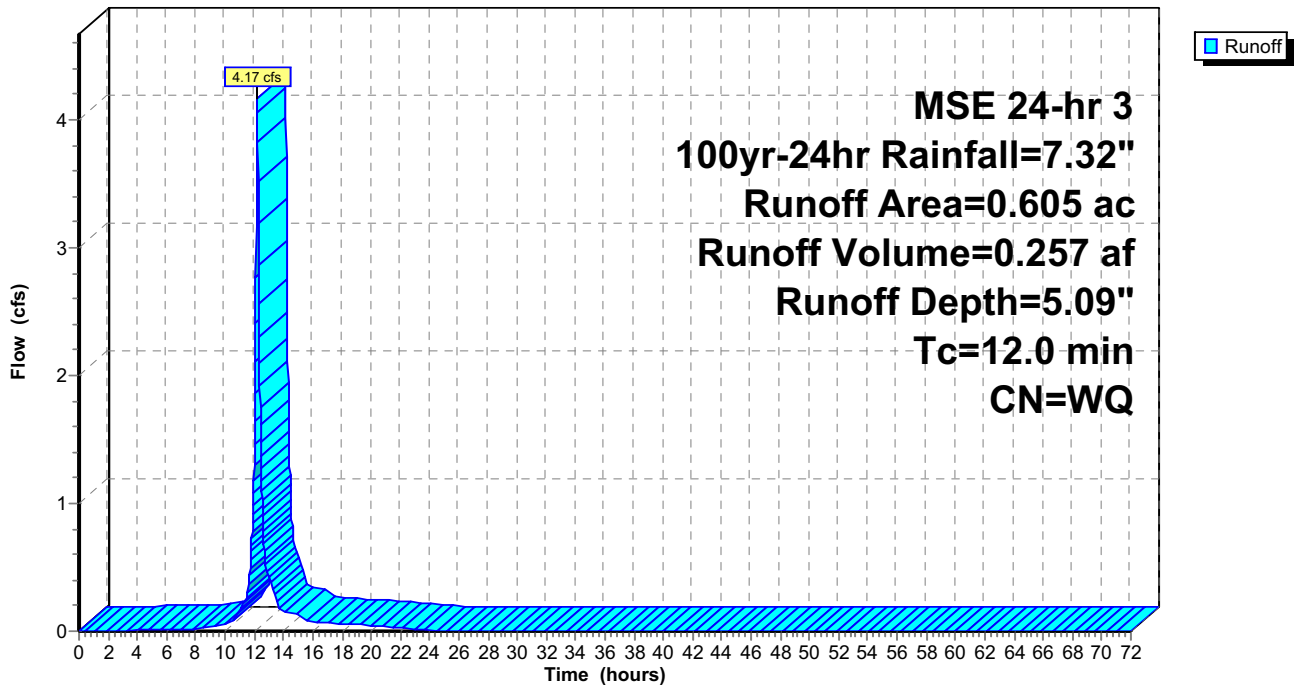
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.168	98	Impervious
0.437	74	>75% Grass cover, Good, HSG C
0.605		Weighted Average
0.437		72.23% Pervious Area
0.168		27.77% Impervious Area

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

Subcatchment E13: E13

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E15: E15

Runoff = 13.23 cfs @ 12.20 hrs, Volume= 0.813 af, Depth= 5.06"

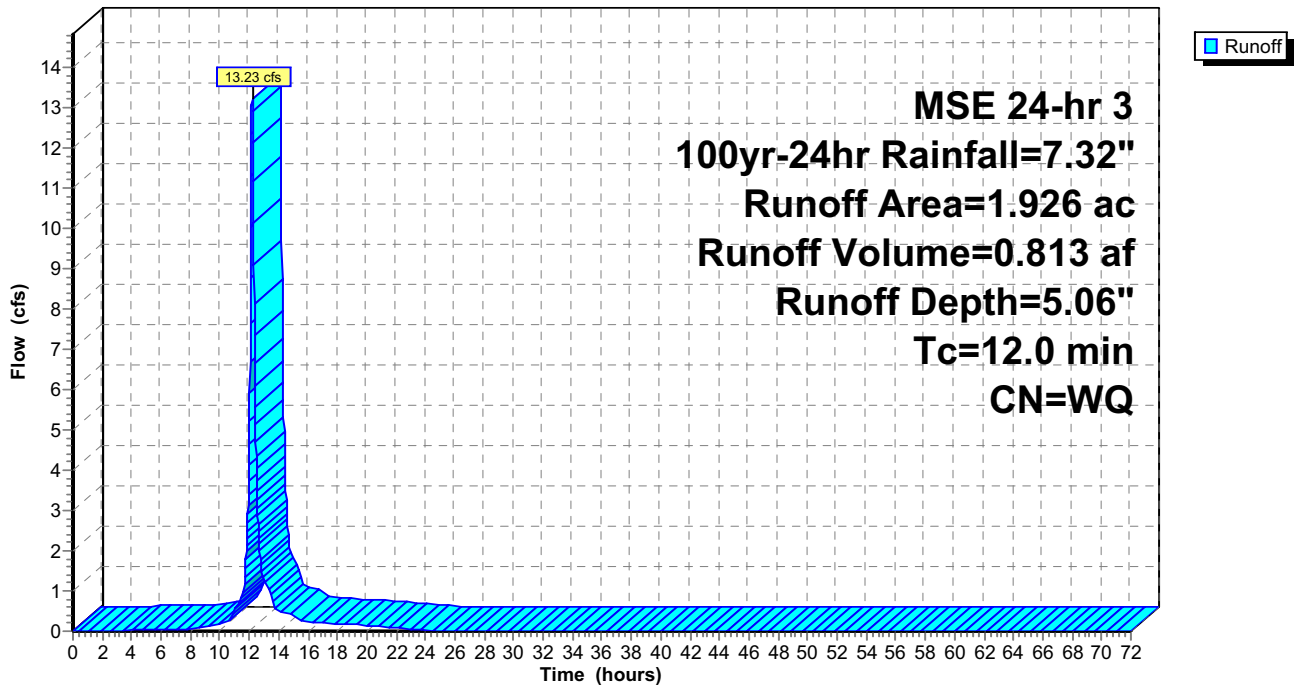
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.518	98	Impervious
1.408	74	>75% Grass cover, Good, HSG C
1.926		Weighted Average
1.408		73.10% Pervious Area
0.518		26.90% Impervious Area

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

Subcatchment E15: E15

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E16: E16

Runoff = 9.40 cfs @ 12.20 hrs, Volume= 0.577 af, Depth= 5.03"

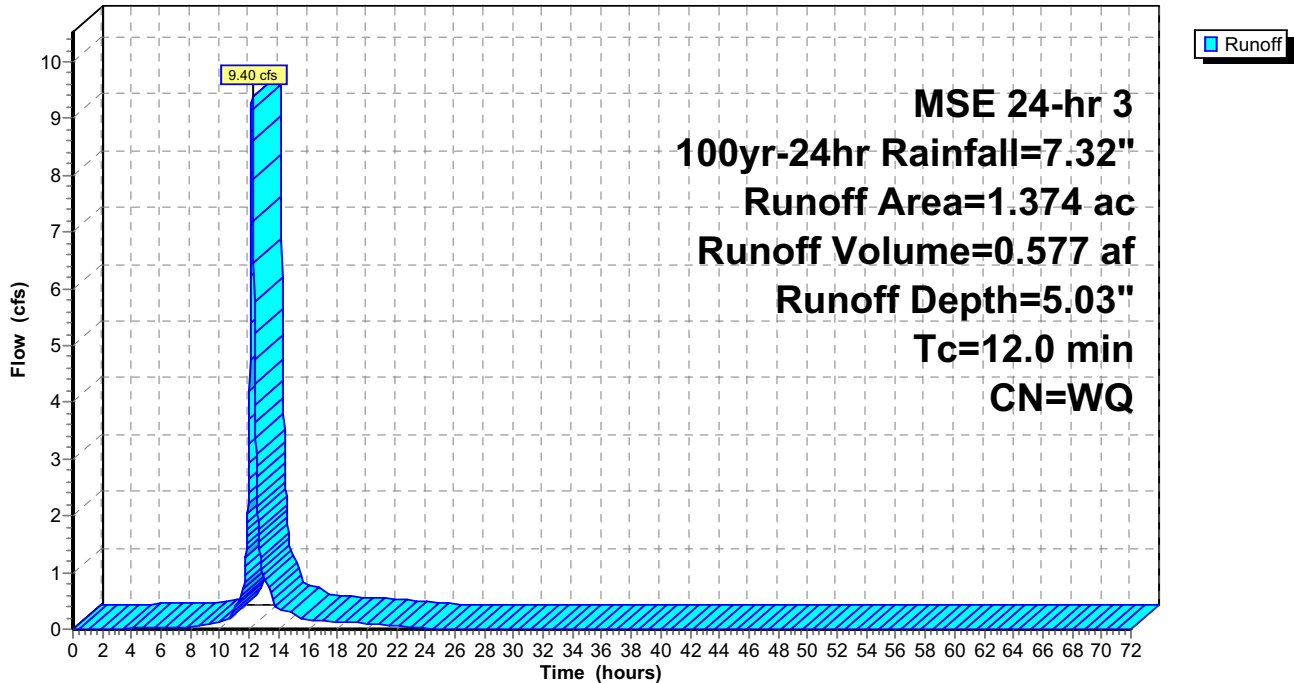
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.355	98	Impervious
1.019	74	>75% Grass cover, Good, HSG C
1.374		Weighted Average
1.019		74.16% Pervious Area
0.355		25.84% Impervious Area

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

Subcatchment E16: E16

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E17: E17

Runoff = 6.65 cfs @ 12.20 hrs, Volume= 0.404 af, Depth= 4.89"

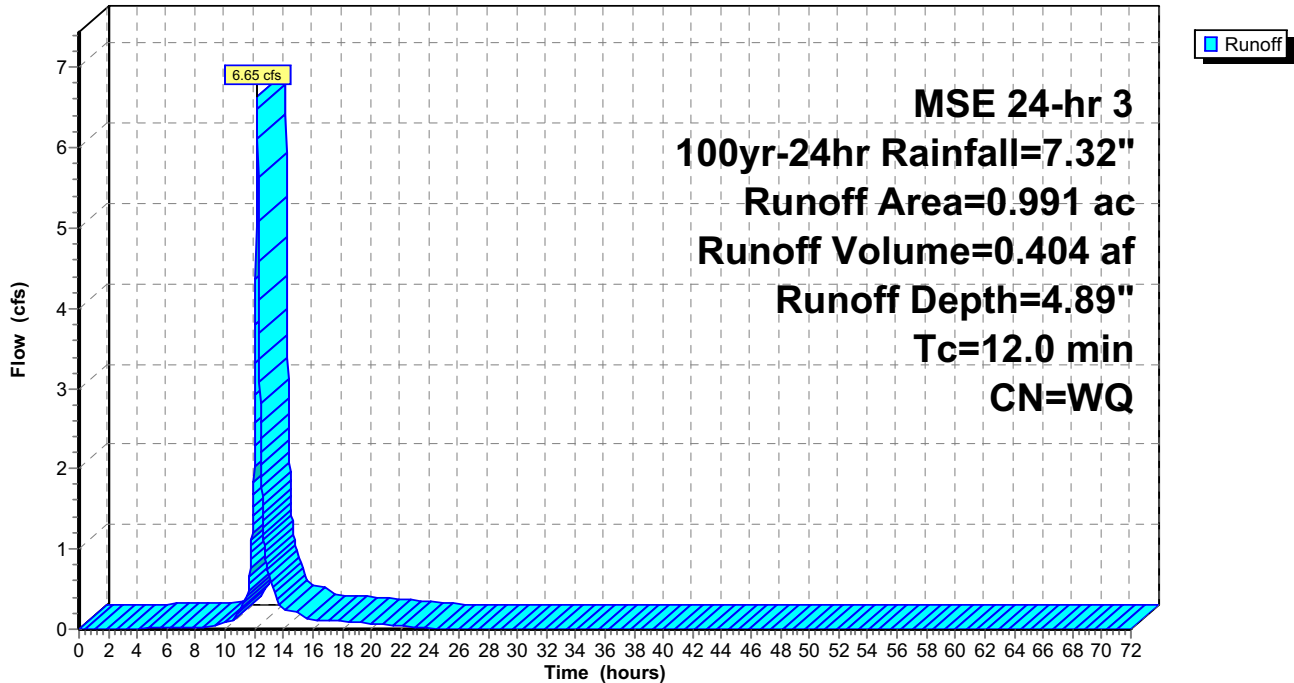
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.788	74	>75% Grass cover, Good, HSG C
0.991		Weighted Average
0.788		79.52% Pervious Area
0.203		20.48% Impervious Area

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

Subcatchment E17: E17

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E18: E18

Runoff = 10.14 cfs @ 12.23 hrs, Volume= 0.664 af, Depth= 4.59"

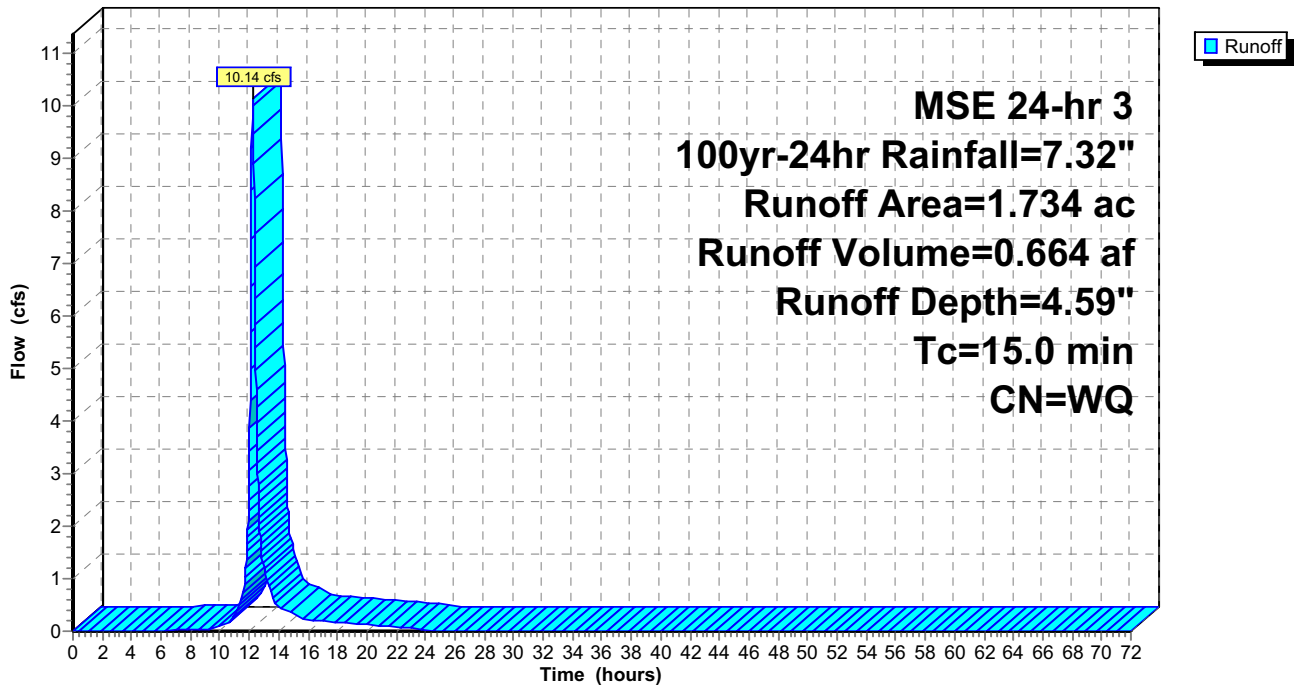
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.171	98	Impervious
1.563	74	>75% Grass cover, Good, HSG C
1.734		Weighted Average
1.563		90.14% Pervious Area
0.171		9.86% Impervious Area

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

Subcatchment E18: E18

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E21: E21

Runoff = 2.36 cfs @ 12.20 hrs, Volume= 0.138 af, Depth= 4.42"

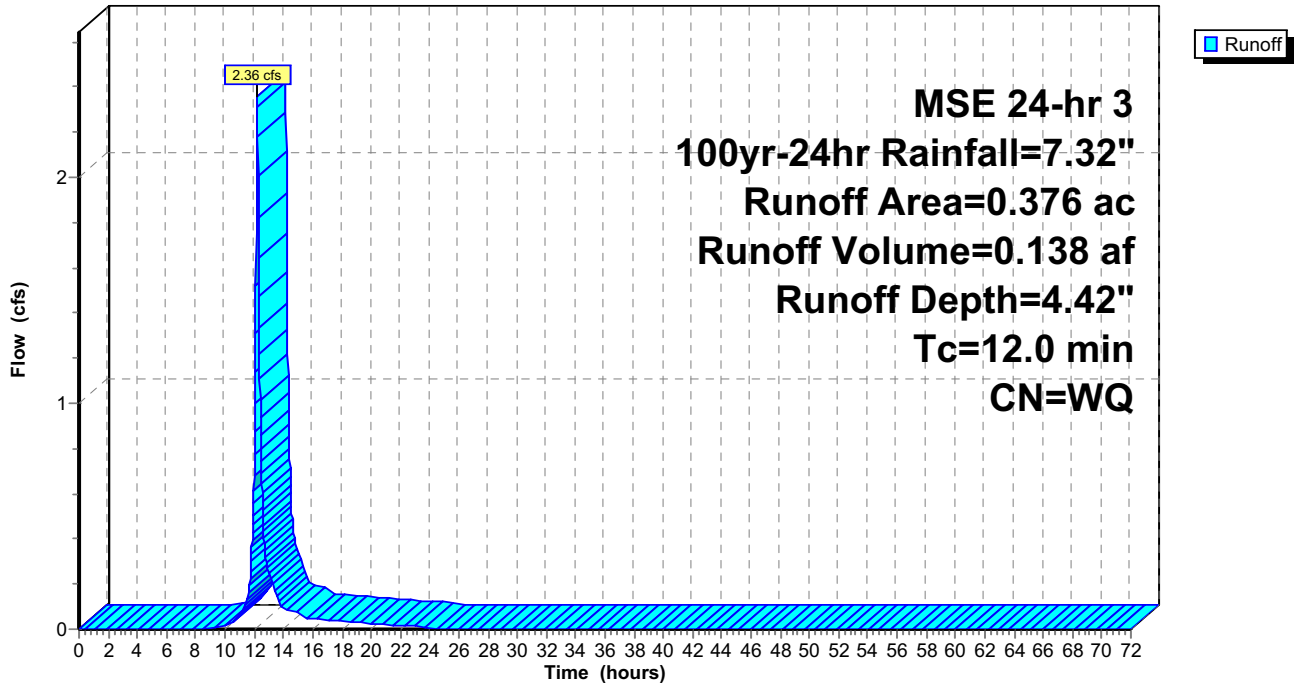
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.013	98	Impervious
0.363	74	>75% Grass cover, Good, HSG C
0.376		Weighted Average
0.363		96.54% Pervious Area
0.013		3.46% Impervious Area

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

Subcatchment E21: E21

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E22: E22

Runoff = 3.32 cfs @ 12.20 hrs, Volume= 0.198 af, Depth= 4.65"

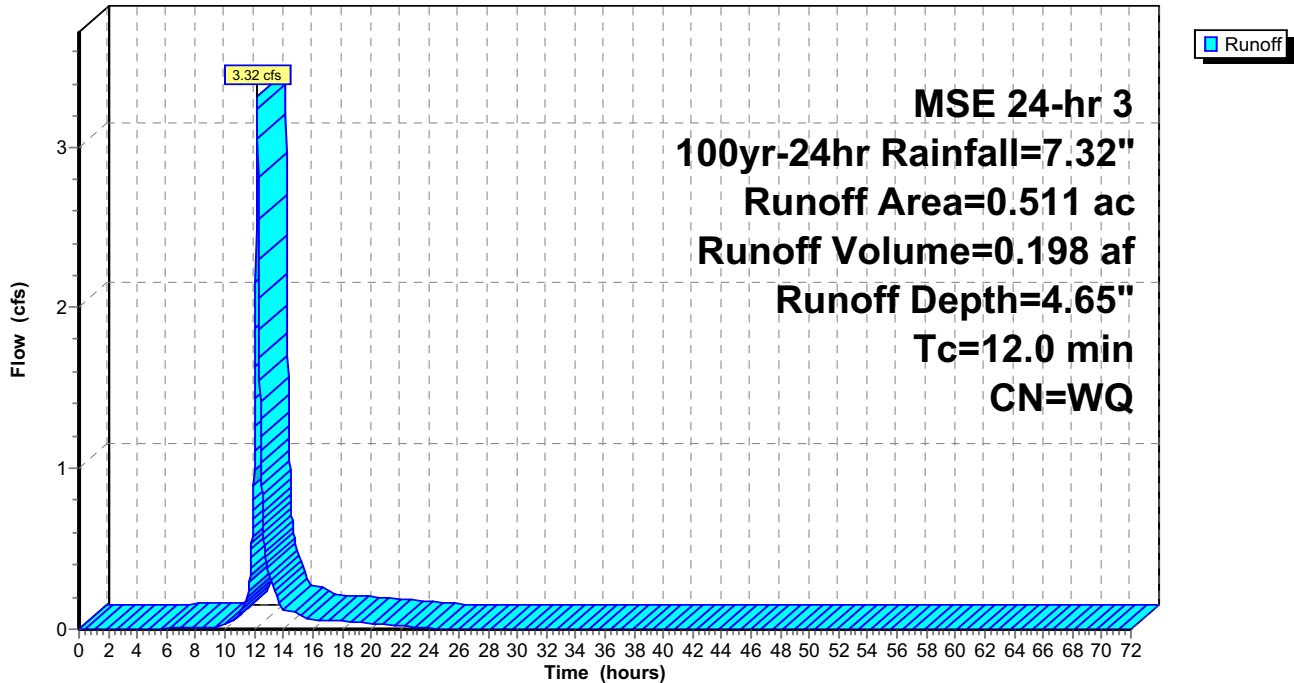
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.061	98	Impervious
0.450	74	>75% Grass cover, Good, HSG C
0.511		Weighted Average
0.450		88.06% Pervious Area
0.061		11.94% Impervious Area

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

Subcatchment E22: E22

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E22_100: E22_100

Runoff = 0.57 cfs @ 12.19 hrs, Volume= 0.037 af, Depth= 5.87"

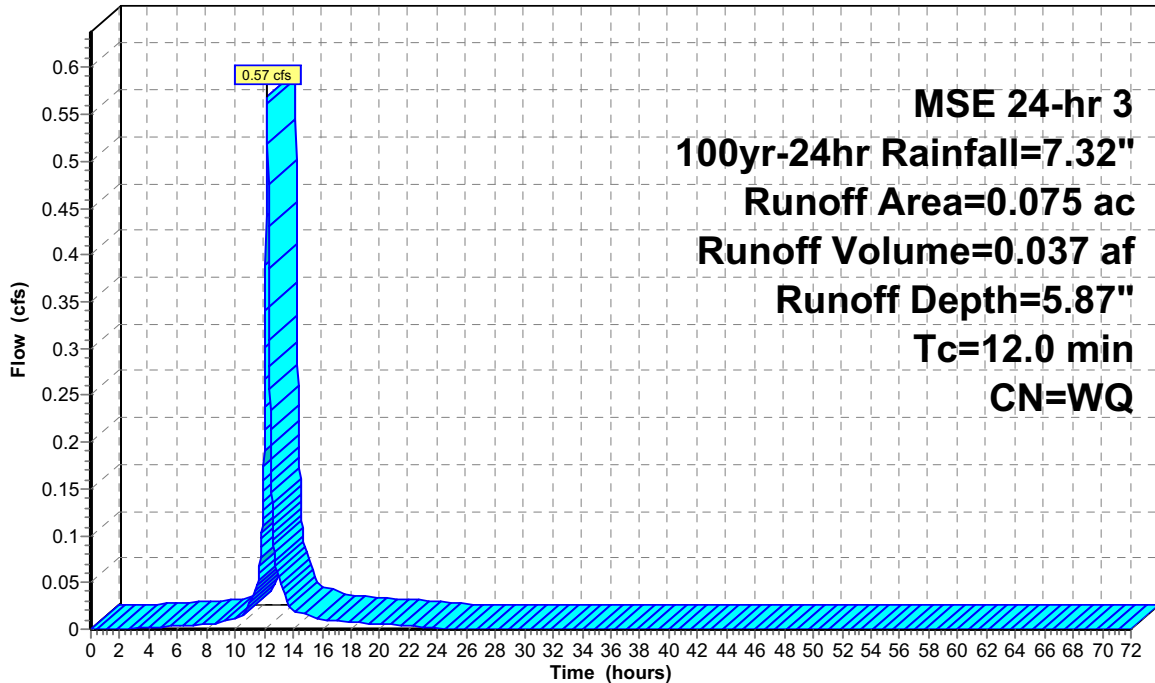
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.033	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
0.075		Weighted Average
0.033		44.00% Pervious Area
0.042		56.00% Impervious Area

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

Subcatchment E22_100: E22_100

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Summary for Subcatchment E23: E23

Runoff = 7.77 cfs @ 12.20 hrs, Volume= 0.460 af, Depth= 4.54"

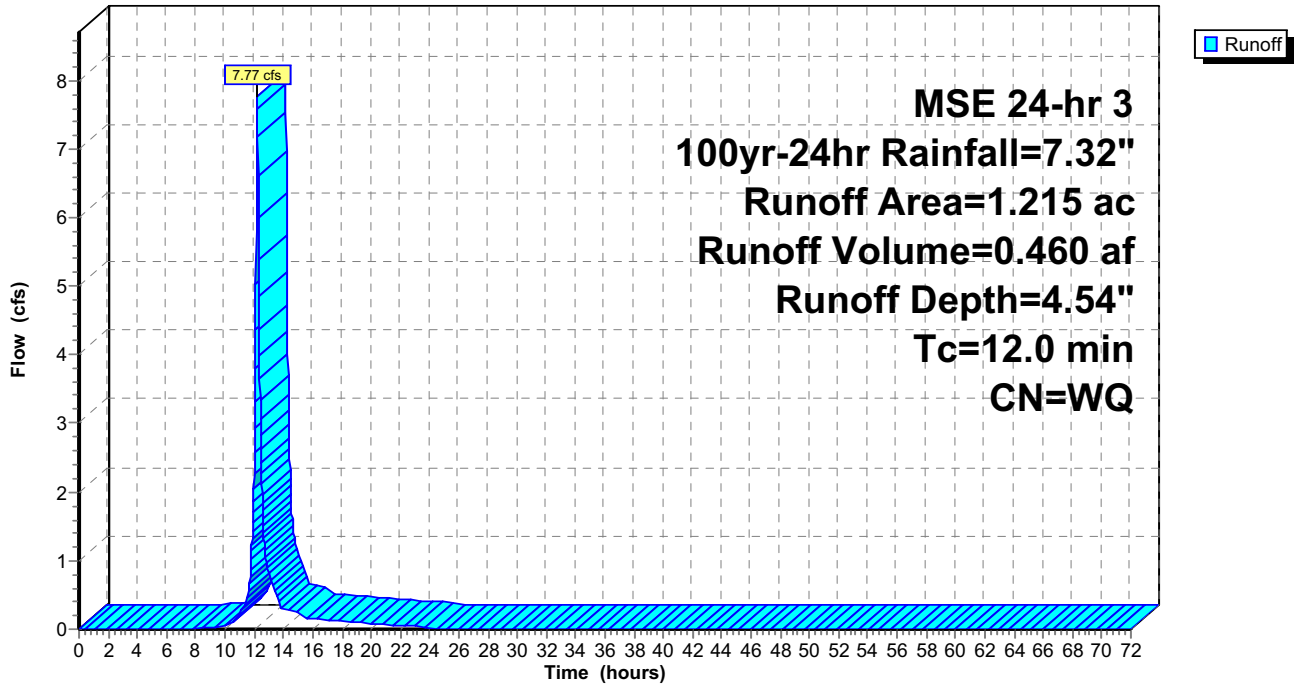
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.097	98	Impervious
1.118	74	>75% Grass cover, Good, HSG C
1.215		Weighted Average
1.118		92.02% Pervious Area
0.097		7.98% Impervious Area

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

Subcatchment E23: E23

Hydrograph



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Summary for Subcatchment E29: E29

Runoff = 8.27 cfs @ 12.20 hrs, Volume= 0.498 af, Depth= 4.77"

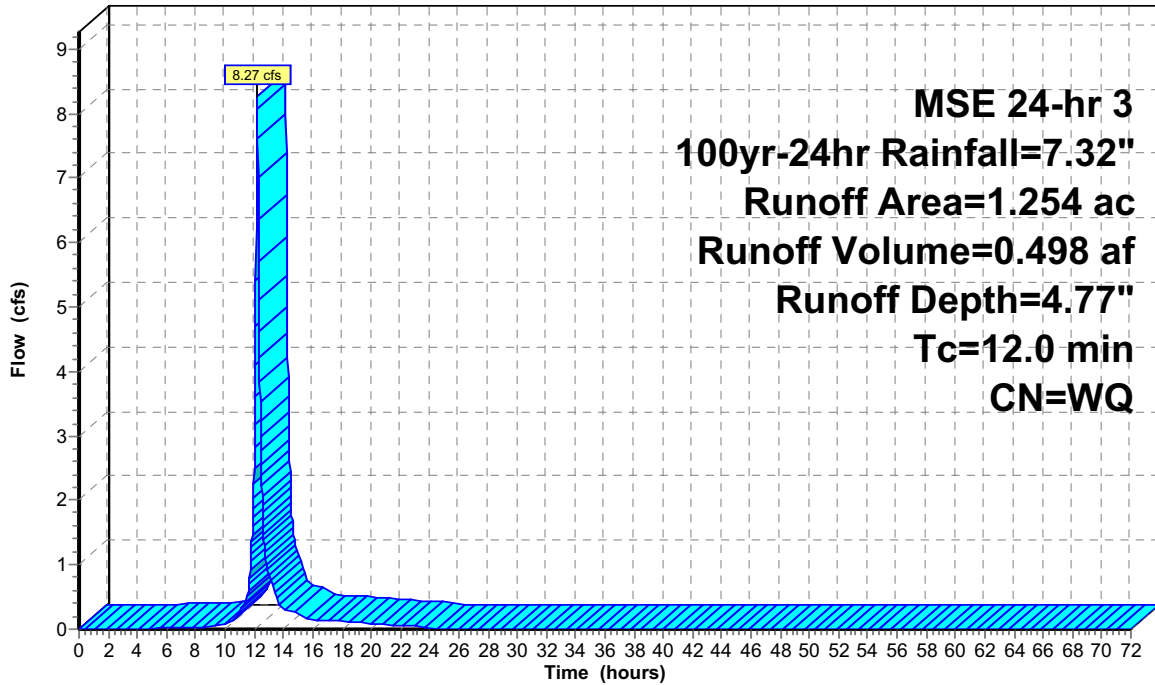
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.202	98	Impervious
1.052	74	>75% Grass cover, Good, HSG C
1.254		Weighted Average
1.052		83.89% Pervious Area
0.202		16.11% Impervious Area

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

Subcatchment E29: E29

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F5: F5

Runoff = 8.23 cfs @ 12.20 hrs, Volume= 0.501 af, Depth= 4.91"

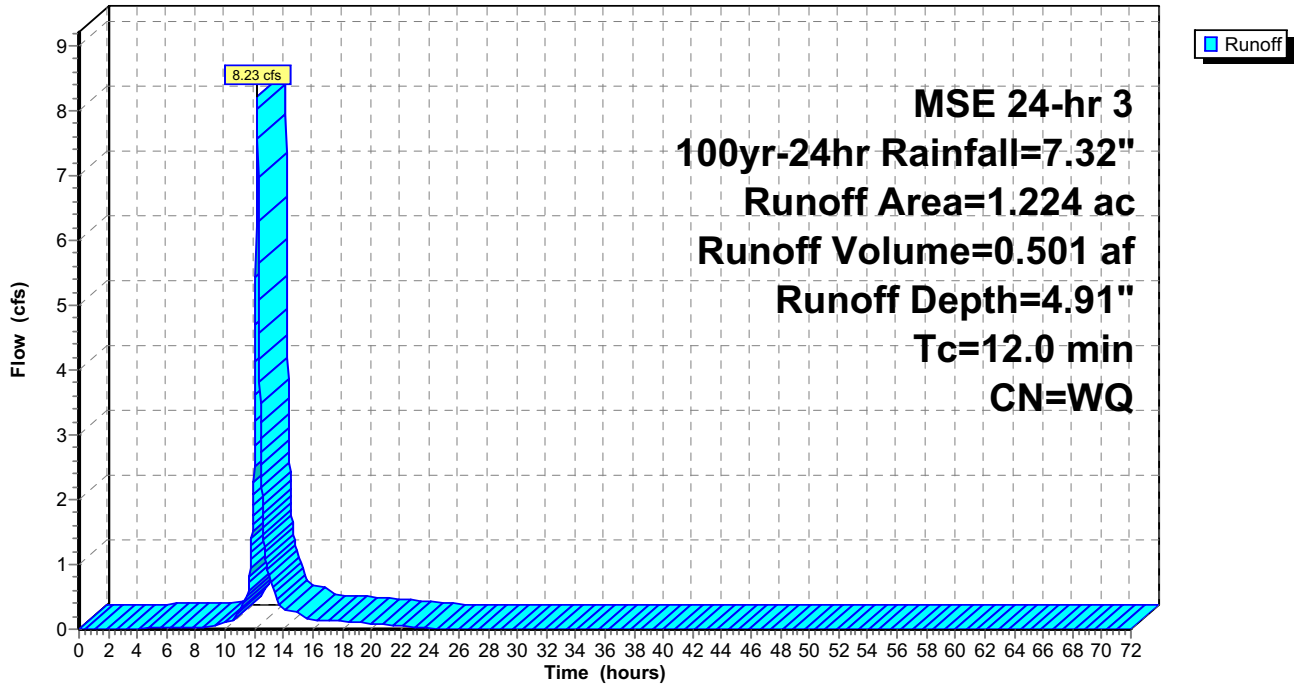
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.260	98	Impervious
0.964	74	>75% Grass cover, Good, HSG C
1.224		Weighted Average
0.964		78.76% Pervious Area
0.260		21.24% Impervious Area

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

Subcatchment F5: F5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F6: F6

Runoff = 6.19 cfs @ 12.20 hrs, Volume= 0.376 af, Depth= 4.90"

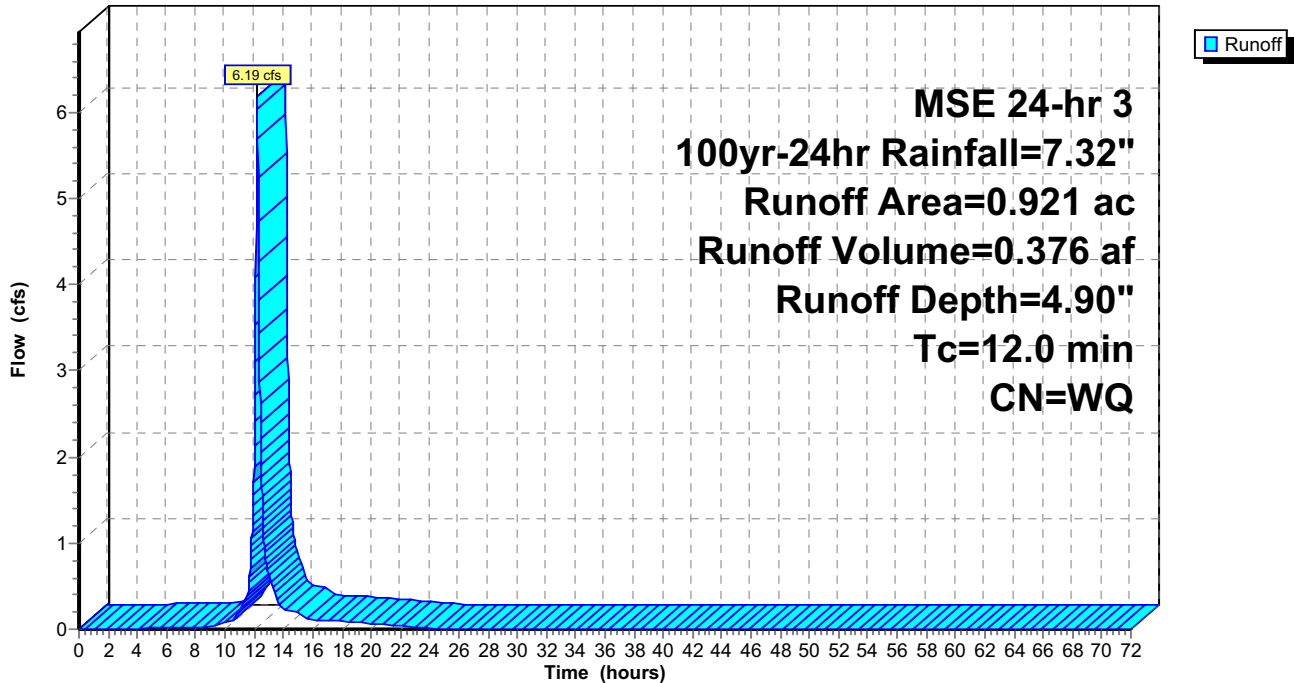
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.194	98	Impervious
0.727	74	>75% Grass cover, Good, HSG C
0.921		Weighted Average
0.727		78.94% Pervious Area
0.194		21.06% Impervious Area

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

Subcatchment F6: F6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F7: F7

Runoff = 4.33 cfs @ 12.20 hrs, Volume= 0.258 af, Depth= 4.64"

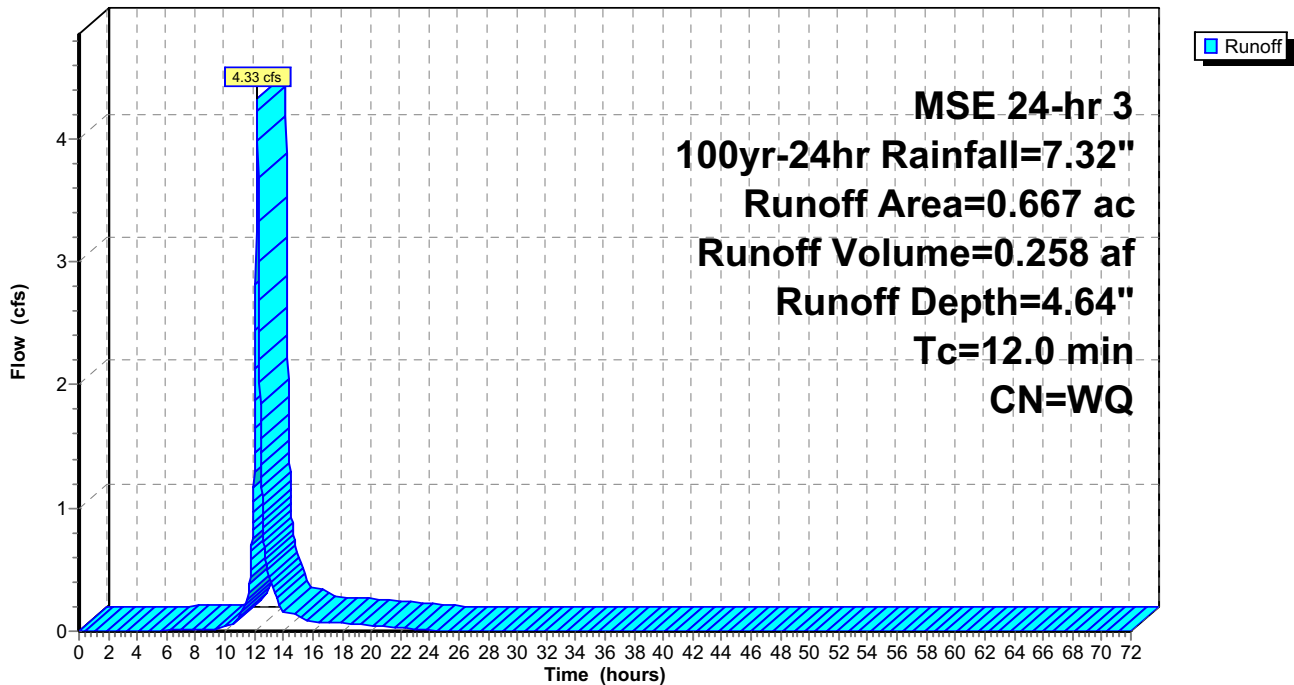
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.589	74	>75% Grass cover, Good, HSG C
0.667		Weighted Average
0.589		88.31% Pervious Area
0.078		11.69% Impervious Area

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

Subcatchment F7: F7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F8: F8

Runoff = 11.41 cfs @ 12.23 hrs, Volume= 0.757 af, Depth= 4.76"

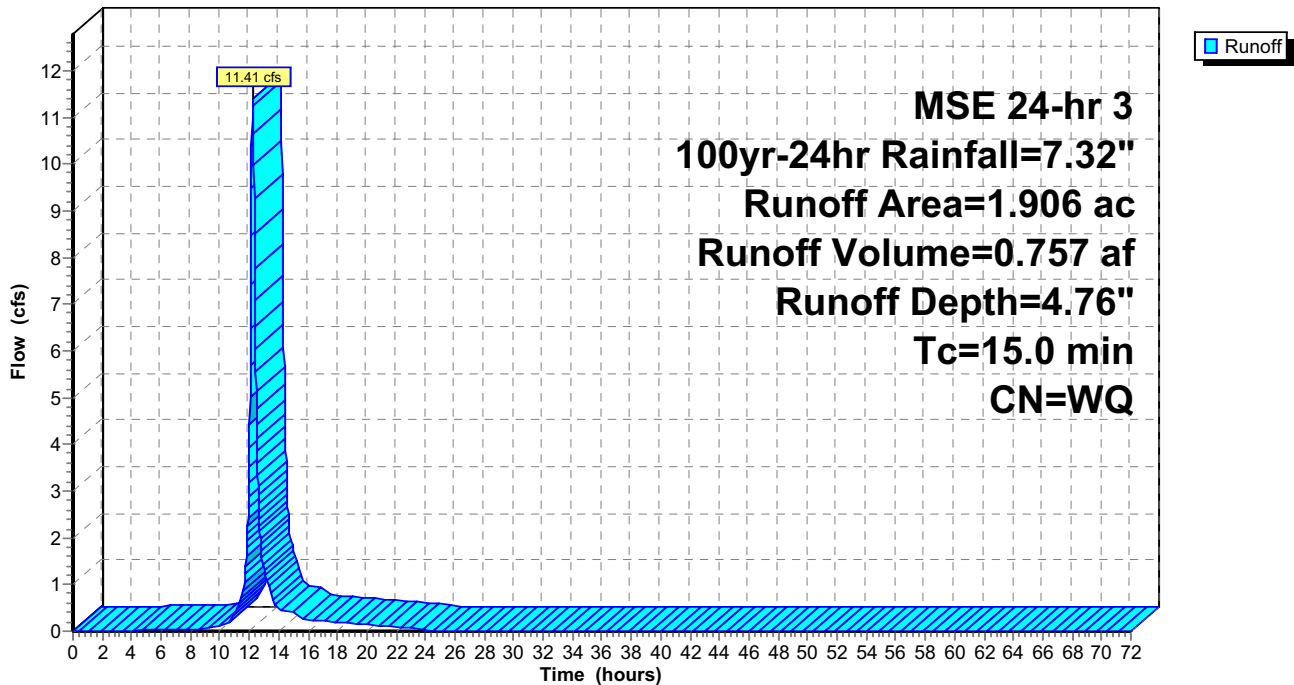
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.305	98	Impervious
1.601	74	>75% Grass cover, Good, HSG C
1.906		Weighted Average
1.601		84.00% Pervious Area
0.305		16.00% Impervious Area

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

Subcatchment F8: F8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment H5: H5

Runoff = 13.84 cfs @ 12.20 hrs, Volume= 0.856 af, Depth= 4.74"

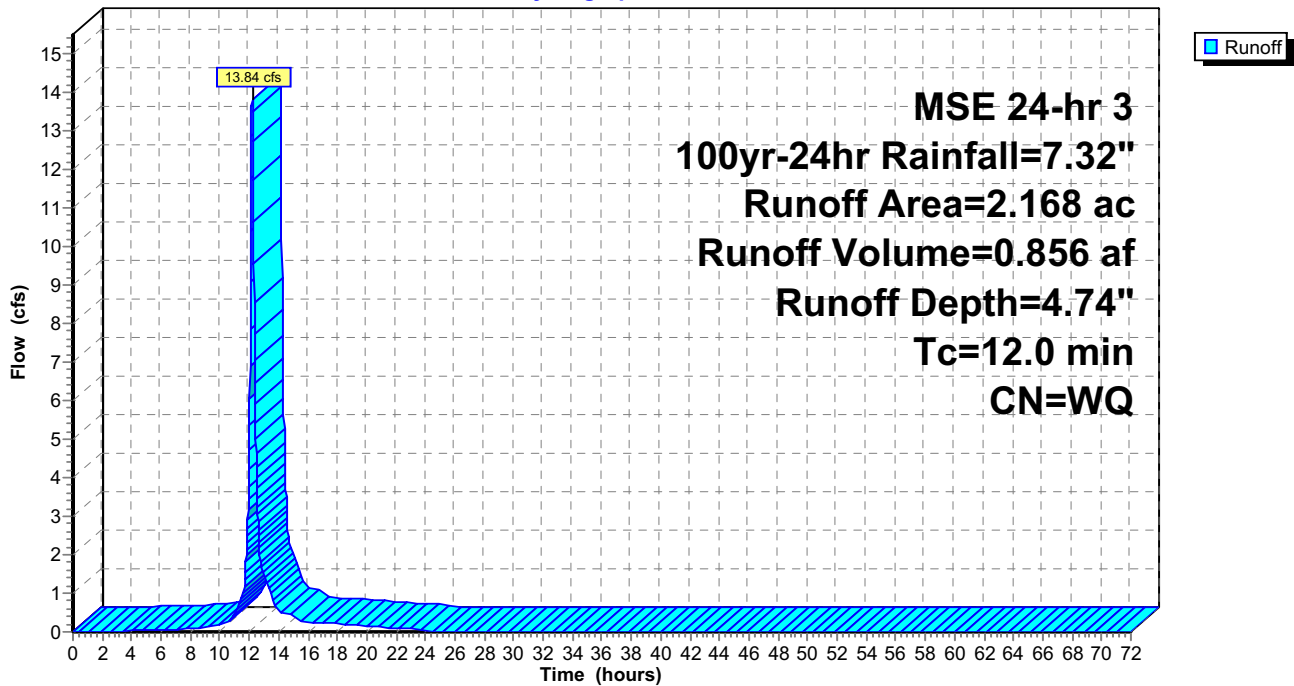
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.590	98	Impervious
0.526	61	>75% Grass cover, Good, HSG B
1.052	74	>75% Grass cover, Good, HSG C
<hr/>		
2.168		Weighted Average
1.578		72.79% Pervious Area
0.590		27.21% Impervious Area

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

Subcatchment H5: H5

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Summary for Subcatchment H6: H6

Runoff = 5.45 cfs @ 12.20 hrs, Volume= 0.334 af, Depth= 3.98"

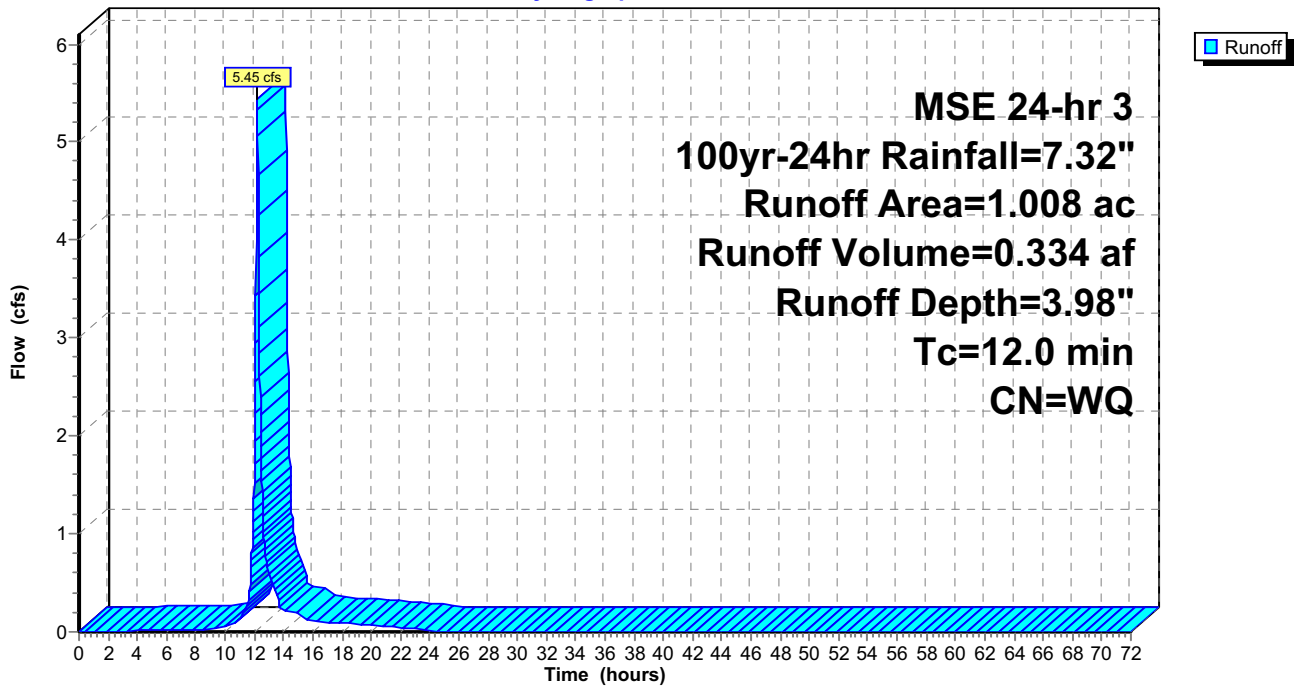
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.197	98	Impervious
0.640	61	>75% Grass cover, Good, HSG B
0.171	74	>75% Grass cover, Good, HSG C
1.008		Weighted Average
0.811		80.46% Pervious Area
0.197		19.54% Impervious Area

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

Subcatchment H6: H6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment H7: H7

Runoff = 6.67 cfs @ 12.20 hrs, Volume= 0.408 af, Depth= 4.17"

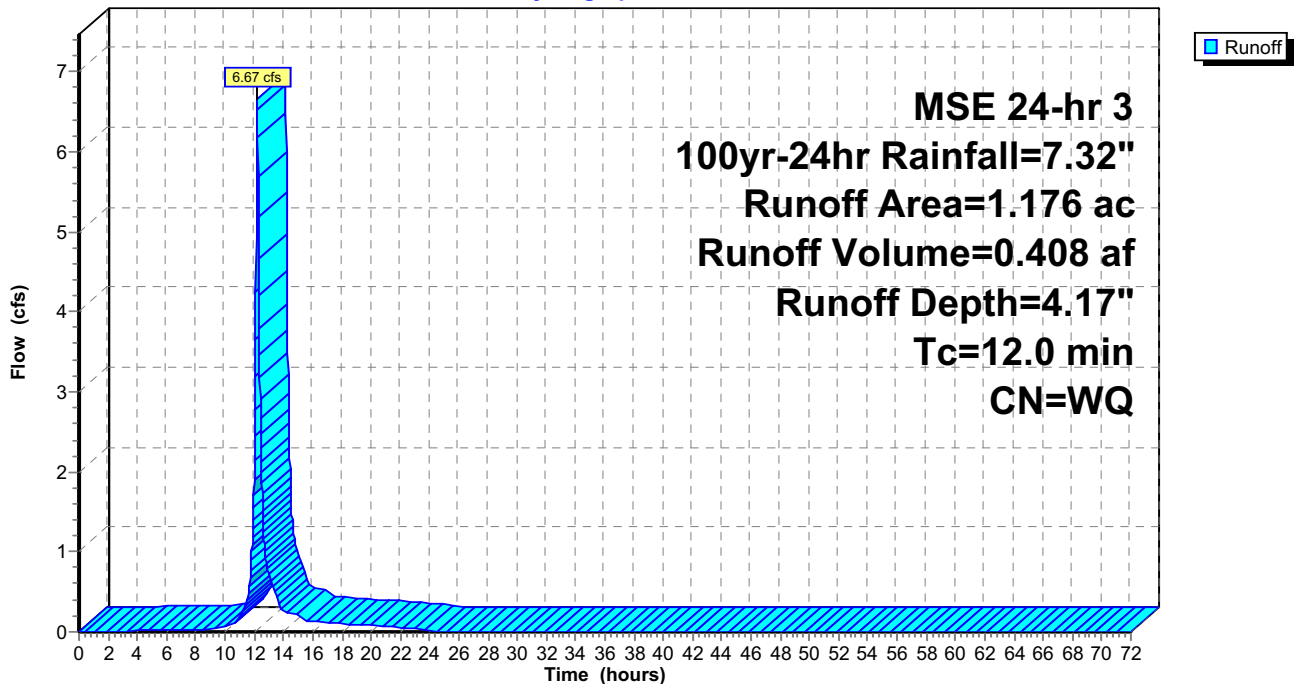
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.231	98	Impervious
0.591	61	>75% Grass cover, Good, HSG B
0.354	74	>75% Grass cover, Good, HSG C
1.176		Weighted Average
0.945		80.36% Pervious Area
0.231		19.64% Impervious Area

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

Subcatchment H7: H7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I14: I14

Runoff = 1.86 cfs @ 12.20 hrs, Volume= 0.114 af, Depth= 5.09"

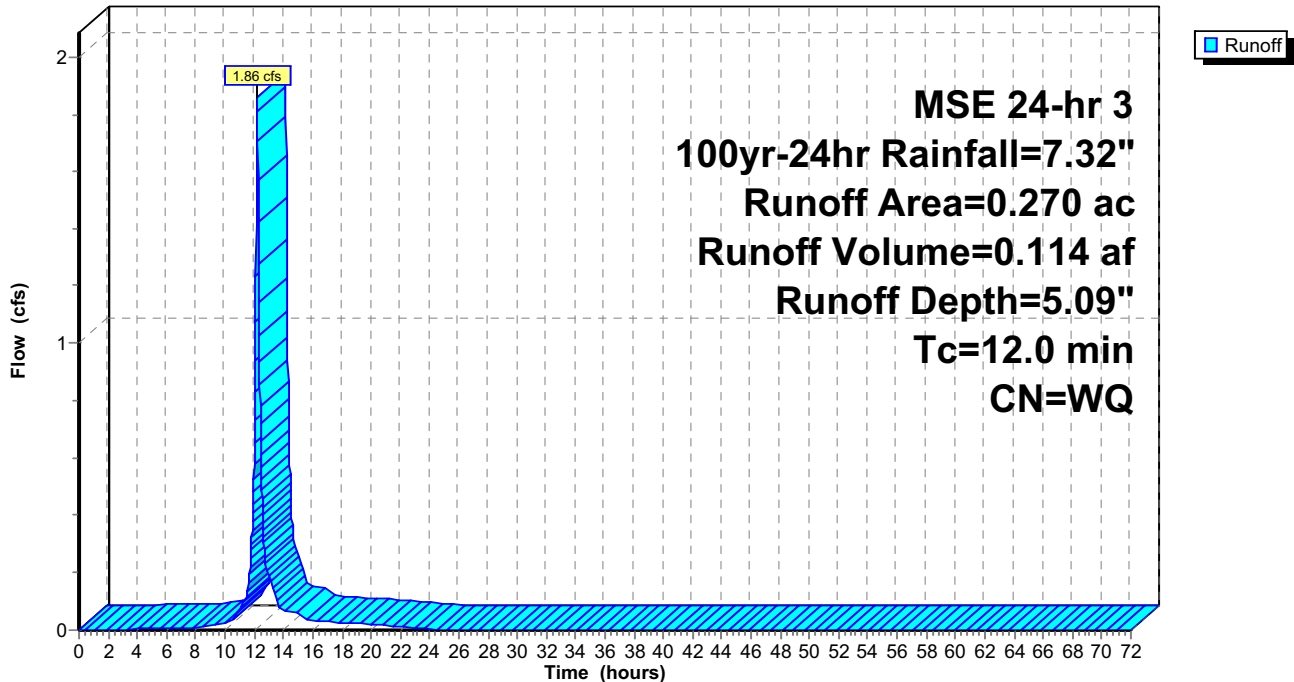
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.050	98	impervious
0.124	74	>75% Grass cover, Good, HSG C
* 0.025	98	impervious
0.071	74	>75% Grass cover, Good, HSG C
0.270		Weighted Average
0.195		72.22% Pervious Area
0.075		27.78% Impervious Area

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

Subcatchment I14: I14

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I7: I7

Runoff = 4.12 cfs @ 12.20 hrs, Volume= 0.251 af, Depth= 4.95"

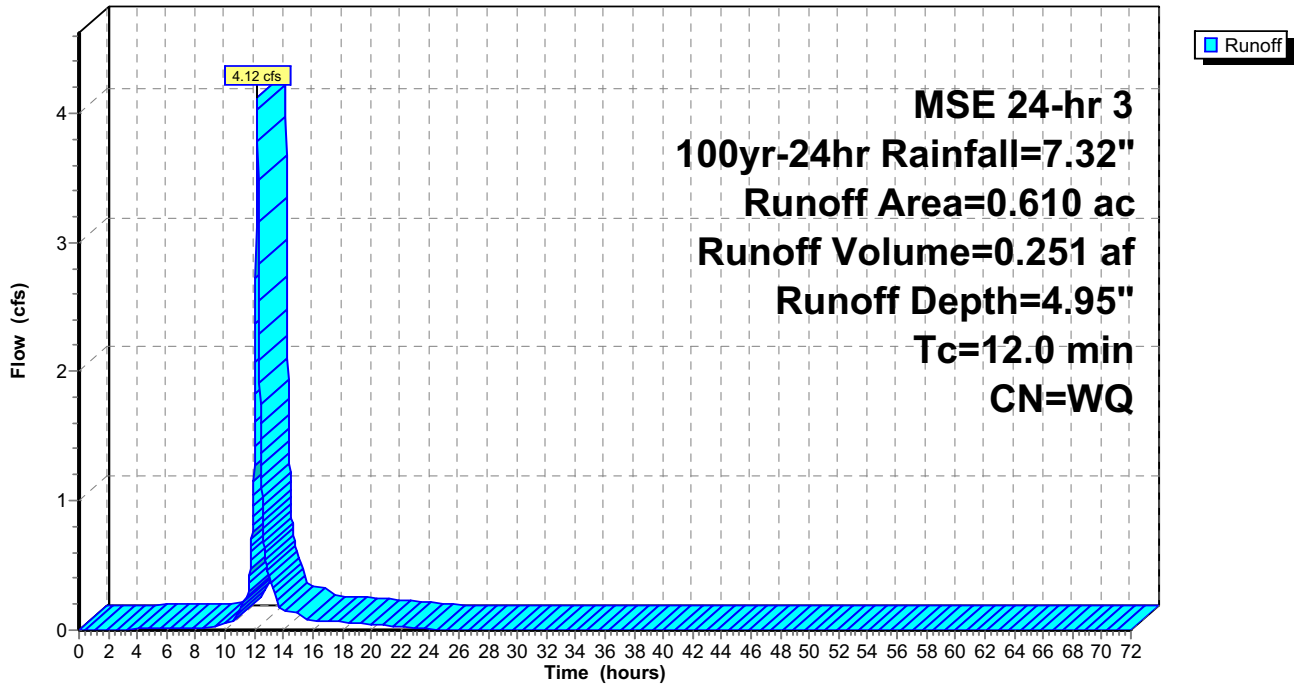
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.066	98	Impervious
0.252	74	>75% Grass cover, Good, HSG C
* 0.072	98	Impervious
0.220	74	>75% Grass cover, Good, HSG C
0.610		Weighted Average
0.472		77.38% Pervious Area
0.138		22.62% Impervious Area

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

Subcatchment I7: I7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I7_100: I7_100

Runoff = 1.31 cfs @ 12.20 hrs, Volume= 0.077 af, Depth= 4.52"

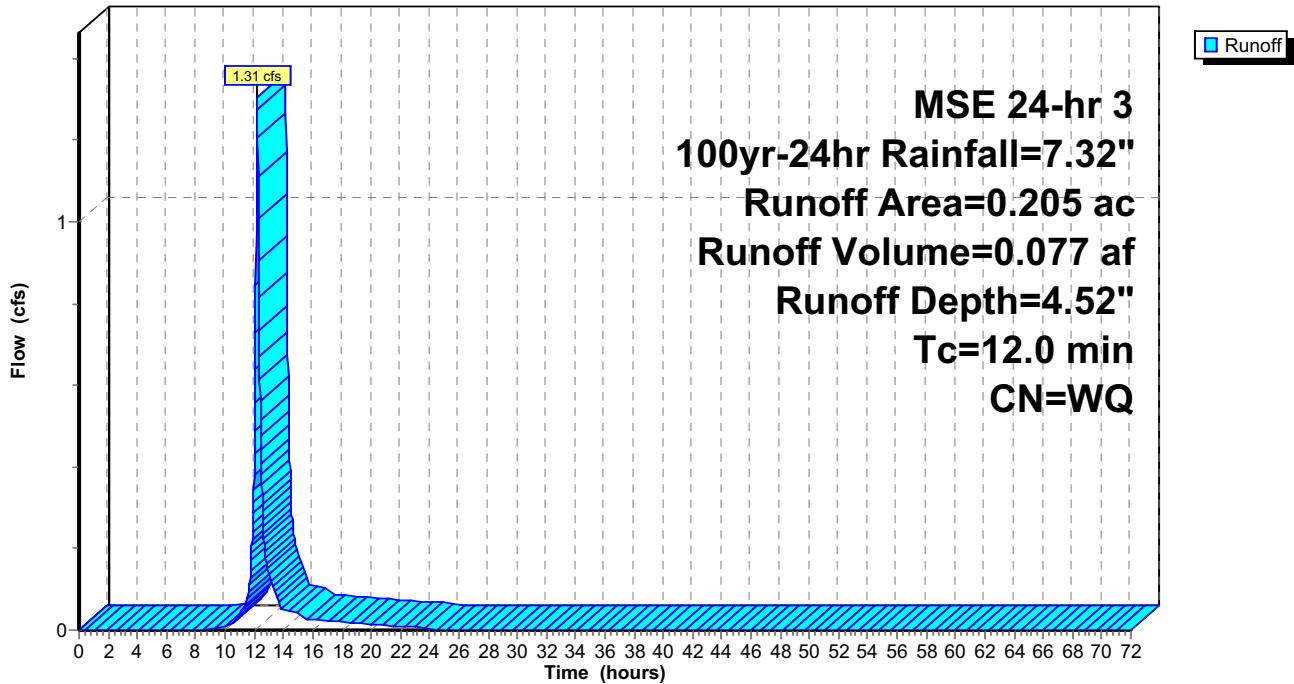
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
* 0.008	98	Impervious
* 0.007	98	Impervious
0.166	74	>75% Grass cover, Good, HSG C
0.205		Weighted Average
0.190		92.68% Pervious Area
0.015		7.32% Impervious Area

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

Subcatchment I7_100: I7_100

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Summary for Subcatchment I8: I8

Runoff = 6.84 cfs @ 12.20 hrs, Volume= 0.419 af, Depth= 5.02"

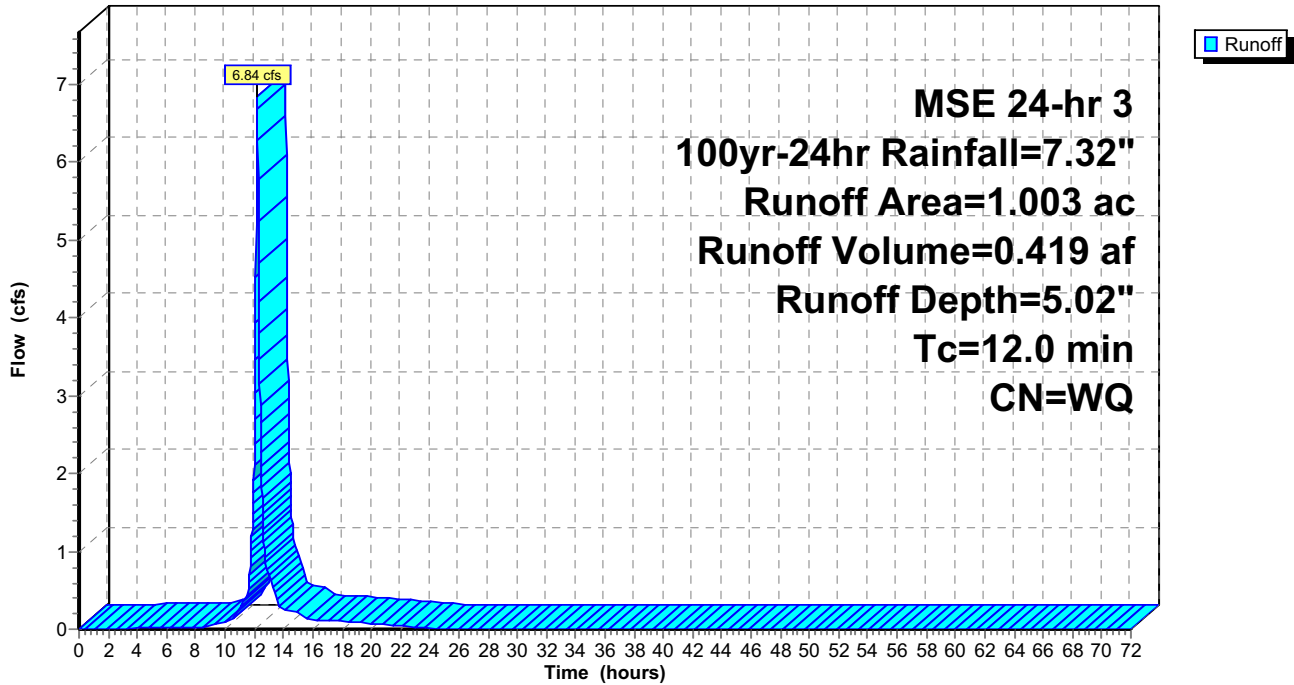
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.252	98	Impervious
0.751	74	>75% Grass cover, Good, HSG C
1.003		Weighted Average
0.751		74.88% Pervious Area
0.252		25.12% Impervious Area

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

Subcatchment I8: I8

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I8_100: I8_100

Runoff = 1.16 cfs @ 12.20 hrs, Volume= 0.071 af, Depth= 5.04"

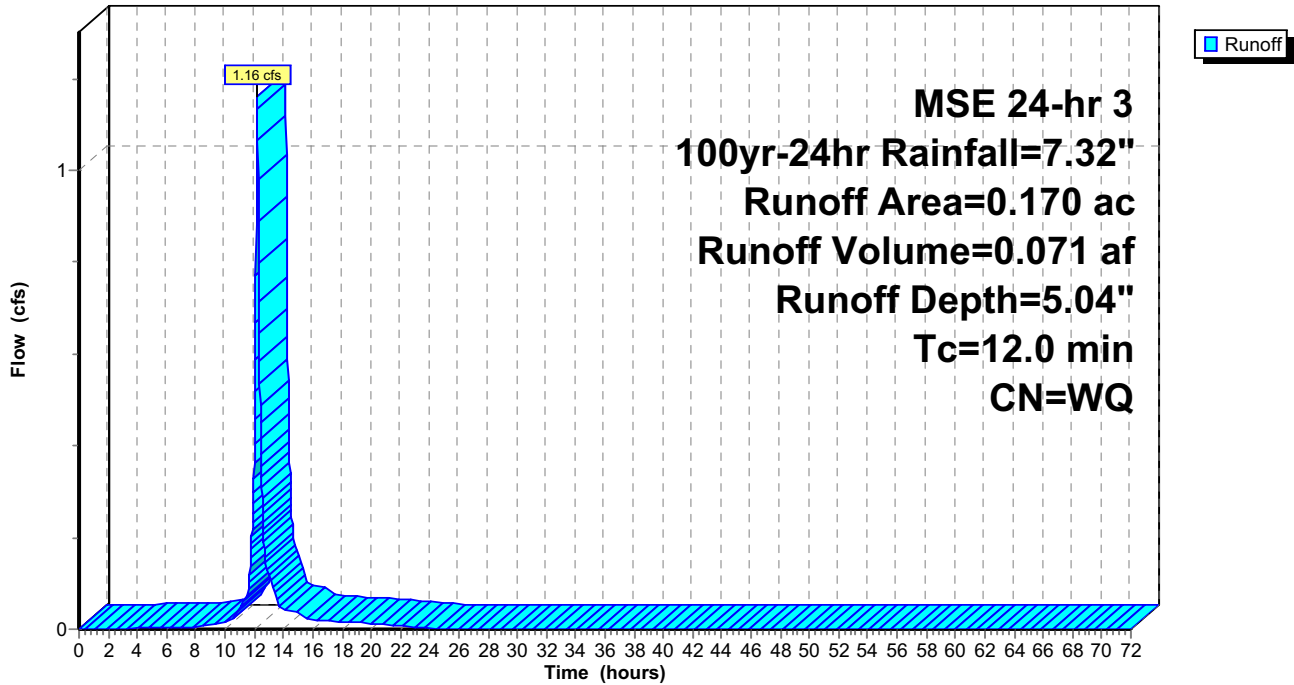
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.126	74	>75% Grass cover, Good, HSG C
* 0.044	98	Impervious
0.170		Weighted Average
0.126		74.12% Pervious Area
0.044		25.88% Impervious Area

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

Subcatchment I8_100: I8_100

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Summary for Subcatchment I9: I9

Runoff = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af, Depth= 5.09"

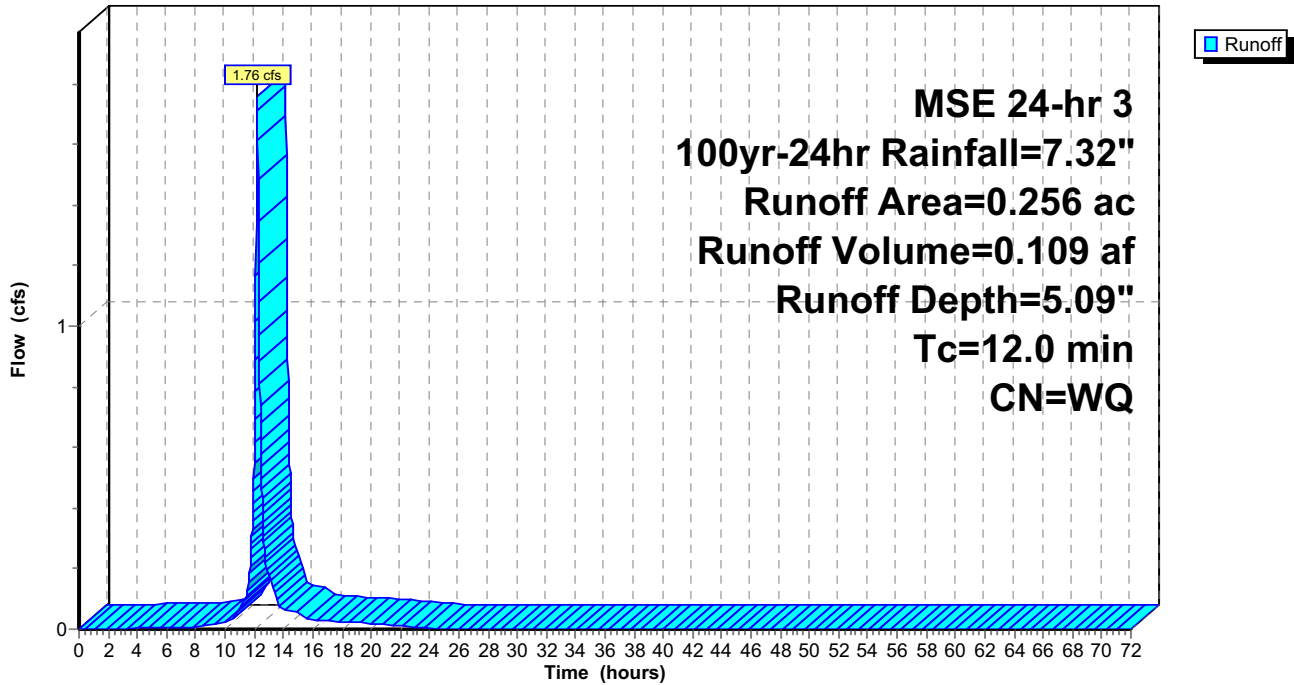
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.071	98	Impervious
0.185	74	>75% Grass cover, Good, HSG C
0.256		Weighted Average
0.185		72.27% Pervious Area
0.071		27.73% Impervious Area

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

Subcatchment I9: I9

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Summary for Subcatchment J3: J3

Runoff = 10.03 cfs @ 12.20 hrs, Volume= 0.609 af, Depth= 4.88"

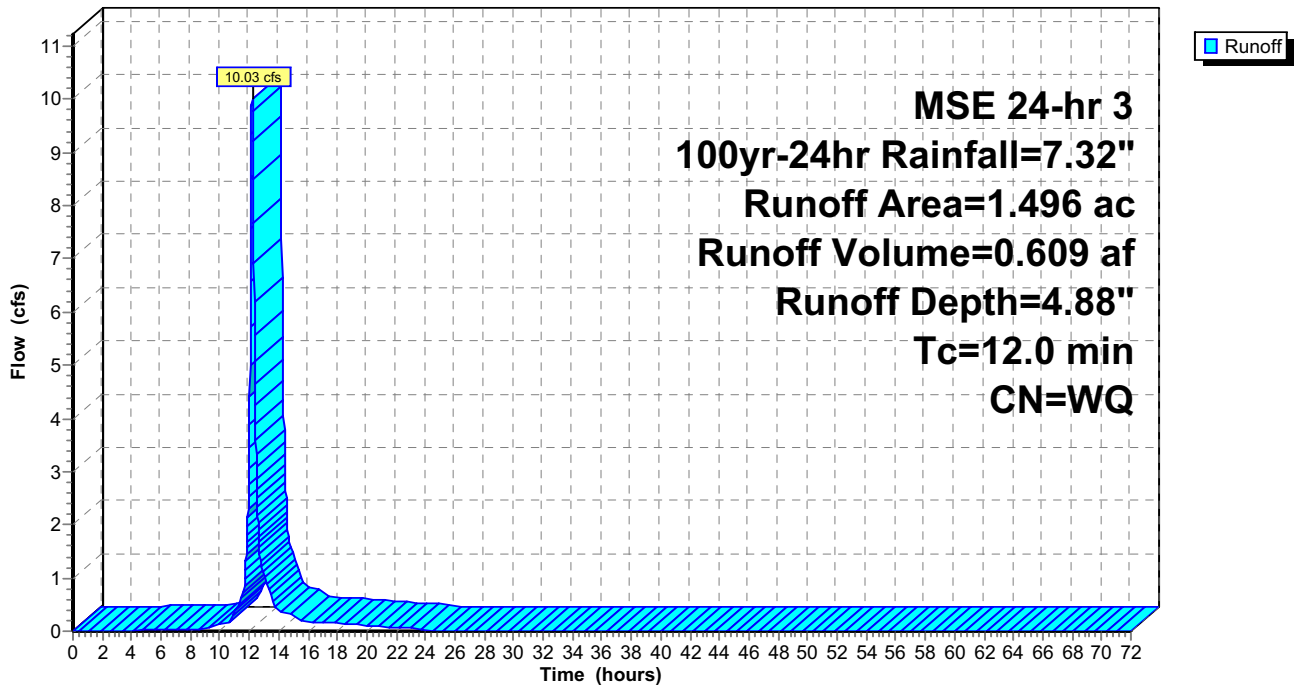
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.304	98	Impervious
1.192	74	>75% Grass cover, Good, HSG C
1.496		Weighted Average
1.192		79.68% Pervious Area
0.304		20.32% Impervious Area

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

Subcatchment J3: J3

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment J4: J4

Runoff = 1.92 cfs @ 12.20 hrs, Volume= 0.112 af, Depth= 4.32"

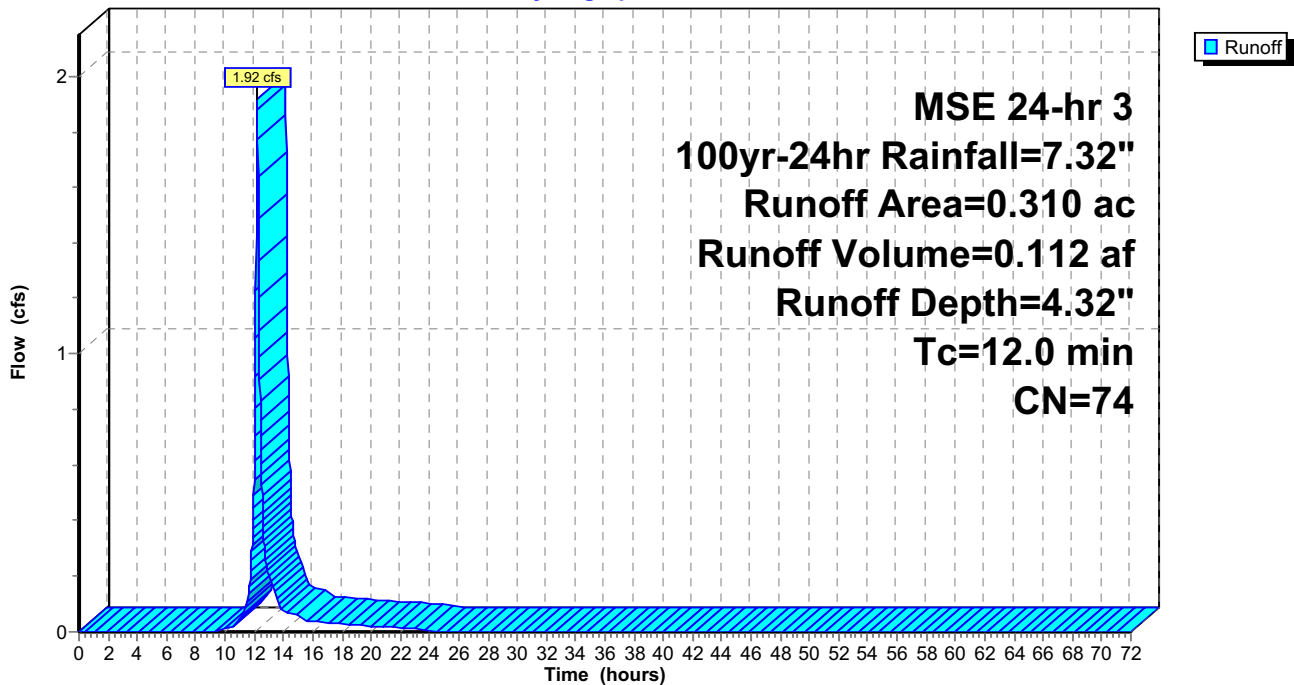
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.310	74	>75% Grass cover, Good, HSG C
0.310		100.00% Pervious Area

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

Subcatchment J4: J4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment J5: J5

Runoff = 4.53 cfs @ 12.20 hrs, Volume= 0.274 af, Depth= 4.81"

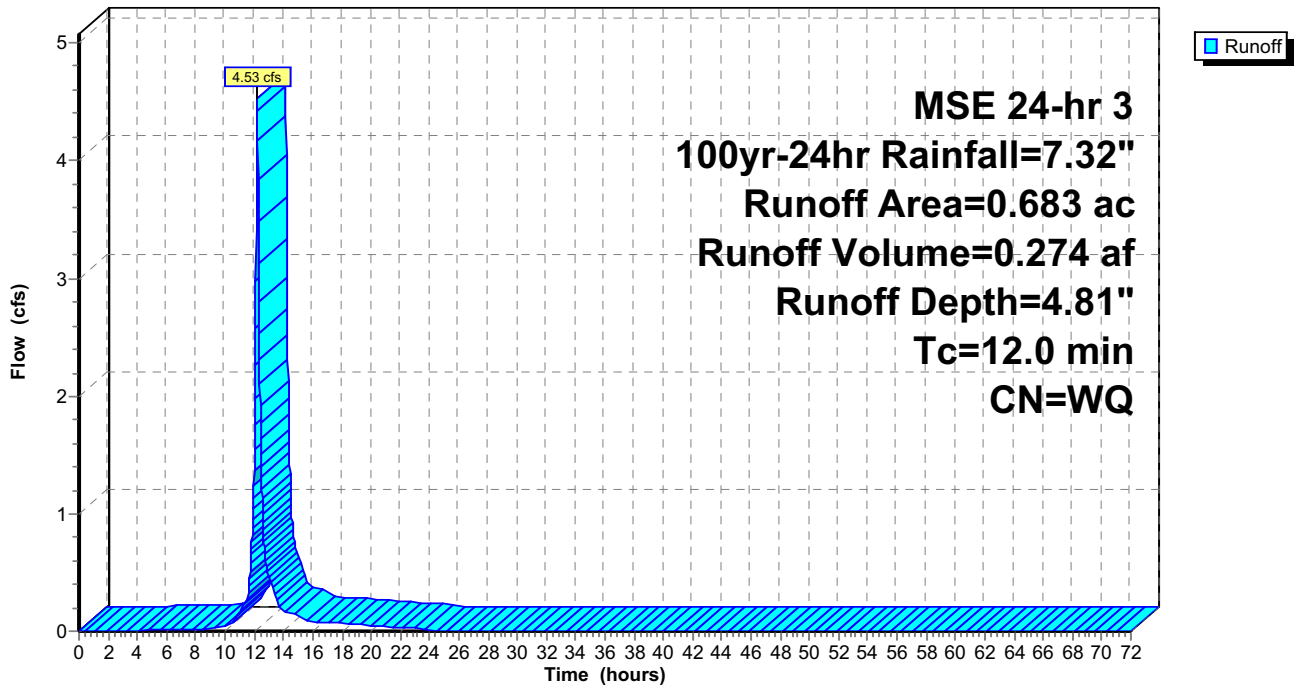
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.121	98	Impervious
0.562	74	>75% Grass cover, Good, HSG C
0.683		Weighted Average
0.562		82.28% Pervious Area
0.121		17.72% Impervious Area

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

Subcatchment J5: J5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L10: L10

Runoff = 7.68 cfs @ 12.20 hrs, Volume= 0.464 af, Depth= 4.81"

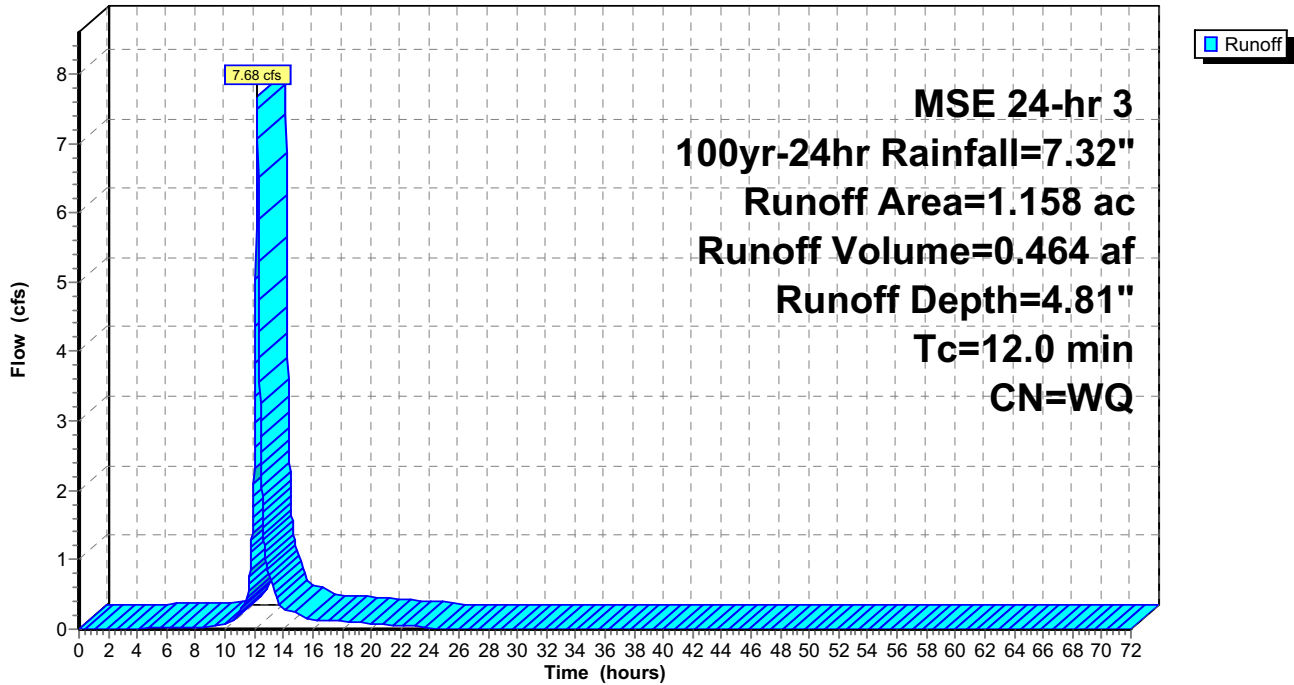
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.955	74	>75% Grass cover, Good, HSG C
1.158		Weighted Average
0.955		82.47% Pervious Area
0.203		17.53% Impervious Area

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

Subcatchment L10: L10

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L4: L4

Runoff = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 4.86"

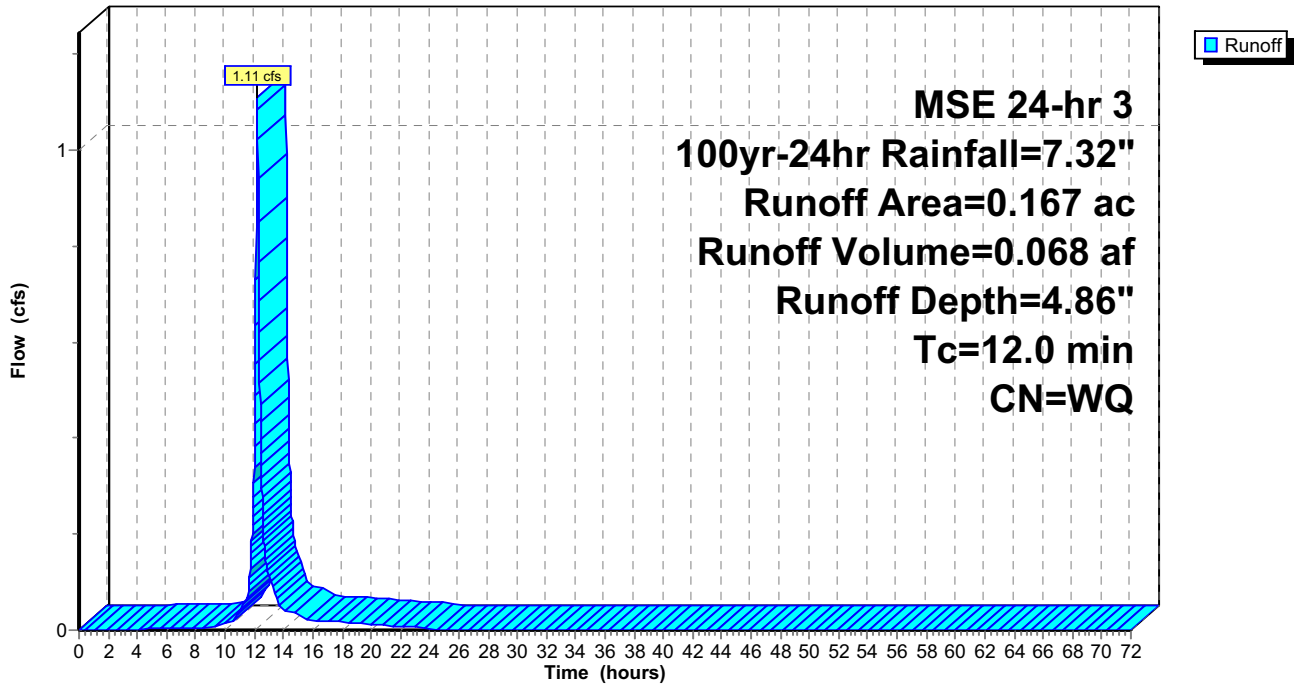
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.002	98	Impervious
0.005	61	>75% Grass cover, Good, HSG B
0.127	74	>75% Grass cover, Good, HSG C
* 0.033	98	Impervious
0.167		Weighted Average
0.132		79.04% Pervious Area
0.035		20.96% Impervious Area

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

Subcatchment L4: L4

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L5: L5

Runoff = 5.15 cfs @ 12.20 hrs, Volume= 0.313 af, Depth= 4.93"

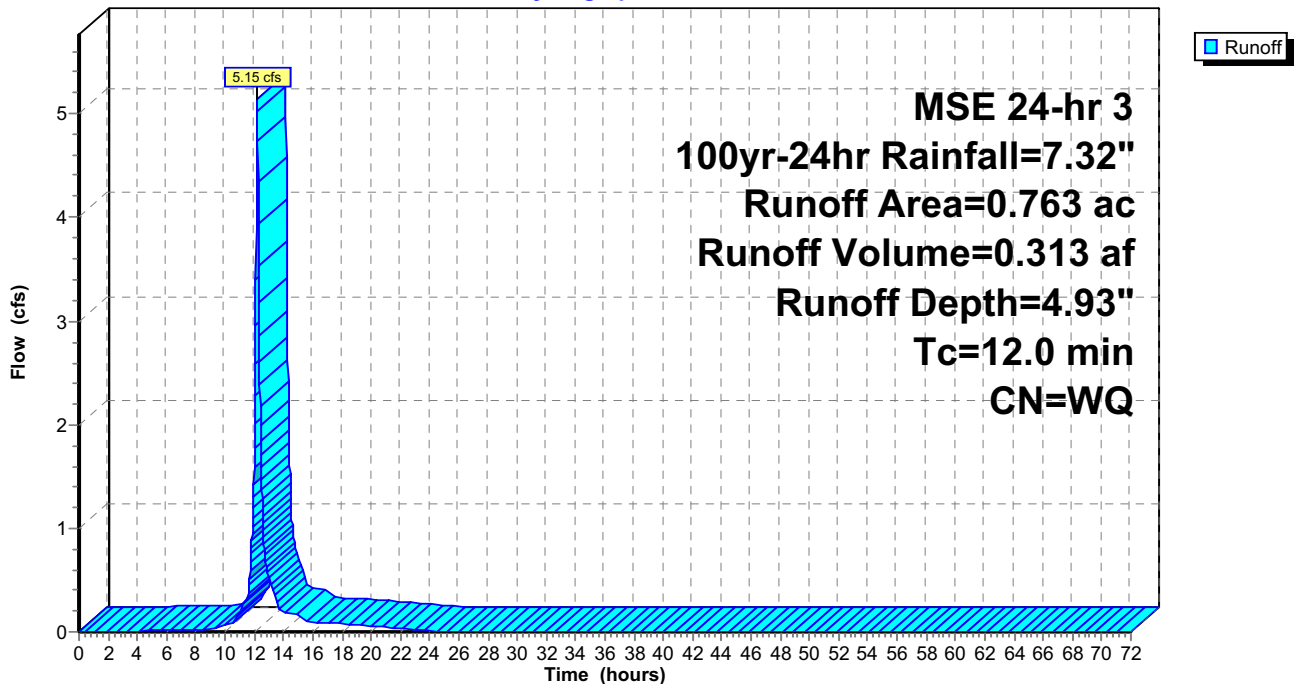
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

	Area (ac)	CN	Description
*	0.101	98	Impervious
	0.595	74	>75% Grass cover, Good, HSG C
*	0.067	98	Impervious
	0.763		Weighted Average
	0.595		77.98% Pervious Area
	0.168		22.02% Impervious Area

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

Subcatchment L5: L5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L6: L6

Runoff = 7.30 cfs @ 12.20 hrs, Volume= 0.443 af, Depth= 4.87"

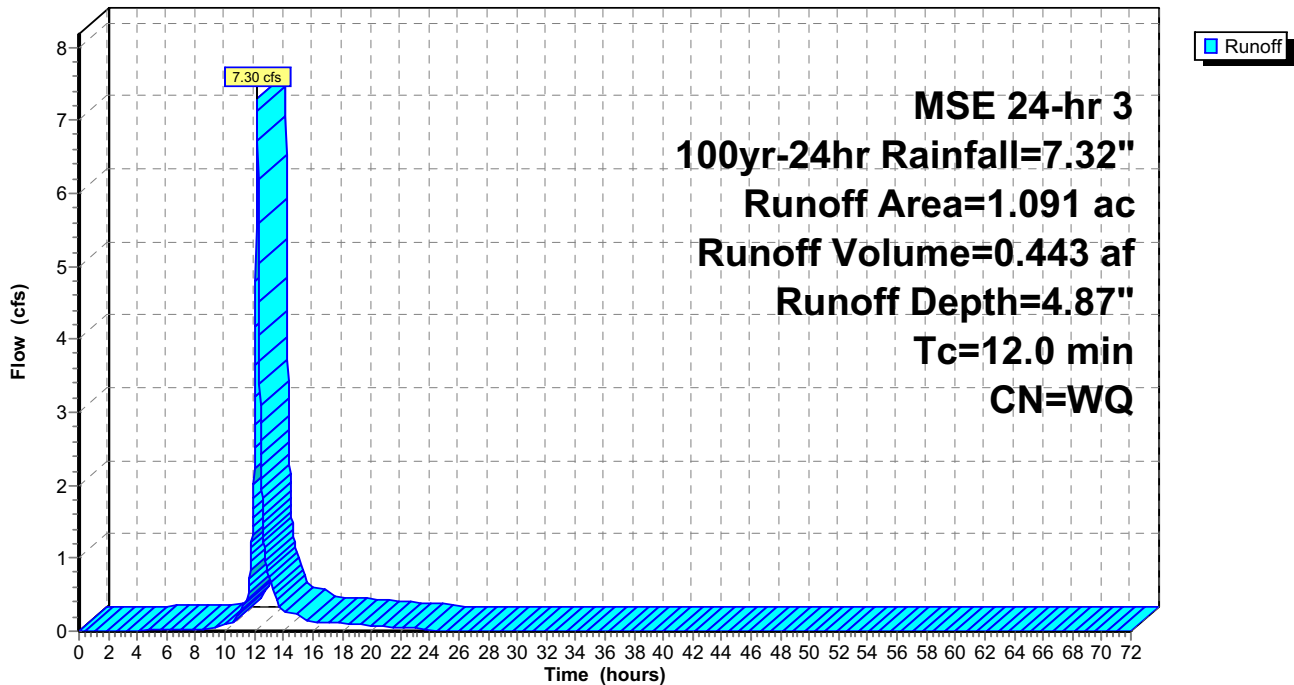
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.218	98	Impervious
0.873	74	>75% Grass cover, Good, HSG C
1.091		Weighted Average
0.873		80.02% Pervious Area
0.218		19.98% Impervious Area

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

Subcatchment L6: L6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L7: L7

Runoff = 5.10 cfs @ 12.20 hrs, Volume= 0.310 af, Depth= 4.91"

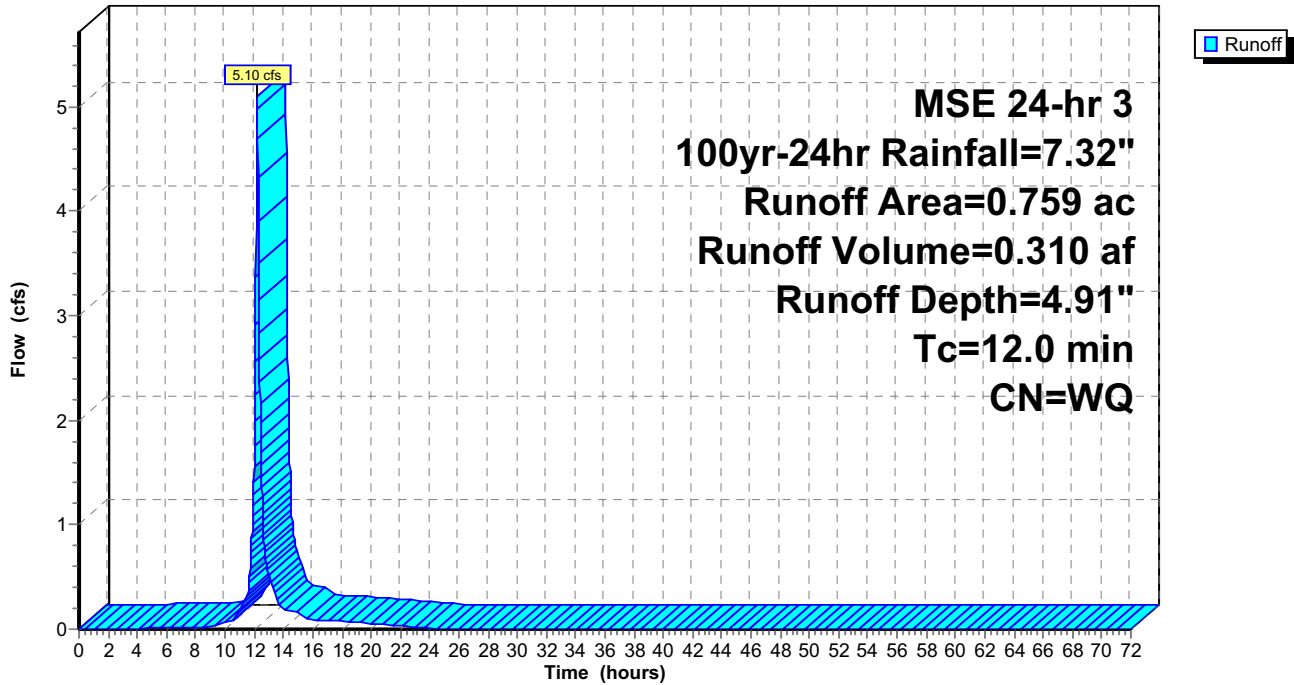
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.161	98	Impervious
0.598	74	>75% Grass cover, Good, HSG C
0.759		Weighted Average
0.598		78.79% Pervious Area
0.161		21.21% Impervious Area

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

Subcatchment L7: L7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L8: L8

Runoff = 9.25 cfs @ 12.20 hrs, Volume= 0.568 af, Depth= 4.73"

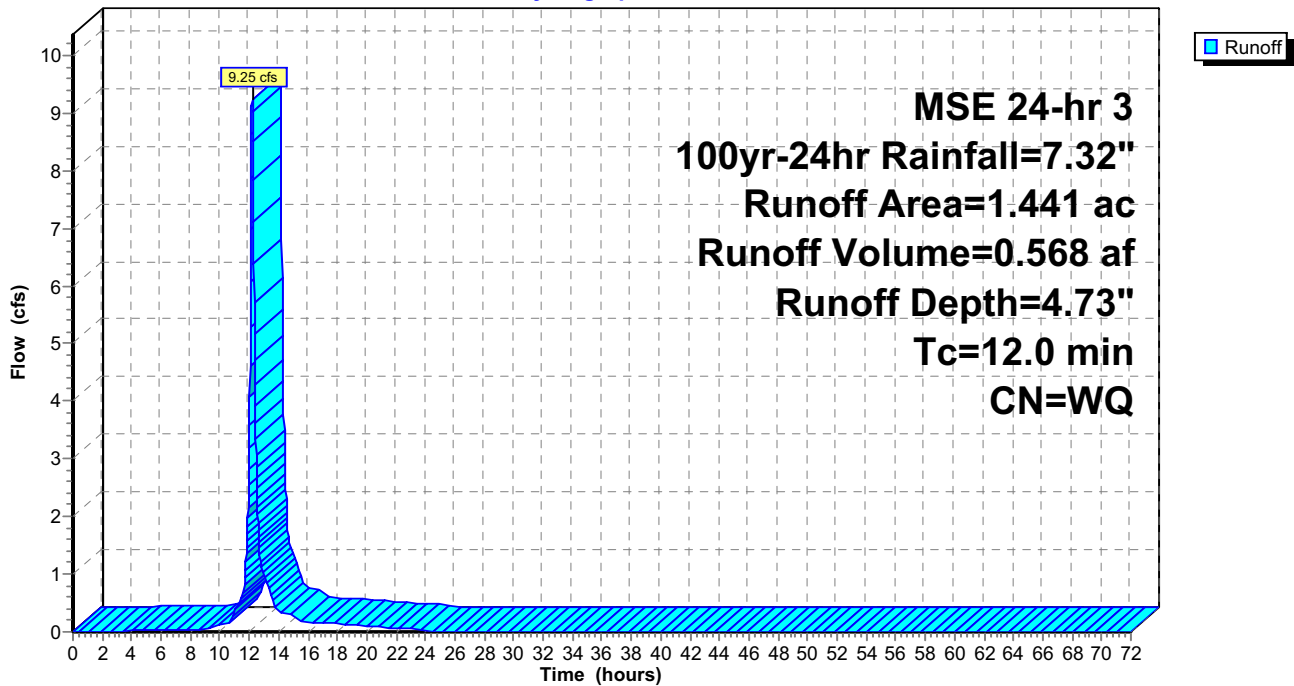
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.318	98	Impervious
0.086	39	>75% Grass cover, Good, HSG A
1.037	74	>75% Grass cover, Good, HSG C
1.441		Weighted Average
1.123		77.93% Pervious Area
0.318		22.07% Impervious Area

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

Subcatchment L8: L8

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L9: L9

Runoff = 6.51 cfs @ 12.20 hrs, Volume= 0.396 af, Depth= 4.89"

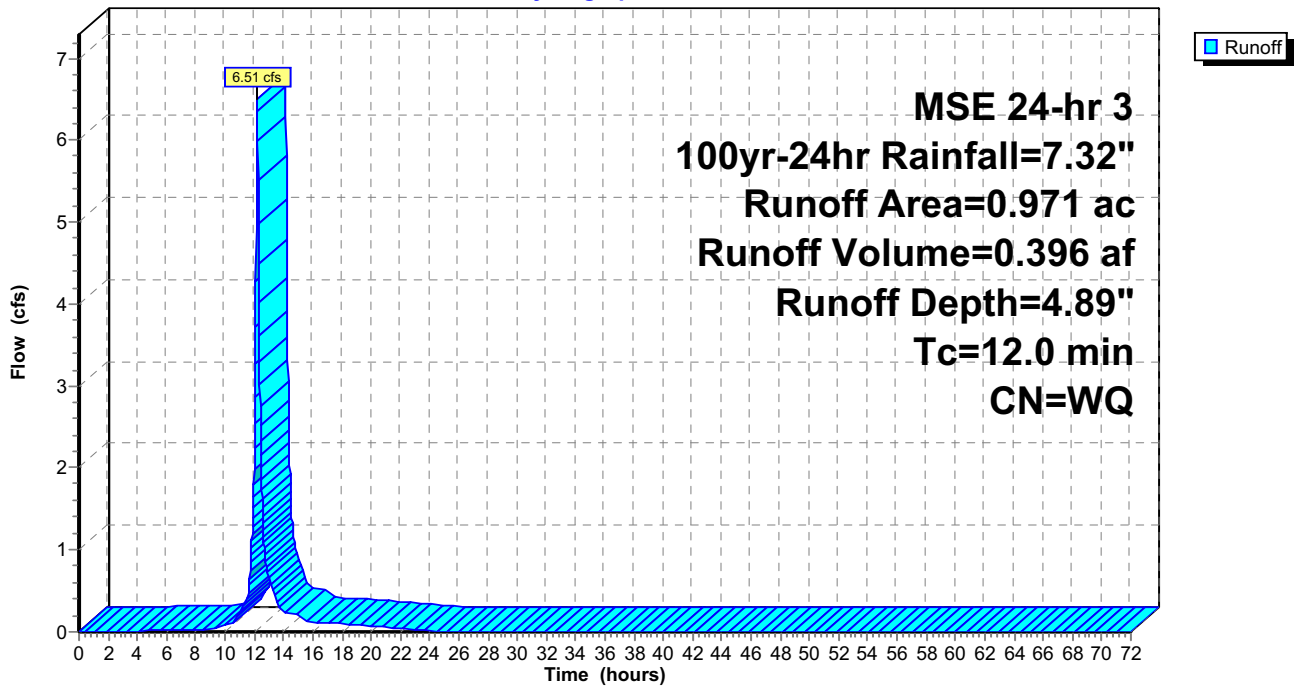
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.205	98	Impervious
0.003	39	>75% Grass cover, Good, HSG A
0.763	74	>75% Grass cover, Good, HSG C
0.971		Weighted Average
0.766		78.89% Pervious Area
0.205		21.11% Impervious Area

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

Subcatchment L9: L9

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment O10: O10

Runoff = 4.01 cfs @ 12.20 hrs, Volume= 0.241 af, Depth= 4.75"

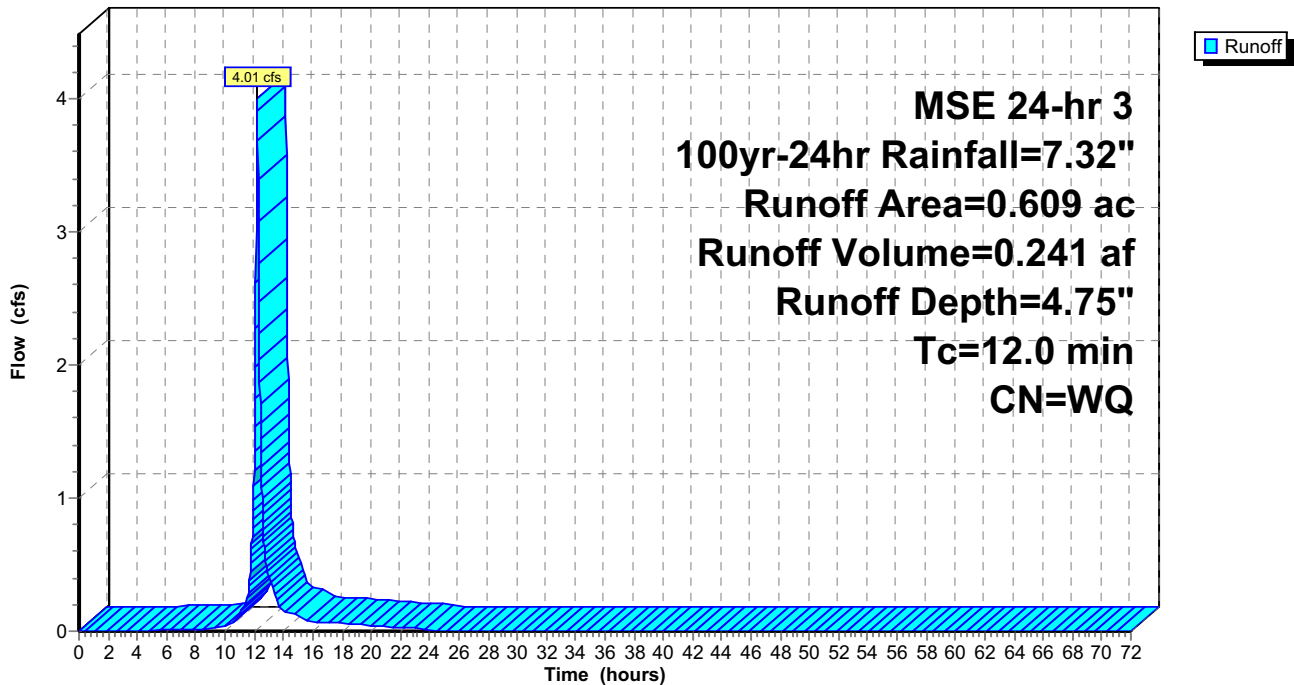
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.094	98	Impervious
0.515	74	>75% Grass cover, Good, HSG C
0.609		Weighted Average
0.515		84.56% Pervious Area
0.094		15.44% Impervious Area

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

Subcatchment O10: O10

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment O8: O8

Runoff = 3.19 cfs @ 12.20 hrs, Volume= 0.190 af, Depth= 4.66"

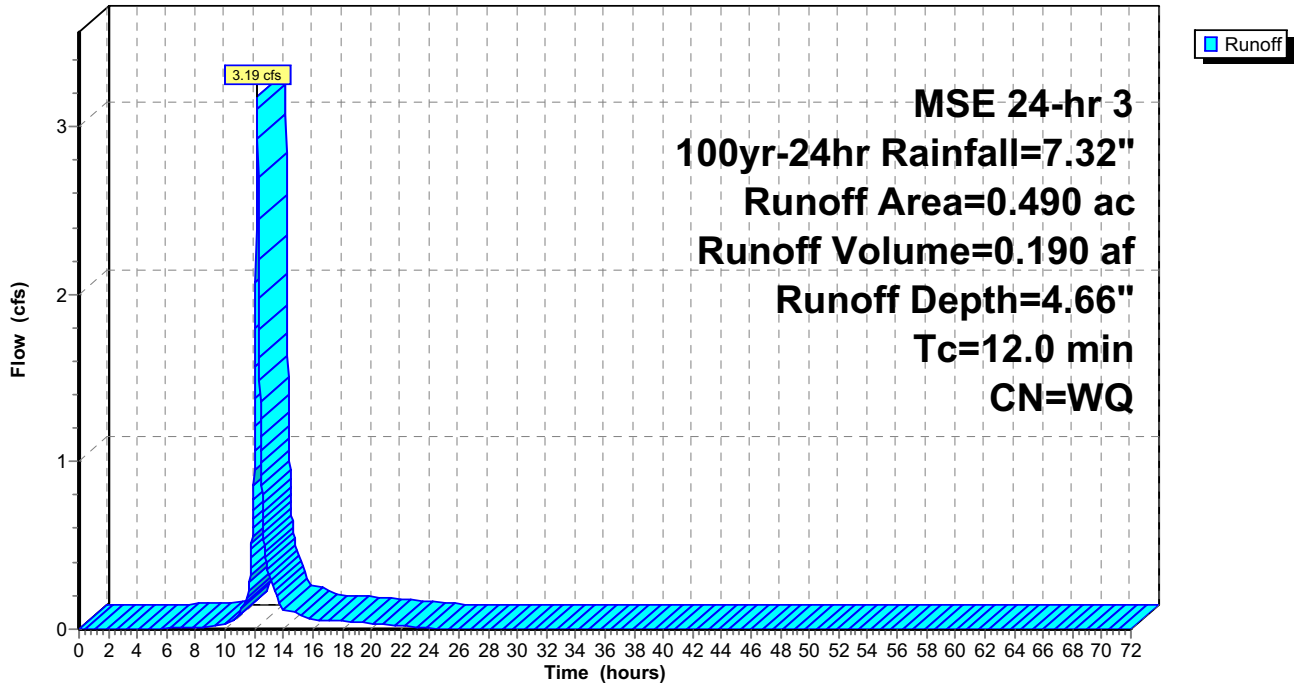
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.060	98	Impervious
0.430	74	>75% Grass cover, Good, HSG C
0.490		Weighted Average
0.430		87.76% Pervious Area
0.060		12.24% Impervious Area

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

Subcatchment O8: O8

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment O9: O9

Runoff = 7.65 cfs @ 12.20 hrs, Volume= 0.464 af, Depth= 4.87"

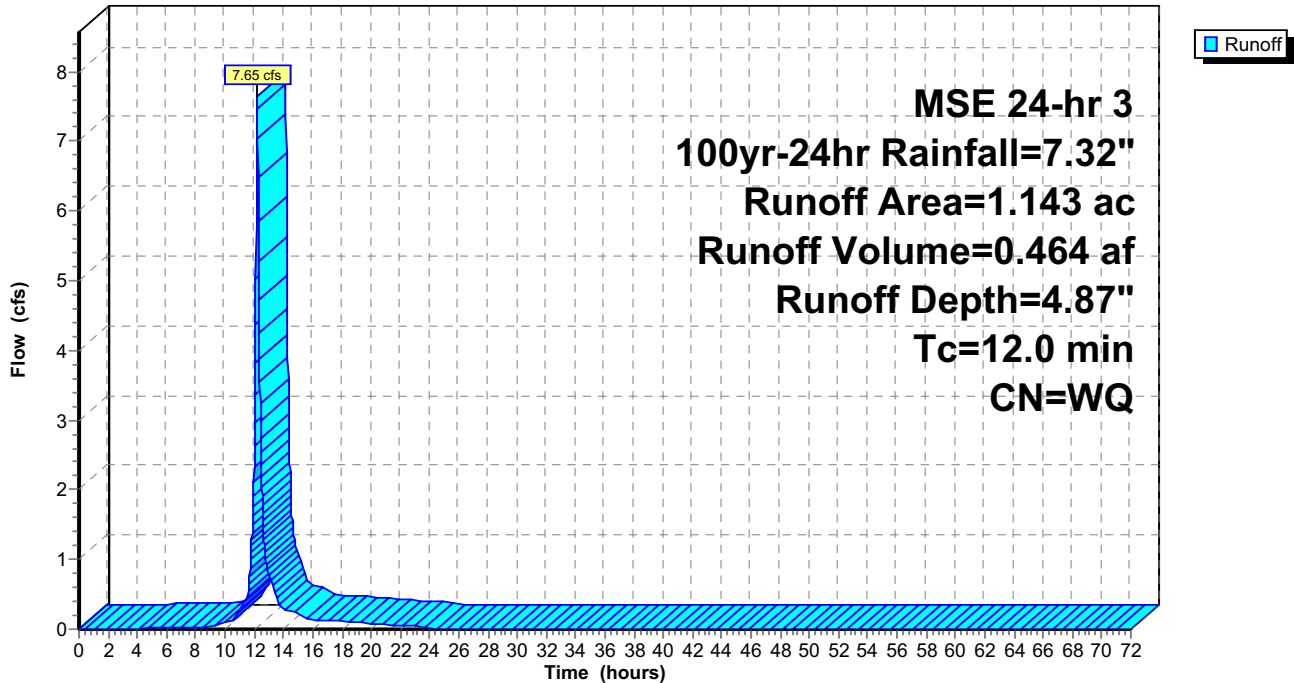
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.227	98	Impervious
0.916	74	>75% Grass cover, Good, HSG C
1.143		Weighted Average
0.916		80.14% Pervious Area
0.227		19.86% Impervious Area

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

Subcatchment O9: O9

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W6: W6

Runoff = 42.65 cfs @ 12.38 hrs, Volume= 3.803 af, Depth= 4.57"

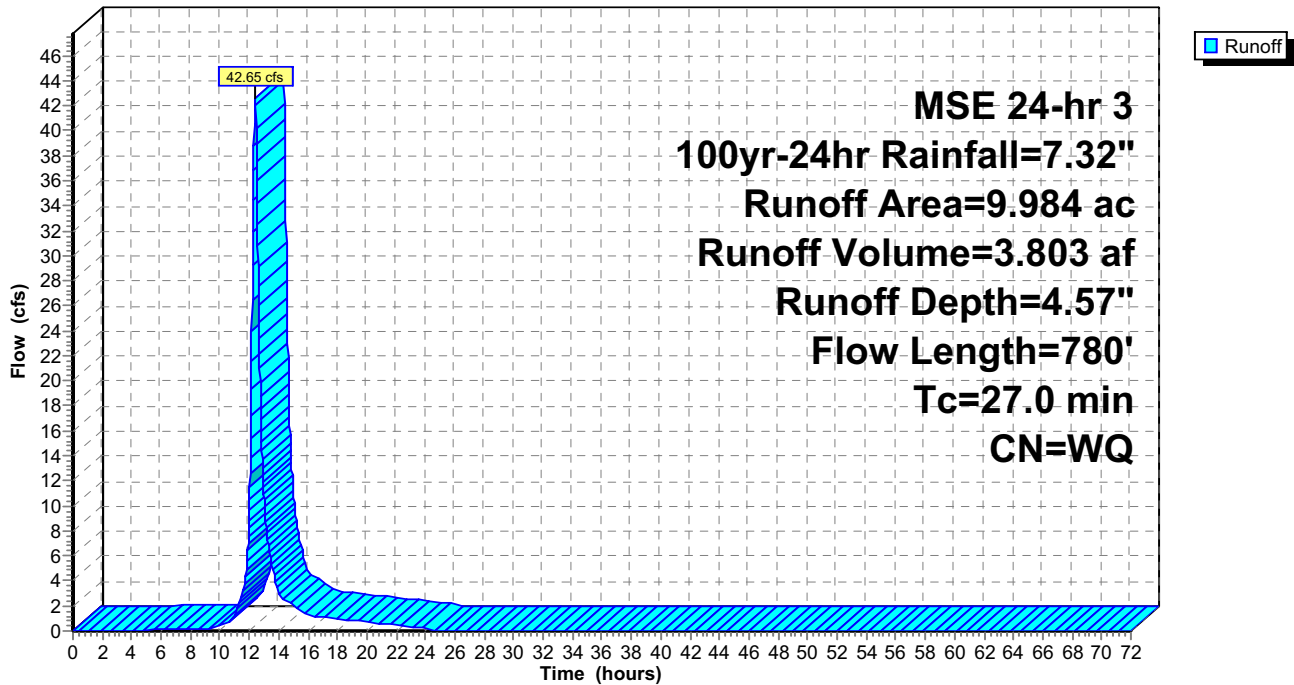
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.983	98	Impervious
6.862	74	>75% Grass cover, Good, HSG C
2.139	73	Woods, Fair, HSG C
9.984		Weighted Average
9.001		90.15% Pervious Area
0.983		9.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	300	0.0330	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
6.6	480	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.0	780	Total			

Subcatchment W6: W6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W6_100: W6_100

Runoff = 0.67 cfs @ 12.58 hrs, Volume= 0.077 af, Depth= 4.26"

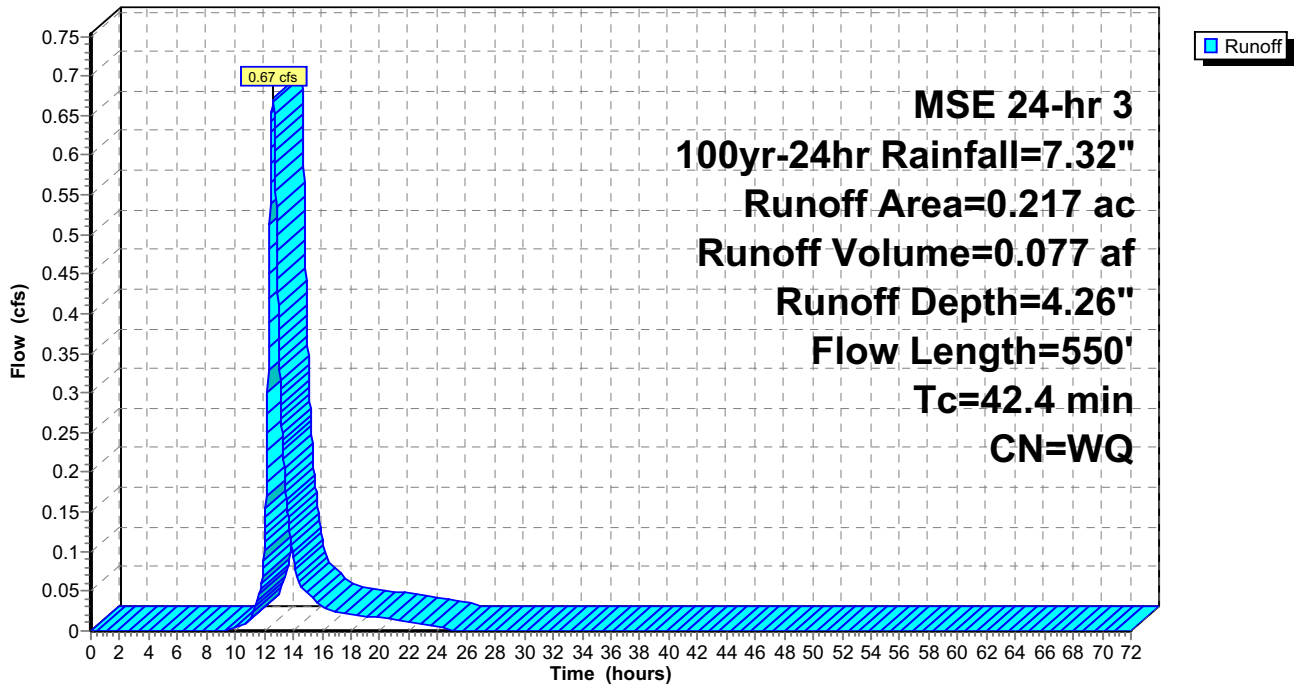
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.094	74	>75% Grass cover, Good, HSG C
0.123	73	Woods, Fair, HSG C
0.217		Weighted Average
0.217		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.8	300	0.0470	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
3.6	250	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
42.4	550	Total			

Subcatchment W6_100: W6_100

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Summary for Subcatchment W6_101: W6_101

Runoff = 11.25 cfs @ 12.28 hrs, Volume= 0.840 af, Depth= 4.67"

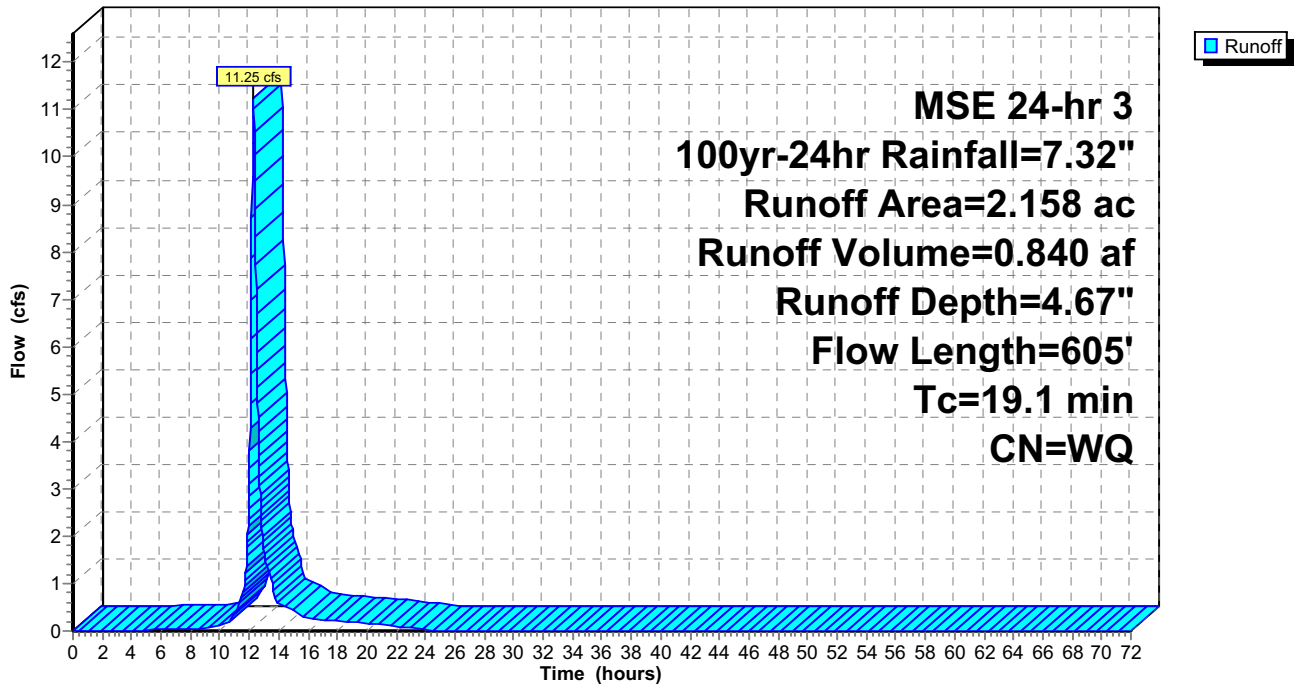
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
1.405	74	>75% Grass cover, Good, HSG C
* 0.290	98	Impervious
0.463	73	Woods, Fair, HSG C
2.158		Weighted Average
1.868		86.56% Pervious Area
0.290		13.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	295	0.0680	0.33		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
4.0	310	0.0340	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
19.1	605	Total			

Subcatchment W6_101: W6_101

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Summary for Subcatchment W6_102: W6_102

Runoff = 1.43 cfs @ 12.24 hrs, Volume= 0.094 af, Depth= 4.32"

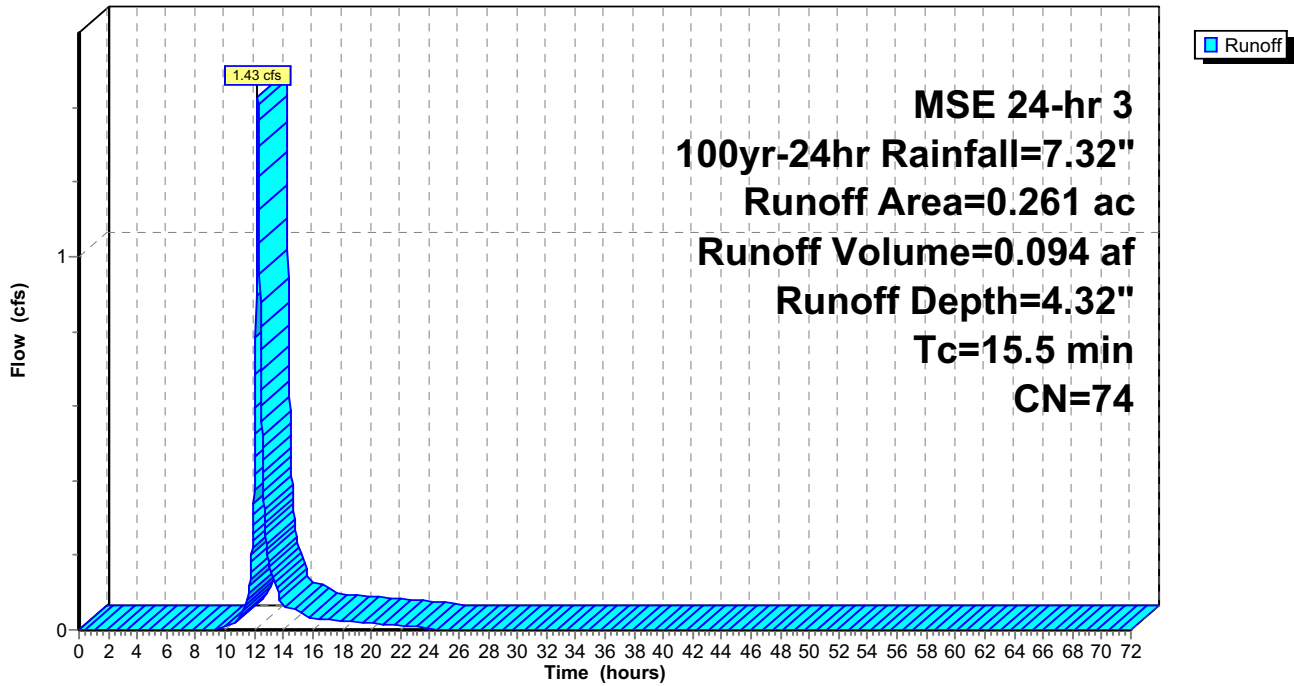
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
0.261		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5					Direct Entry, From Existing Conditions (EX_5)

Subcatchment W6_102: W6_102

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W9: W9

Runoff = 11.59 cfs @ 12.20 hrs, Volume= 0.692 af, Depth= 4.65"

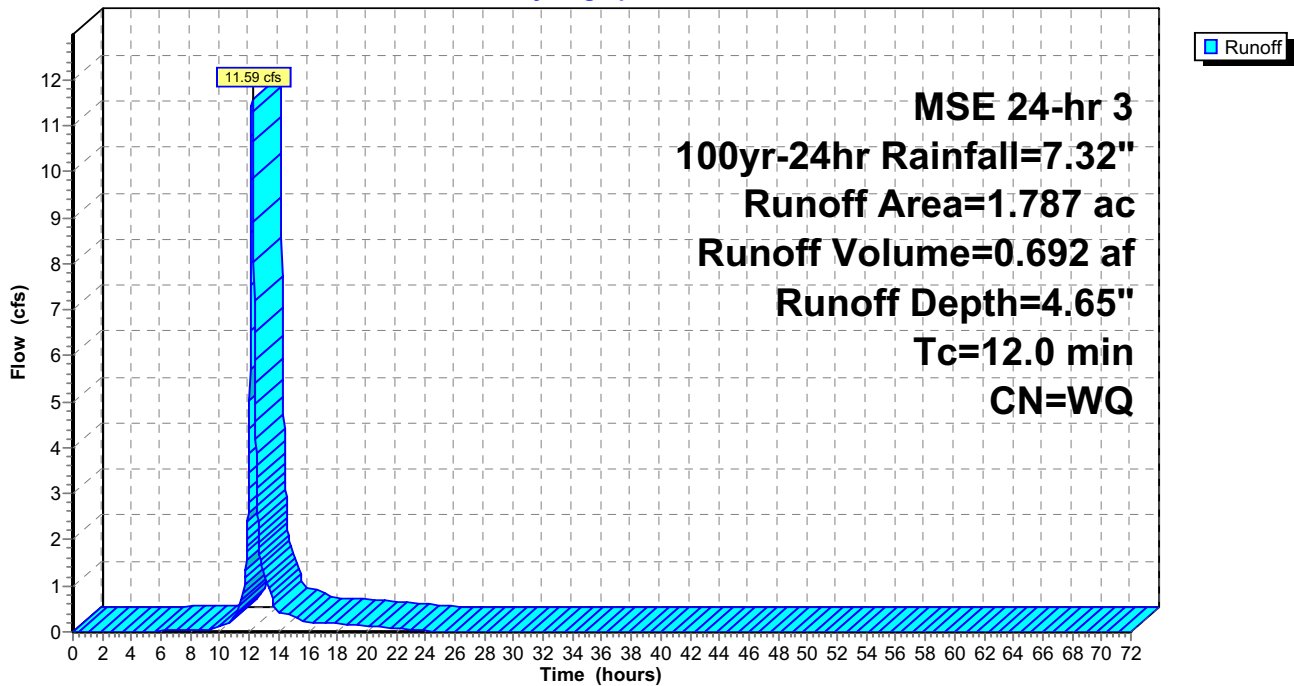
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
1.416	74	>75% Grass cover, Good, HSG C
* 0.217	98	Pond
0.154	73	Woods, Fair, HSG C
1.787		Weighted Average
1.570		87.86% Pervious Area
0.217		12.14% Impervious Area

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

Subcatchment W9: W9

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Summary for Subcatchment W9_100: W9_100

Runoff = 9.85 cfs @ 12.47 hrs, Volume= 1.027 af, Depth= 4.94"

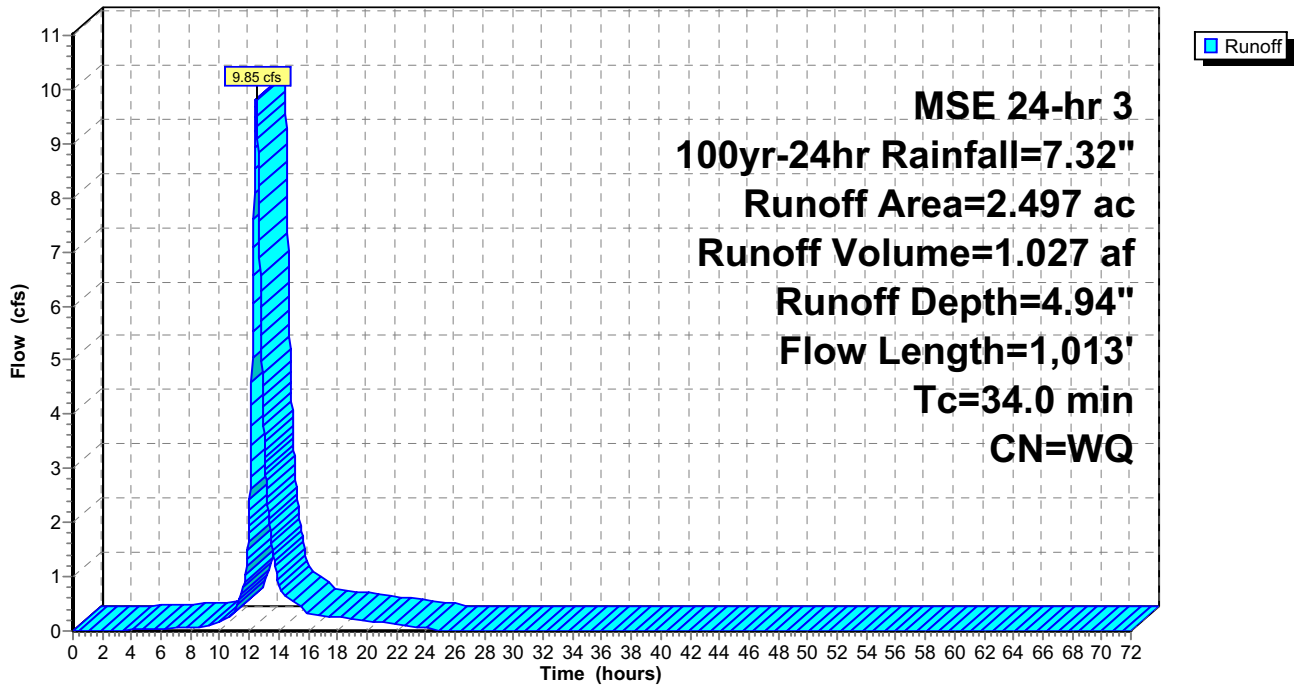
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
1.912	74	>75% Grass cover, Good, HSG C
* 0.557	98	Impervious
0.028	73	Woods, Fair, HSG C
2.497		Weighted Average
1.940		77.69% Pervious Area
0.557		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	223	0.0450	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
19.8	790	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
34.0	1,013	Total			

Subcatchment W9_100: W9_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W9_101: W9_101

Runoff = 3.49 cfs @ 12.24 hrs, Volume= 0.255 af, Depth= 5.68"

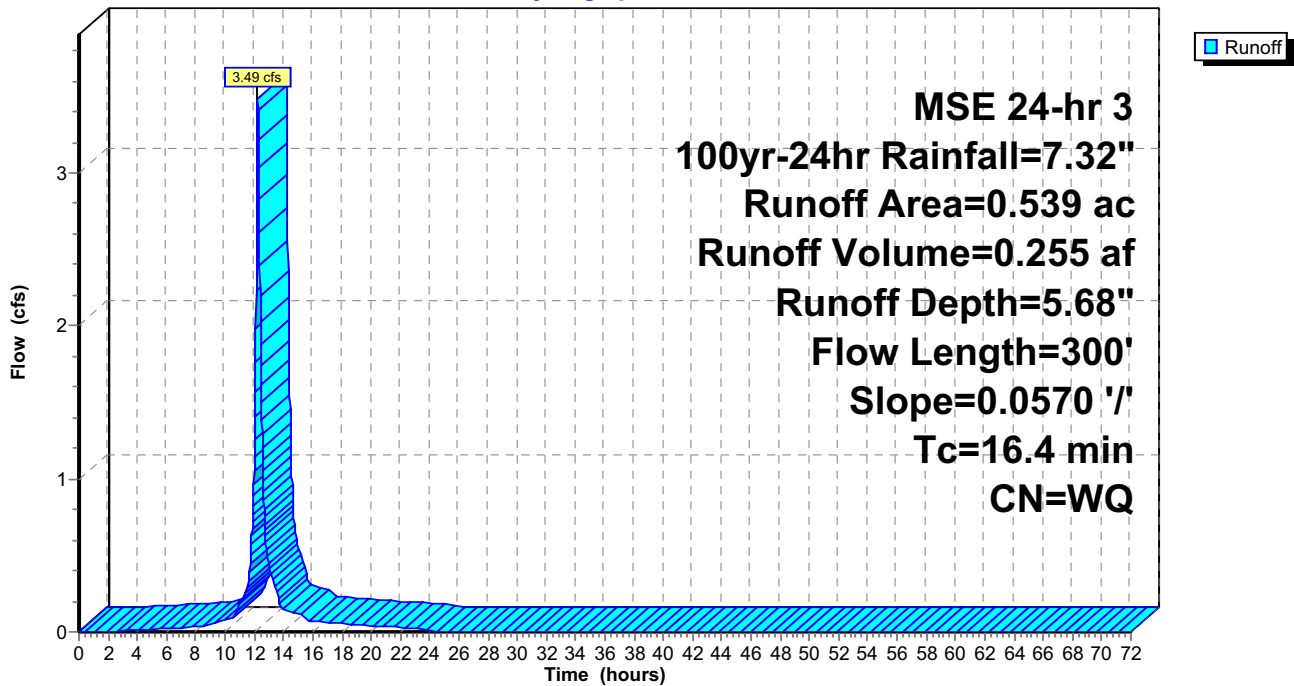
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.274	74	>75% Grass cover, Good, HSG C
* 0.265	98	Impervious
0.539		Weighted Average
0.274		50.83% Pervious Area
0.265		49.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	300	0.0570	0.31		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment W9_101: W9_101

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 1R: Bassett Creek Watershed

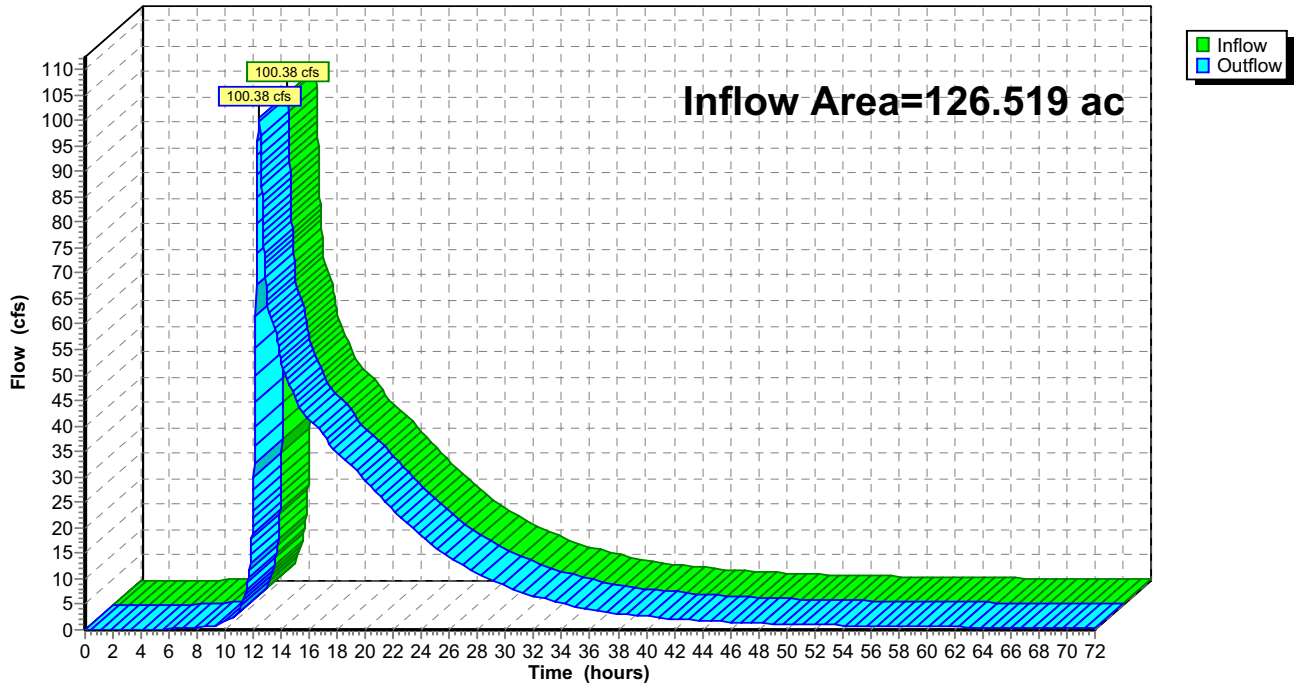
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.519 ac, 32.48% Impervious, Inflow Depth > 4.94" for 100yr-24hr event
Inflow = 100.38 cfs @ 12.40 hrs, Volume= 52.132 af
Outflow = 100.38 cfs @ 12.40 hrs, Volume= 52.132 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 5R: Elm Creek Watershed

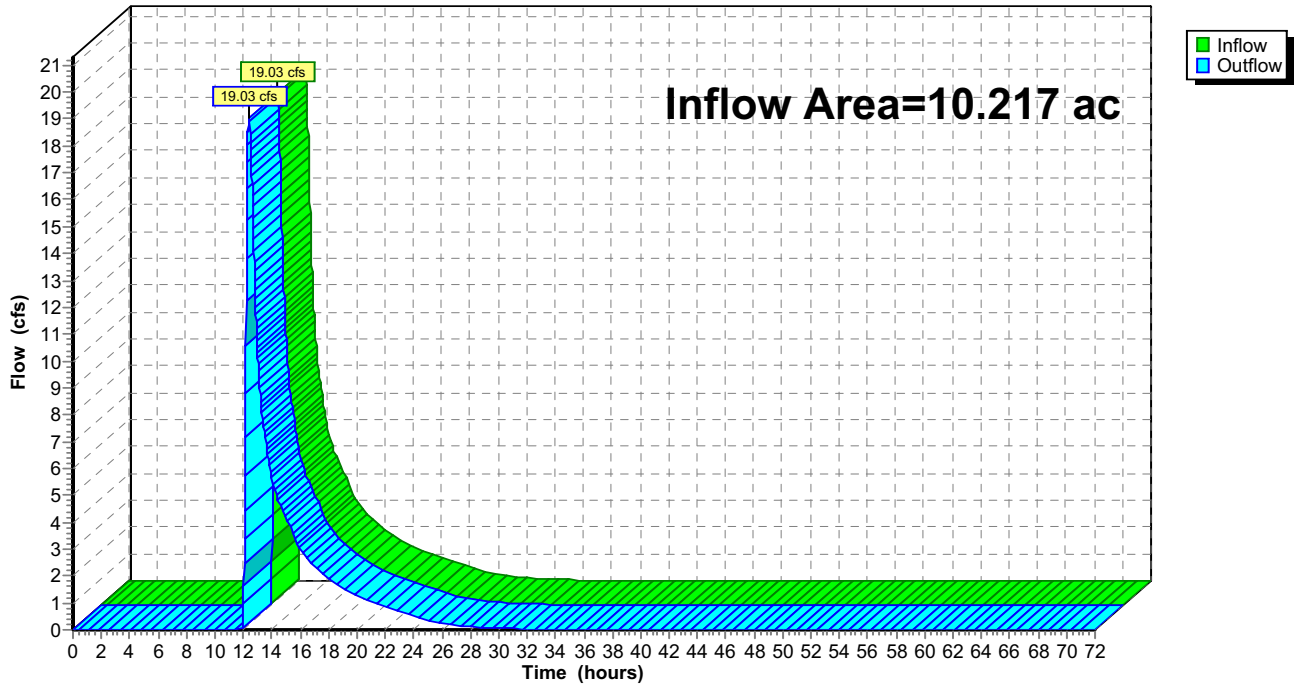
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 4.09" for 100yr-24hr event
Inflow = 19.03 cfs @ 12.39 hrs, Volume= 3.480 af
Outflow = 19.03 cfs @ 12.39 hrs, Volume= 3.480 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 5R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 8R: Offsite

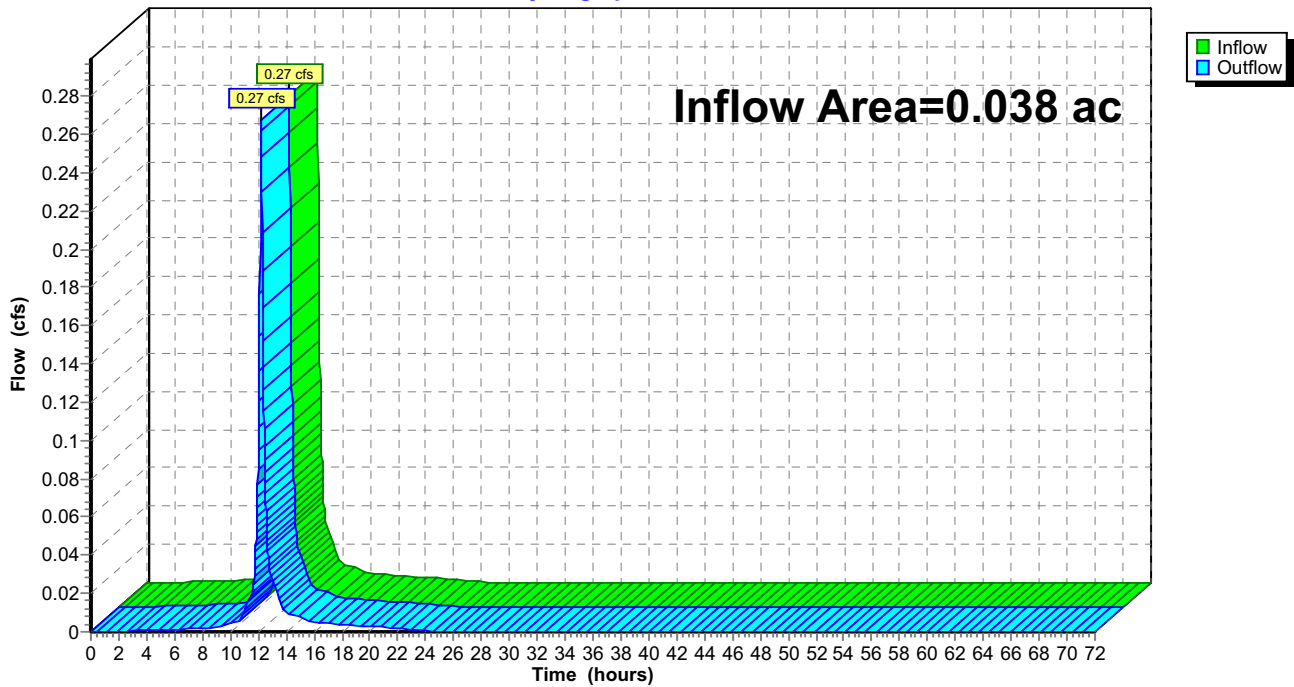
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.038 ac, 36.84% Impervious, Inflow Depth = 5.34" for 100yr-24hr event
Inflow = 0.27 cfs @ 12.20 hrs, Volume= 0.017 af
Outflow = 0.27 cfs @ 12.20 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 8R: Offsite

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach Wetland: Wetland 6

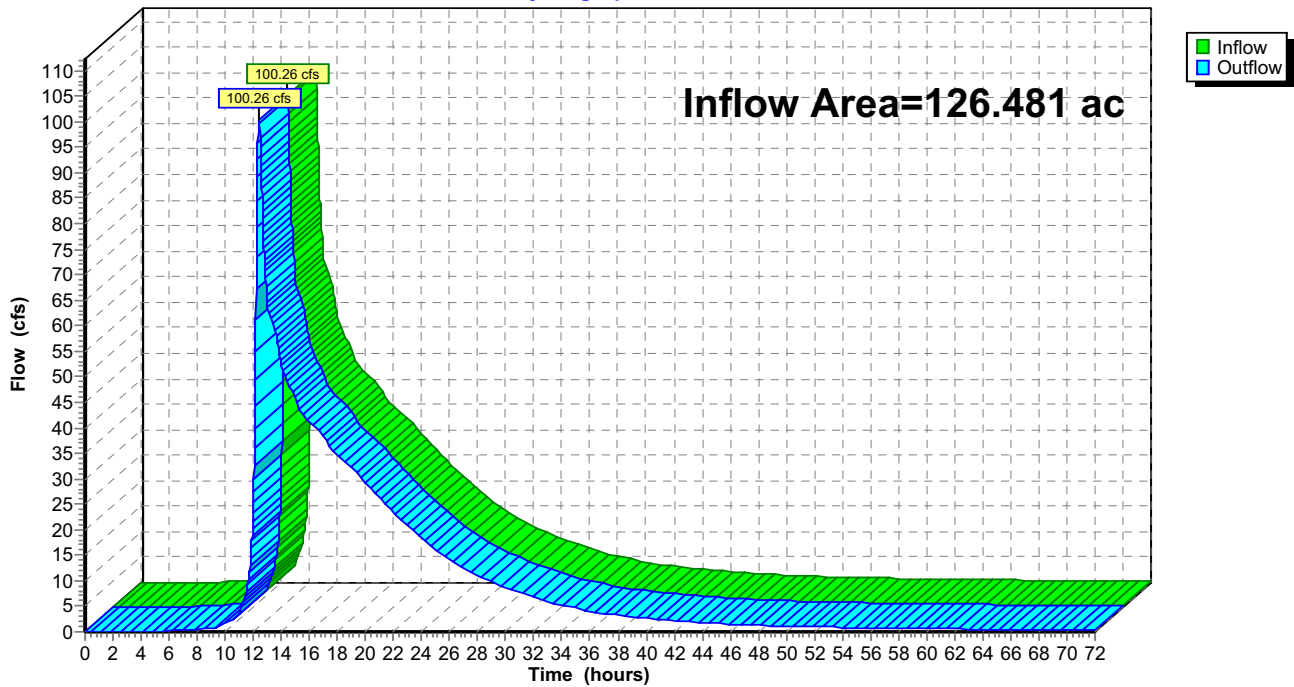
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.481 ac, 32.48% Impervious, Inflow Depth > 4.94" for 100yr-24hr event
Inflow = 100.26 cfs @ 12.40 hrs, Volume= 52.115 af
Outflow = 100.26 cfs @ 12.40 hrs, Volume= 52.115 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach Wetland: Wetland 6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond 4P: CB_22 pipe

[57] Hint: Peaked at 971.34' (Flood elevation advised)

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 5.09" for 100yr-24hr event
 Inflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af
 Outflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 971.34' @ 12.46 hrs

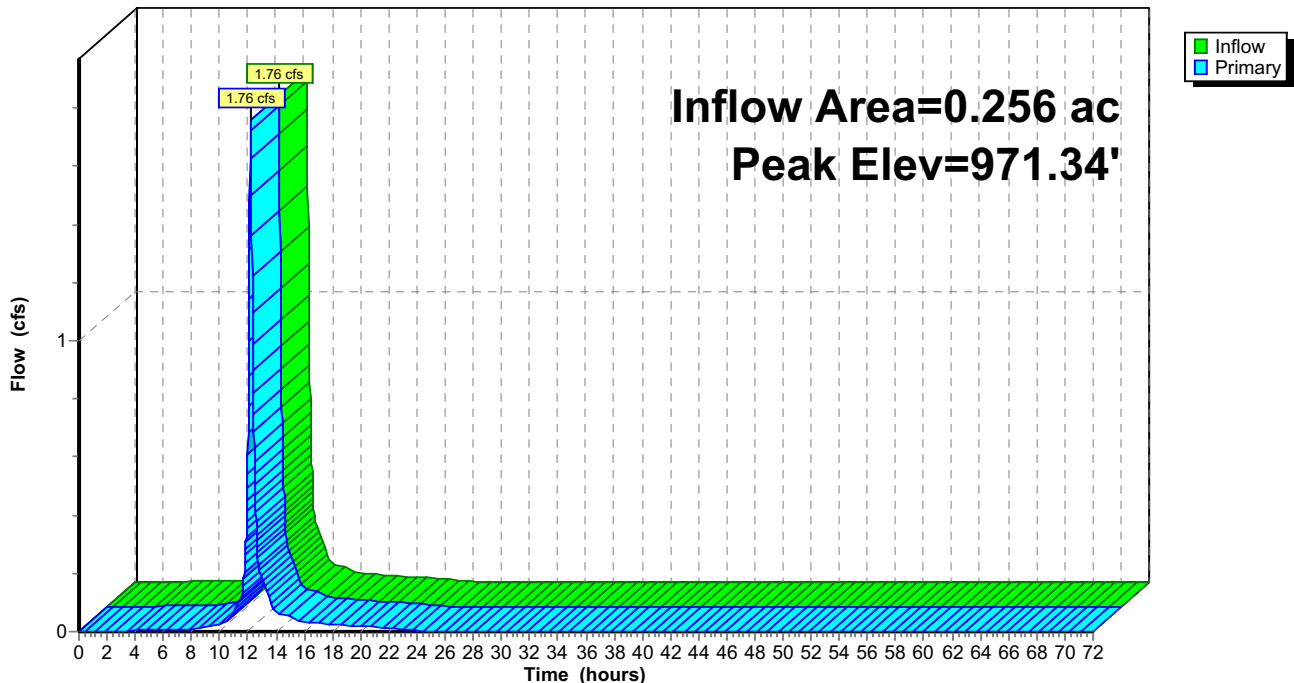
Device	Routing	Invert	Outlet Devices
#1	Primary	969.20'	24.0" Round Structure I2 to I1 L= 40.7' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.20' / 969.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	969.50'	21.0" Round Structure I9 to I2 L= 87.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

Primary OutFlow Max=0.00 cfs @ 12.20 hrs HW=970.71' TW=970.75' (Dynamic Tailwater)

- 1=Structure I2 to I1 (Controls 0.00 cfs)
- 2=Structure I9 to I2 (Controls 0.00 cfs)

Pond 4P: CB_22 pipe

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond 4P: CB_22 pipe

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
969.20	0	970.22	0	971.24	0
969.22	0	970.24	0	971.26	0
969.24	0	970.26	0	971.28	0
969.26	0	970.28	0	971.30	0
969.28	0	970.30	0	971.32	0
969.30	0	970.32	0	971.34	0
969.32	0	970.34	0		
969.34	0	970.36	0		
969.36	0	970.38	0		
969.38	0	970.40	0		
969.40	0	970.42	0		
969.42	0	970.44	0		
969.44	0	970.46	0		
969.46	0	970.48	0		
969.48	0	970.50	0		
969.50	0	970.52	0		
969.52	0	970.54	0		
969.54	0	970.56	0		
969.56	0	970.58	0		
969.58	0	970.60	0		
969.60	0	970.62	0		
969.62	0	970.64	0		
969.64	0	970.66	0		
969.66	0	970.68	0		
969.68	0	970.70	0		
969.70	0	970.72	0		
969.72	0	970.74	0		
969.74	0	970.76	0		
969.76	0	970.78	0		
969.78	0	970.80	0		
969.80	0	970.82	0		
969.82	0	970.84	0		
969.84	0	970.86	0		
969.86	0	970.88	0		
969.88	0	970.90	0		
969.90	0	970.92	0		
969.92	0	970.94	0		
969.94	0	970.96	0		
969.96	0	970.98	0		
969.98	0	971.00	0		
970.00	0	971.02	0		
970.02	0	971.04	0		
970.04	0	971.06	0		
970.06	0	971.08	0		
970.08	0	971.10	0		
970.10	0	971.12	0		
970.12	0	971.14	0		
970.14	0	971.16	0		
970.16	0	971.18	0		
970.18	0	971.20	0		
970.20	0	971.22	0		

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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A10: CB_A10

Inflow Area = 0.552 ac, 11.05% Impervious, Inflow Depth = 4.60" for 100yr-24hr event
 Inflow = 3.55 cfs @ 12.20 hrs, Volume= 0.211 af
 Outflow = 3.51 cfs @ 12.21 hrs, Volume= 0.211 af, Atten= 1%, Lag= 0.9 min
 Primary = 3.51 cfs @ 12.21 hrs, Volume= 0.211 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.28' @ 12.21 hrs Surf.Area= 1,004 sf Storage= 150 cf

Plug-Flow detention time= 0.5 min calculated for 0.211 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (795.0 - 794.4)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	8,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
999.00	3,400	1,725	1,725
1,001.00	3,400	6,800	8,525

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	999.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.50 cfs @ 12.21 hrs HW=998.28' TW=979.92' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 3.50 cfs @ 1.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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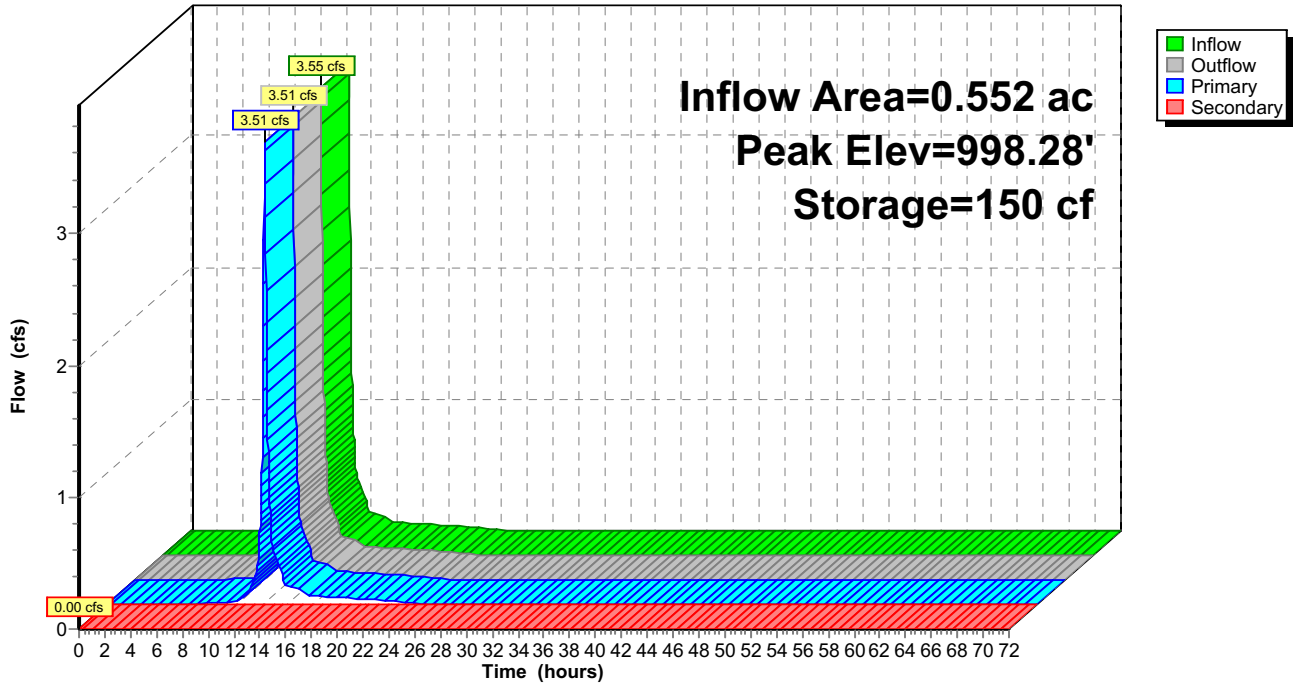
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A10: CB_A10

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_A10: CB_A10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	3,400	6,995
998.05	217	7	1,000.60	3,400	7,165
998.10	385	22	1,000.65	3,400	7,335
998.15	552	45	1,000.70	3,400	7,505
998.20	720	77	1,000.75	3,400	7,675
998.25	888	117	1,000.80	3,400	7,845
998.30	1,055	166	1,000.85	3,400	8,015
998.35	1,223	223	1,000.90	3,400	8,185
998.40	1,390	288	1,000.95	3,400	8,355
998.45	1,558	362	1,001.00	3,400	8,525
998.50	1,725	444			
998.55	1,892	534			
998.60	2,060	633			
998.65	2,227	740			
998.70	2,395	856			
998.75	2,563	980			
998.80	2,730	1,112			
998.85	2,898	1,253			
998.90	3,065	1,402			
998.95	3,233	1,559			
999.00	3,400	1,725			
999.05	3,400	1,895			
999.10	3,400	2,065			
999.15	3,400	2,235			
999.20	3,400	2,405			
999.25	3,400	2,575			
999.30	3,400	2,745			
999.35	3,400	2,915			
999.40	3,400	3,085			
999.45	3,400	3,255			
999.50	3,400	3,425			
999.55	3,400	3,595			
999.60	3,400	3,765			
999.65	3,400	3,935			
999.70	3,400	4,105			
999.75	3,400	4,275			
999.80	3,400	4,445			
999.85	3,400	4,615			
999.90	3,400	4,785			
999.95	3,400	4,955			
1,000.00	3,400	5,125			
1,000.05	3,400	5,295			
1,000.10	3,400	5,465			
1,000.15	3,400	5,635			
1,000.20	3,400	5,805			
1,000.25	3,400	5,975			
1,000.30	3,400	6,145			
1,000.35	3,400	6,315			
1,000.40	3,400	6,485			
1,000.45	3,400	6,655			
1,000.50	3,400	6,825			

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Summary for Pond CB_A11: CB_A11

Inflow Area = 1.508 ac, 12.07% Impervious, Inflow Depth = 5.79" for 100yr-24hr event
Inflow = 12.15 cfs @ 12.20 hrs, Volume= 0.728 af
Outflow = 11.83 cfs @ 12.22 hrs, Volume= 0.728 af, Atten= 3%, Lag= 1.4 min
Primary = 11.83 cfs @ 12.22 hrs, Volume= 0.728 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 996.64' @ 12.22 hrs Surf.Area= 2,529 sf Storage= 825 cf

Plug-Flow detention time= 0.8 min calculated for 0.728 af (100% of inflow)
Center-of-Mass det. time= 0.8 min (793.4 - 792.6)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	7,850 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	7,800	7,850	7,850

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.60'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.80 cfs @ 12.22 hrs HW=996.64' TW=979.98' (Dynamic Tailwater)
↑1=**Grate** (Weir Controls 11.80 cfs @ 2.61 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=996.00' TW=994.00' (Dynamic Tailwater)
↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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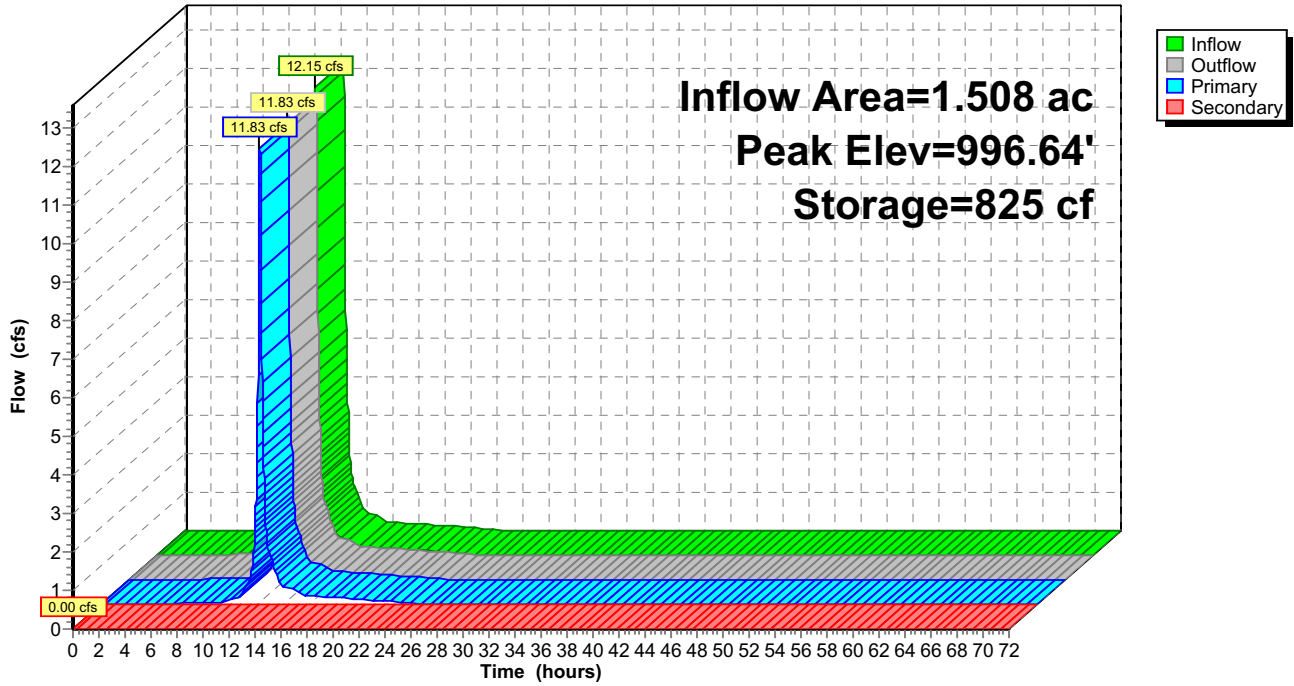
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A11: CB_A11

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_A11: CB_A11

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
996.00	50	0	997.02	4,002	2,067
996.02	127	2	997.04	4,080	2,148
996.04	205	5	997.06	4,157	2,230
996.06	282	10	997.08	4,235	2,314
996.08	360	16	997.10	4,313	2,399
996.10	438	24	997.12	4,390	2,486
996.12	515	34	997.14	4,467	2,575
996.14	592	45	997.16	4,545	2,665
996.16	670	58	997.18	4,622	2,757
996.18	747	72	997.20	4,700	2,850
996.20	825	88	997.22	4,778	2,945
996.22	903	105	997.24	4,855	3,041
996.24	980	124	997.26	4,932	3,139
996.26	1,057	144	997.28	5,010	3,238
996.28	1,135	166	997.30	5,087	3,339
996.30	1,212	189	997.32	5,165	3,442
996.32	1,290	214	997.34	5,243	3,546
996.34	1,368	241	997.36	5,320	3,652
996.36	1,445	269	997.38	5,397	3,759
996.38	1,522	299	997.40	5,475	3,867
996.40	1,600	330	997.42	5,552	3,978
996.42	1,677	363	997.44	5,630	4,090
996.44	1,755	397	997.46	5,708	4,203
996.46	1,833	433	997.48	5,785	4,318
996.48	1,910	470	997.50	5,863	4,434
996.50	1,988	509	997.52	5,940	4,552
996.52	2,065	550	997.54	6,017	4,672
996.54	2,142	592	997.56	6,095	4,793
996.56	2,220	636	997.58	6,173	4,916
996.58	2,298	681	997.60	6,250	5,040
996.60	2,375	728	997.62	6,328	5,166
996.62	2,453	776	997.64	6,405	5,293
996.64	2,530	826	997.66	6,482	5,422
996.66	2,607	877	997.68	6,560	5,552
996.68	2,685	930	997.70	6,638	5,684
996.70	2,763	984	997.72	6,715	5,818
996.72	2,840	1,040	997.74	6,793	5,953
996.74	2,918	1,098	997.76	6,870	6,090
996.76	2,995	1,157	997.78	6,947	6,228
996.78	3,072	1,218	997.80	7,025	6,367
996.80	3,150	1,280	997.82	7,103	6,509
996.82	3,228	1,344	997.84	7,180	6,652
996.84	3,305	1,409	997.86	7,258	6,796
996.86	3,383	1,476	997.88	7,335	6,942
996.88	3,460	1,544	997.90	7,412	7,089
996.90	3,537	1,614	997.92	7,490	7,238
996.92	3,615	1,686	997.94	7,568	7,389
996.94	3,693	1,759	997.96	7,645	7,541
996.96	3,770	1,834	997.98	7,723	7,695
996.98	3,848	1,910	998.00	7,800	7,850
997.00	3,925	1,988			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A12: CB_A12

Inflow Area = 0.993 ac, 19.54% Impervious, Inflow Depth = 4.86" for 100yr-24hr event
 Inflow = 6.64 cfs @ 12.20 hrs, Volume= 0.402 af
 Outflow = 6.60 cfs @ 12.21 hrs, Volume= 0.402 af, Atten= 1%, Lag= 0.7 min
 Primary = 4.23 cfs @ 12.21 hrs, Volume= 0.259 af
 Secondary = 2.36 cfs @ 12.21 hrs, Volume= 0.143 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.32' @ 12.21 hrs Surf.Area= 1,240 sf Storage= 406 cf

Plug-Flow detention time= 2.7 min calculated for 0.402 af (100% of inflow)
 Center-of-Mass det. time= 2.5 min (789.9 - 787.4)

Volume	Invert	Avail.Storage	Storage Description
#1	997.99'	1,246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.99	50	0	0
998.00	1,240	6	6
999.00	1,240	1,240	1,246

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	998.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=4.21 cfs @ 12.21 hrs HW=998.32' TW=979.90' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 4.21 cfs @ 1.85 fps)

Secondary OutFlow Max=2.35 cfs @ 12.21 hrs HW=998.32' TW=996.63' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Weir Controls 2.35 cfs @ 1.46 fps)

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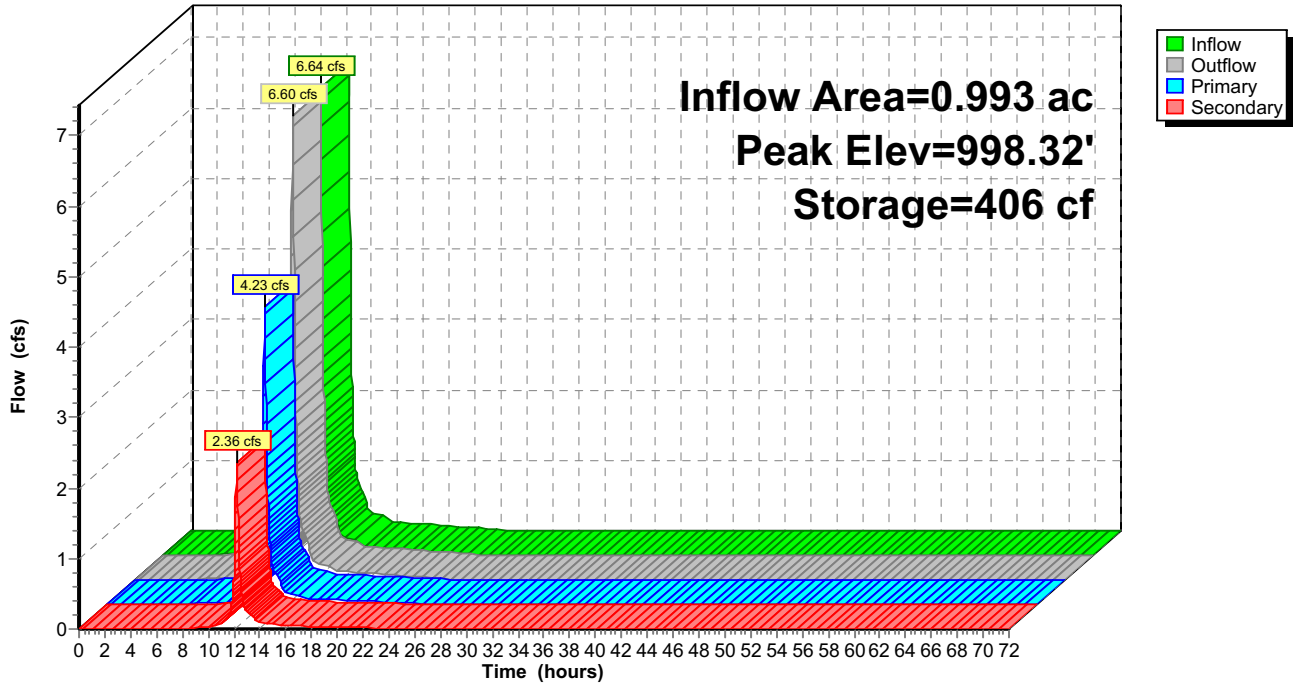
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A12: CB_A12

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Stage-Area-Storage for Pond CB_A12: CB_A12

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
997.99	50	0	998.50	1,240	626
998.00	1,240	6	998.51	1,240	639
998.01	1,240	19	998.52	1,240	651
998.02	1,240	31	998.53	1,240	664
998.03	1,240	44	998.54	1,240	676
998.04	1,240	56	998.55	1,240	688
998.05	1,240	68	998.56	1,240	701
998.06	1,240	81	998.57	1,240	713
998.07	1,240	93	998.58	1,240	726
998.08	1,240	106	998.59	1,240	738
998.09	1,240	118	998.60	1,240	750
998.10	1,240	130	998.61	1,240	763
998.11	1,240	143	998.62	1,240	775
998.12	1,240	155	998.63	1,240	788
998.13	1,240	168	998.64	1,240	800
998.14	1,240	180	998.65	1,240	812
998.15	1,240	192	998.66	1,240	825
998.16	1,240	205	998.67	1,240	837
998.17	1,240	217	998.68	1,240	850
998.18	1,240	230	998.69	1,240	862
998.19	1,240	242	998.70	1,240	874
998.20	1,240	254	998.71	1,240	887
998.21	1,240	267	998.72	1,240	899
998.22	1,240	279	998.73	1,240	912
998.23	1,240	292	998.74	1,240	924
998.24	1,240	304	998.75	1,240	936
998.25	1,240	316	998.76	1,240	949
998.26	1,240	329	998.77	1,240	961
998.27	1,240	341	998.78	1,240	974
998.28	1,240	354	998.79	1,240	986
998.29	1,240	366	998.80	1,240	998
998.30	1,240	378	998.81	1,240	1,011
998.31	1,240	391	998.82	1,240	1,023
998.32	1,240	403	998.83	1,240	1,036
998.33	1,240	416	998.84	1,240	1,048
998.34	1,240	428	998.85	1,240	1,060
998.35	1,240	440	998.86	1,240	1,073
998.36	1,240	453	998.87	1,240	1,085
998.37	1,240	465	998.88	1,240	1,098
998.38	1,240	478	998.89	1,240	1,110
998.39	1,240	490	998.90	1,240	1,122
998.40	1,240	502	998.91	1,240	1,135
998.41	1,240	515	998.92	1,240	1,147
998.42	1,240	527	998.93	1,240	1,160
998.43	1,240	540	998.94	1,240	1,172
998.44	1,240	552	998.95	1,240	1,184
998.45	1,240	564	998.96	1,240	1,197
998.46	1,240	577	998.97	1,240	1,209
998.47	1,240	589	998.98	1,240	1,222
998.48	1,240	602	998.99	1,240	1,234
998.49	1,240	614	999.00	1,240	1,246

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Summary for Pond CB_A20: CB_A20

Inflow Area = 0.766 ac, 20.23% Impervious, Inflow Depth = 4.88" for 100yr-24hr event
Inflow = 5.13 cfs @ 12.20 hrs, Volume= 0.312 af
Outflow = 4.61 cfs @ 12.25 hrs, Volume= 0.312 af, Atten= 10%, Lag= 2.9 min
Primary = 4.61 cfs @ 12.25 hrs, Volume= 0.312 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 1,001.23' @ 12.25 hrs Surf.Area= 1,120 sf Storage= 809 cf

Plug-Flow detention time= 4.1 min calculated for 0.311 af (100% of inflow)
Center-of-Mass det. time= 4.2 min (791.1 - 786.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	30,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	200	0	0
1,002.00	1,700	1,900	1,900
1,004.00	8,920	10,620	12,520
1,006.00	8,920	17,840	30,360

Device	Routing	Invert	Outlet Devices
#1	Primary	996.47'	18.0" Round Culvert L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 996.47' / 996.07' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	1,000.00'	15.0" Round Culvert L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,000.00' / 996.47' S= 0.0954 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#3	Secondary	1,004.00'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=4.60 cfs @ 12.25 hrs HW=1,001.22' TW=980.11' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 4.60 cfs of 14.01 cfs potential flow)

↑ **2=Culvert** (Inlet Controls 4.60 cfs @ 3.77 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=994.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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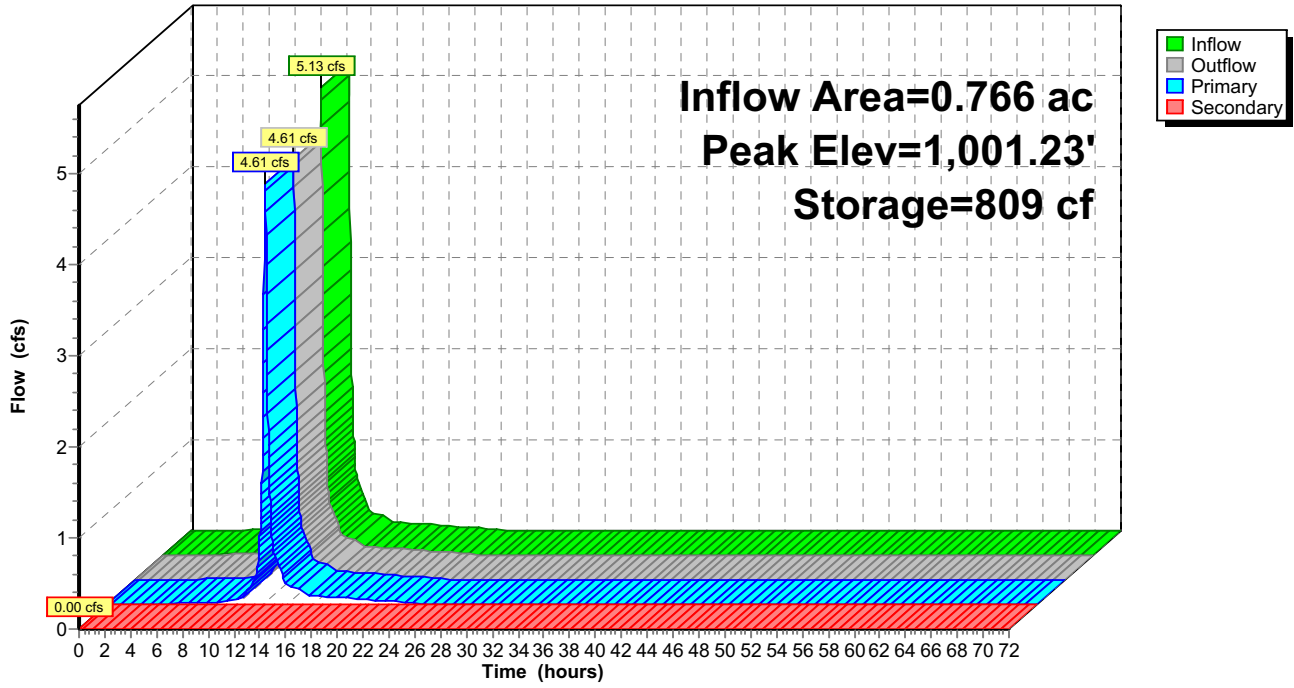
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A20: CB_A20

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_A20: CB_A20

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,000.00	200	0	1,005.10	8,920	22,332
1,000.10	275	24	1,005.20	8,920	23,224
1,000.20	350	55	1,005.30	8,920	24,116
1,000.30	425	94	1,005.40	8,920	25,008
1,000.40	500	140	1,005.50	8,920	25,900
1,000.50	575	194	1,005.60	8,920	26,792
1,000.60	650	255	1,005.70	8,920	27,684
1,000.70	725	324	1,005.80	8,920	28,576
1,000.80	800	400	1,005.90	8,920	29,468
1,000.90	875	484	1,006.00	8,920	30,360
1,001.00	950	575			
1,001.10	1,025	674			
1,001.20	1,100	780			
1,001.30	1,175	894			
1,001.40	1,250	1,015			
1,001.50	1,325	1,144			
1,001.60	1,400	1,280			
1,001.70	1,475	1,424			
1,001.80	1,550	1,575			
1,001.90	1,625	1,734			
1,002.00	1,700	1,900			
1,002.10	2,061	2,088			
1,002.20	2,422	2,312			
1,002.30	2,783	2,572			
1,002.40	3,144	2,869			
1,002.50	3,505	3,201			
1,002.60	3,866	3,570			
1,002.70	4,227	3,974			
1,002.80	4,588	4,415			
1,002.90	4,949	4,892			
1,003.00	5,310	5,405			
1,003.10	5,671	5,954			
1,003.20	6,032	6,539			
1,003.30	6,393	7,160			
1,003.40	6,754	7,818			
1,003.50	7,115	8,511			
1,003.60	7,476	9,241			
1,003.70	7,837	10,006			
1,003.80	8,198	10,808			
1,003.90	8,559	11,646			
1,004.00	8,920	12,520			
1,004.10	8,920	13,412			
1,004.20	8,920	14,304			
1,004.30	8,920	15,196			
1,004.40	8,920	16,088			
1,004.50	8,920	16,980			
1,004.60	8,920	17,872			
1,004.70	8,920	18,764			
1,004.80	8,920	19,656			
1,004.90	8,920	20,548			
1,005.00	8,920	21,440			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A7: CB_A7

Inflow Area = 0.696 ac, 28.02% Impervious, Inflow Depth = 5.10" for 100yr-24hr event
 Inflow = 4.80 cfs @ 12.20 hrs, Volume= 0.296 af
 Outflow = 4.73 cfs @ 12.21 hrs, Volume= 0.296 af, Atten= 1%, Lag= 1.0 min
 Primary = 4.73 cfs @ 12.21 hrs, Volume= 0.296 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.35' @ 12.21 hrs Surf.Area= 1,299 sf Storage= 234 cf

Plug-Flow detention time= 0.6 min calculated for 0.295 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (782.0 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	29,010 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	7,240	7,290	7,290
1,003.00	7,240	21,720	29,010

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.71 cfs @ 12.21 hrs HW=998.35' TW=979.93' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 4.71 cfs @ 1.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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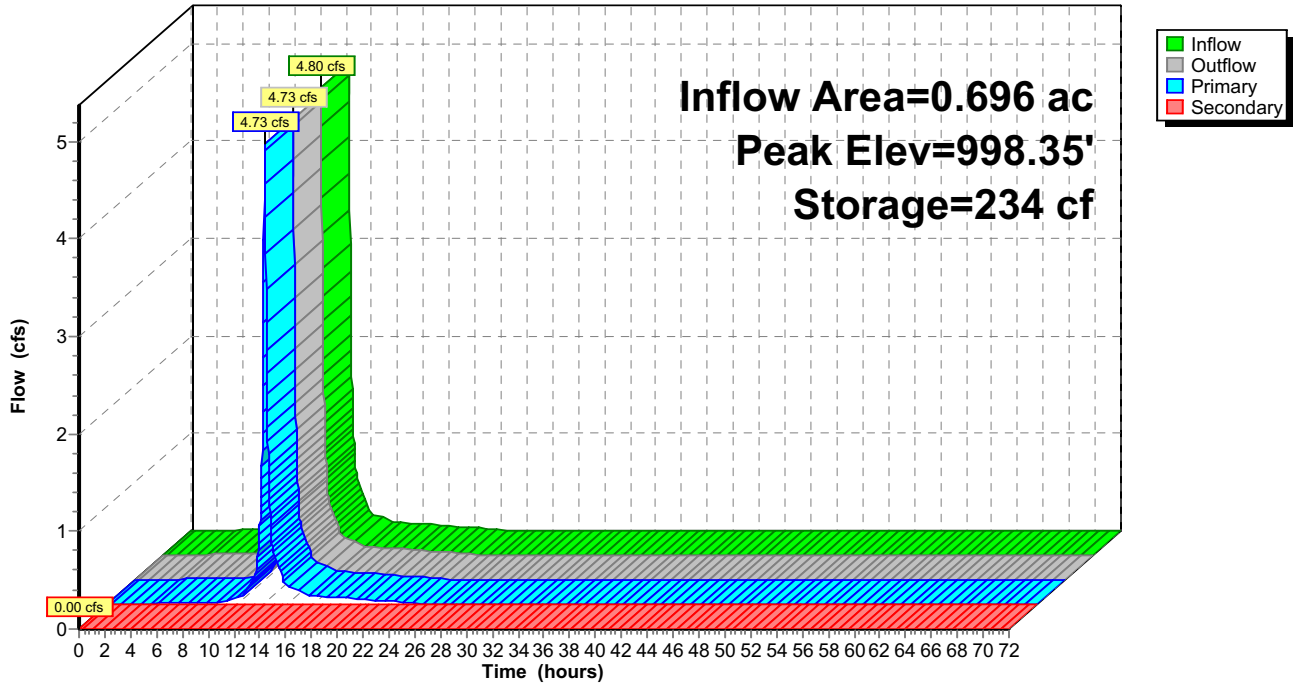
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A7: CB_A7

Hydrograph



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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_A7: CB_A7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	7,240	11,272
998.05	230	7	1,000.60	7,240	11,634
998.10	410	23	1,000.65	7,240	11,996
998.15	589	48	1,000.70	7,240	12,358
998.20	769	82	1,000.75	7,240	12,720
998.25	949	125	1,000.80	7,240	13,082
998.30	1,128	177	1,000.85	7,240	13,444
998.35	1,308	238	1,000.90	7,240	13,806
998.40	1,488	308	1,000.95	7,240	14,168
998.45	1,668	386	1,001.00	7,240	14,530
998.50	1,848	474	1,001.05	7,240	14,892
998.55	2,027	571	1,001.10	7,240	15,254
998.60	2,207	677	1,001.15	7,240	15,616
998.65	2,387	792	1,001.20	7,240	15,978
998.70	2,567	916	1,001.25	7,240	16,340
998.75	2,746	1,049	1,001.30	7,240	16,702
998.80	2,926	1,190	1,001.35	7,240	17,064
998.85	3,106	1,341	1,001.40	7,240	17,426
998.90	3,285	1,501	1,001.45	7,240	17,788
998.95	3,465	1,670	1,001.50	7,240	18,150
999.00	3,645	1,848	1,001.55	7,240	18,512
999.05	3,825	2,034	1,001.60	7,240	18,874
999.10	4,005	2,230	1,001.65	7,240	19,236
999.15	4,184	2,435	1,001.70	7,240	19,598
999.20	4,364	2,648	1,001.75	7,240	19,960
999.25	4,544	2,871	1,001.80	7,240	20,322
999.30	4,723	3,103	1,001.85	7,240	20,684
999.35	4,903	3,343	1,001.90	7,240	21,046
999.40	5,083	3,593	1,001.95	7,240	21,408
999.45	5,263	3,852	1,002.00	7,240	21,770
999.50	5,443	4,119	1,002.05	7,240	22,132
999.55	5,622	4,396	1,002.10	7,240	22,494
999.60	5,802	4,682	1,002.15	7,240	22,856
999.65	5,982	4,976	1,002.20	7,240	23,218
999.70	6,162	5,280	1,002.25	7,240	23,580
999.75	6,341	5,592	1,002.30	7,240	23,942
999.80	6,521	5,914	1,002.35	7,240	24,304
999.85	6,701	6,244	1,002.40	7,240	24,666
999.90	6,880	6,584	1,002.45	7,240	25,028
999.95	7,060	6,932	1,002.50	7,240	25,390
1,000.00	7,240	7,290	1,002.55	7,240	25,752
1,000.05	7,240	7,652	1,002.60	7,240	26,114
1,000.10	7,240	8,014	1,002.65	7,240	26,476
1,000.15	7,240	8,376	1,002.70	7,240	26,838
1,000.20	7,240	8,738	1,002.75	7,240	27,200
1,000.25	7,240	9,100	1,002.80	7,240	27,562
1,000.30	7,240	9,462	1,002.85	7,240	27,924
1,000.35	7,240	9,824	1,002.90	7,240	28,286
1,000.40	7,240	10,186	1,002.95	7,240	28,648
1,000.45	7,240	10,548	1,003.00	7,240	29,010
1,000.50	7,240	10,910			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A8: CB_A8

Inflow Area = 0.864 ac, 35.88% Impervious, Inflow Depth = 5.31" for 100yr-24hr event
Inflow = 6.13 cfs @ 12.20 hrs, Volume= 0.382 af
Outflow = 6.12 cfs @ 12.20 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.3 min
Primary = 6.12 cfs @ 12.20 hrs, Volume= 0.382 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 996.41' @ 12.20 hrs Surf.Area= 390 sf Storage= 91 cf

Plug-Flow detention time= 0.2 min calculated for 0.382 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (776.5 - 776.2)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	29,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	1,700	1,750	1,750
1,000.00	8,600	10,300	12,050
1,002.00	8,600	17,200	29,250

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.12 cfs @ 12.20 hrs HW=996.41' TW=979.85' (Dynamic Tailwater)
↑**1=Grate** (Weir Controls 6.12 cfs @ 2.10 fps)

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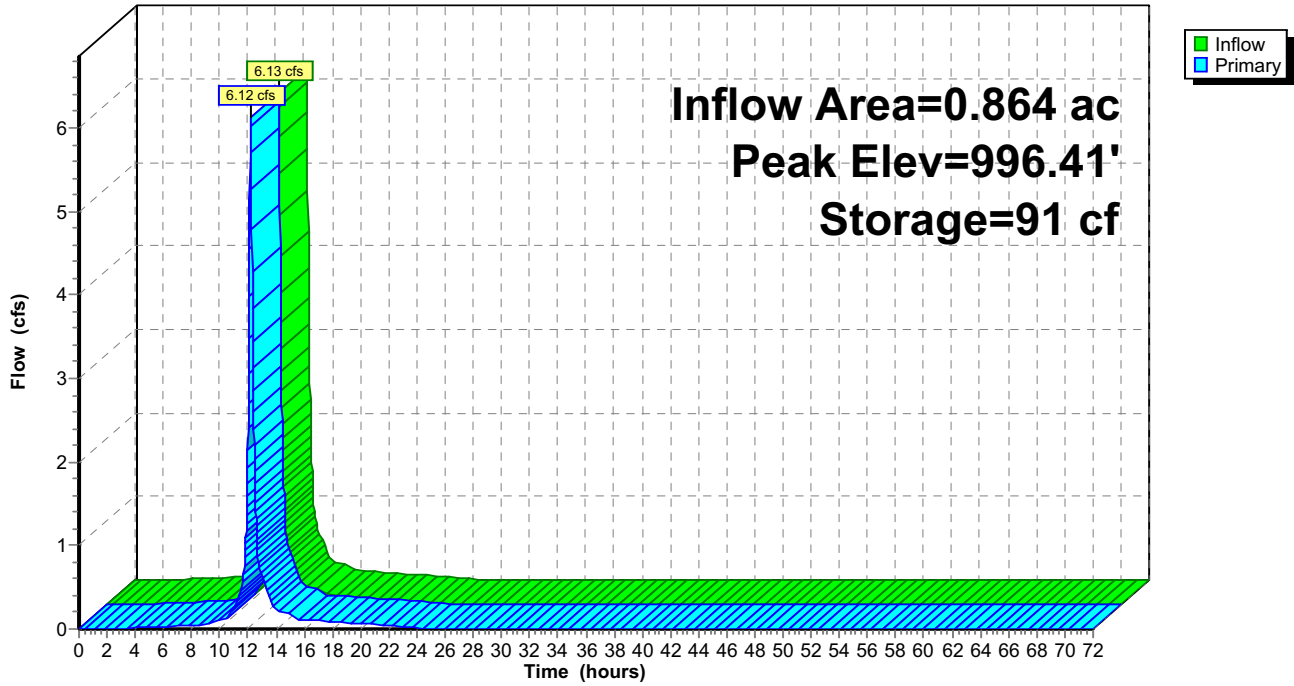
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A8: CB_A8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_A8: CB_A8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
996.00	50	0	1,001.10	8,600	21,510
996.10	133	9	1,001.20	8,600	22,370
996.20	215	27	1,001.30	8,600	23,230
996.30	297	52	1,001.40	8,600	24,090
996.40	380	86	1,001.50	8,600	24,950
996.50	463	128	1,001.60	8,600	25,810
996.60	545	179	1,001.70	8,600	26,670
996.70	628	237	1,001.80	8,600	27,530
996.80	710	304	1,001.90	8,600	28,390
996.90	792	379	1,002.00	8,600	29,250
997.00	875	463			
997.10	958	554			
997.20	1,040	654			
997.30	1,122	762			
997.40	1,205	878			
997.50	1,288	1,003			
997.60	1,370	1,136			
997.70	1,453	1,277			
997.80	1,535	1,426			
997.90	1,617	1,584			
998.00	1,700	1,750			
998.10	2,045	1,937			
998.20	2,390	2,159			
998.30	2,735	2,415			
998.40	3,080	2,706			
998.50	3,425	3,031			
998.60	3,770	3,391			
998.70	4,115	3,785			
998.80	4,460	4,214			
998.90	4,805	4,677			
999.00	5,150	5,175			
999.10	5,495	5,707			
999.20	5,840	6,274			
999.30	6,185	6,875			
999.40	6,530	7,511			
999.50	6,875	8,181			
999.60	7,220	8,886			
999.70	7,565	9,625			
999.80	7,910	10,399			
999.90	8,255	11,207			
1,000.00	8,600	12,050			
1,000.10	8,600	12,910			
1,000.20	8,600	13,770			
1,000.30	8,600	14,630			
1,000.40	8,600	15,490			
1,000.50	8,600	16,350			
1,000.60	8,600	17,210			
1,000.70	8,600	18,070			
1,000.80	8,600	18,930			
1,000.90	8,600	19,790			
1,001.00	8,600	20,650			

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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A9: CB_A9

Inflow Area = 1.140 ac, 8.86% Impervious, Inflow Depth = 4.55" for 100yr-24hr event
 Inflow = 7.29 cfs @ 12.20 hrs, Volume= 0.432 af
 Outflow = 7.28 cfs @ 12.20 hrs, Volume= 0.432 af, Atten= 0%, Lag= 0.4 min
 Primary = 7.28 cfs @ 12.20 hrs, Volume= 0.432 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.46' @ 12.20 hrs Surf.Area= 547 sf Storage= 138 cf

Plug-Flow detention time= 0.3 min calculated for 0.432 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (796.4 - 796.1)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	4,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	2,200	2,250	2,250
1,001.00	2,200	2,200	4,450

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.25 cfs @ 12.20 hrs HW=998.46' TW=979.88' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 7.25 cfs @ 2.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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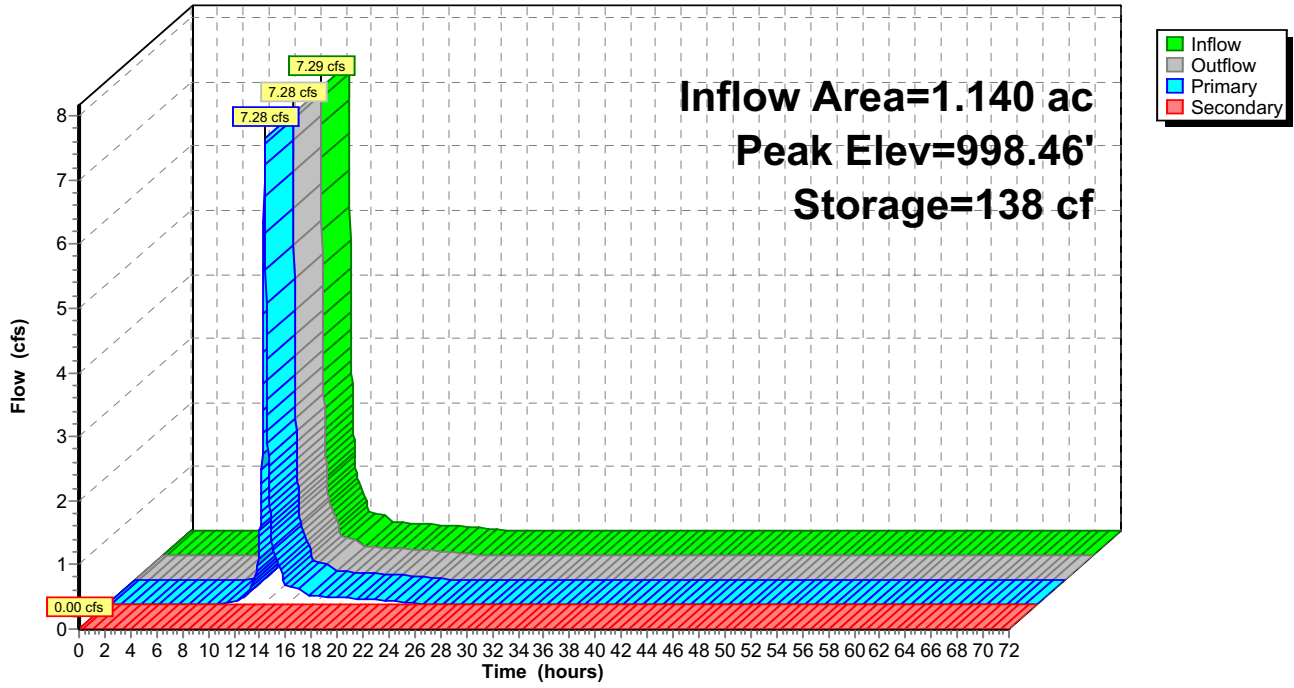
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A9: CB_A9

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Stage-Area-Storage for Pond CB_A9: CB_A9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
998.00	50	0	1,000.55	2,200	3,460
998.05	104	4	1,000.60	2,200	3,570
998.10	158	10	1,000.65	2,200	3,680
998.15	211	20	1,000.70	2,200	3,790
998.20	265	32	1,000.75	2,200	3,900
998.25	319	46	1,000.80	2,200	4,010
998.30	372	63	1,000.85	2,200	4,120
998.35	426	83	1,000.90	2,200	4,230
998.40	480	106	1,000.95	2,200	4,340
998.45	534	131	1,001.00	2,200	4,450
998.50	588	159			
998.55	641	190			
998.60	695	224			
998.65	749	260			
998.70	803	298			
998.75	856	340			
998.80	910	384			
998.85	964	431			
998.90	1,017	480			
998.95	1,071	533			
999.00	1,125	588			
999.05	1,179	645			
999.10	1,233	705			
999.15	1,286	768			
999.20	1,340	834			
999.25	1,394	902			
999.30	1,447	973			
999.35	1,501	1,047			
999.40	1,555	1,123			
999.45	1,609	1,203			
999.50	1,663	1,284			
999.55	1,716	1,369			
999.60	1,770	1,456			
999.65	1,824	1,546			
999.70	1,878	1,638			
999.75	1,931	1,734			
999.80	1,985	1,831			
999.85	2,039	1,932			
999.90	2,092	2,035			
999.95	2,146	2,141			
1,000.00	2,200	2,250			
1,000.05	2,200	2,360			
1,000.10	2,200	2,470			
1,000.15	2,200	2,580			
1,000.20	2,200	2,690			
1,000.25	2,200	2,800			
1,000.30	2,200	2,910			
1,000.35	2,200	3,020			
1,000.40	2,200	3,130			
1,000.45	2,200	3,240			
1,000.50	2,200	3,350			

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Summary for Pond CB_C10: CB_C10

Inflow Area = 2.067 ac, 23.66% Impervious, Inflow Depth = 4.97" for 100yr-24hr event
 Inflow = 14.03 cfs @ 12.20 hrs, Volume= 0.857 af
 Outflow = 13.65 cfs @ 12.22 hrs, Volume= 0.857 af, Atten= 3%, Lag= 1.4 min
 Primary = 13.65 cfs @ 12.22 hrs, Volume= 0.857 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.70' @ 12.22 hrs Surf.Area= 2,672 sf Storage= 958 cf

Plug-Flow detention time= 0.8 min calculated for 0.857 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (785.2 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	22,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	7,500	7,550	7,550
997.00	7,500	7,500	15,050
998.00	7,500	7,500	22,550

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	996.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=13.64 cfs @ 12.22 hrs HW=994.70' TW=979.97' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 13.64 cfs @ 2.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=992.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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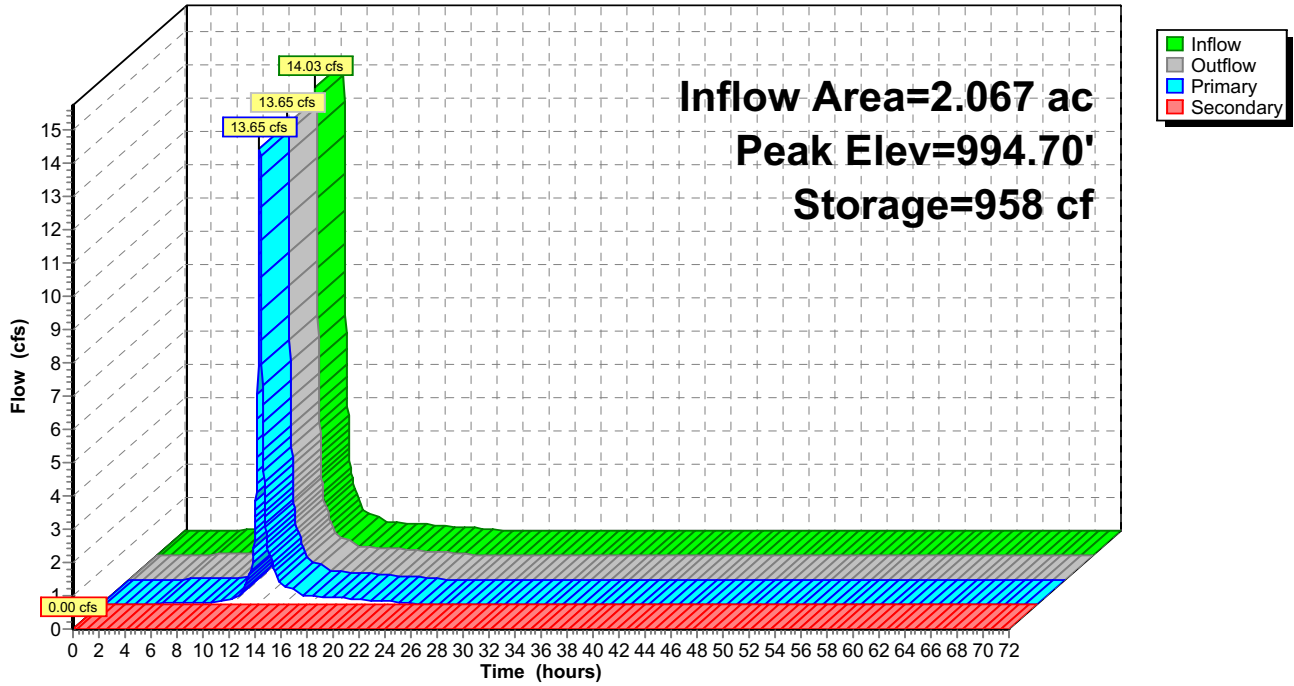
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_C10: CB_C10

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Stage-Area-Storage for Pond CB_C10: CB_C10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
994.00	50	0	996.55	7,500	11,675
994.05	236	7	996.60	7,500	12,050
994.10	423	24	996.65	7,500	12,425
994.15	609	49	996.70	7,500	12,800
994.20	795	85	996.75	7,500	13,175
994.25	981	129	996.80	7,500	13,550
994.30	1,167	183	996.85	7,500	13,925
994.35	1,354	246	996.90	7,500	14,300
994.40	1,540	318	996.95	7,500	14,675
994.45	1,726	400	997.00	7,500	15,050
994.50	1,913	491	997.05	7,500	15,425
994.55	2,099	591	997.10	7,500	15,800
994.60	2,285	701	997.15	7,500	16,175
994.65	2,471	819	997.20	7,500	16,550
994.70	2,658	948	997.25	7,500	16,925
994.75	2,844	1,085	997.30	7,500	17,300
994.80	3,030	1,232	997.35	7,500	17,675
994.85	3,216	1,388	997.40	7,500	18,050
994.90	3,402	1,554	997.45	7,500	18,425
994.95	3,589	1,728	997.50	7,500	18,800
995.00	3,775	1,913	997.55	7,500	19,175
995.05	3,961	2,106	997.60	7,500	19,550
995.10	4,148	2,309	997.65	7,500	19,925
995.15	4,334	2,521	997.70	7,500	20,300
995.20	4,520	2,742	997.75	7,500	20,675
995.25	4,706	2,973	997.80	7,500	21,050
995.30	4,892	3,213	997.85	7,500	21,425
995.35	5,079	3,462	997.90	7,500	21,800
995.40	5,265	3,720	997.95	7,500	22,175
995.45	5,451	3,988	998.00	7,500	22,550
995.50	5,638	4,266			
995.55	5,824	4,552			
995.60	6,010	4,848			
995.65	6,196	5,153			
995.70	6,383	5,468			
995.75	6,569	5,791			
995.80	6,755	6,124			
995.85	6,941	6,467			
995.90	7,127	6,819			
995.95	7,314	7,180			
996.00	7,500	7,550			
996.05	7,500	7,925			
996.10	7,500	8,300			
996.15	7,500	8,675			
996.20	7,500	9,050			
996.25	7,500	9,425			
996.30	7,500	9,800			
996.35	7,500	10,175			
996.40	7,500	10,550			
996.45	7,500	10,925			
996.50	7,500	11,300			

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Summary for Pond CB_C7: CB_C7

Inflow Area = 1.708 ac, 21.25% Impervious, Inflow Depth = 4.91" for 100yr-24hr event
 Inflow = 11.35 cfs @ 12.20 hrs, Volume= 0.699 af
 Outflow = 11.17 cfs @ 12.22 hrs, Volume= 0.699 af, Atten= 2%, Lag= 1.1 min
 Primary = 11.17 cfs @ 12.22 hrs, Volume= 0.699 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 993.12' @ 12.22 hrs Surf.Area= 1,860 sf Storage= 588 cf

Plug-Flow detention time= 0.6 min calculated for 0.698 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (787.1 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	992.50'	12,303 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.50	50	0	0
994.00	4,460	3,383	3,383
996.00	4,460	8,920	12,303

Device	Routing	Invert	Outlet Devices
#1	Primary	992.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	994.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.16 cfs @ 12.22 hrs HW=993.12' TW=979.96' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 11.16 cfs @ 2.56 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.50' TW=991.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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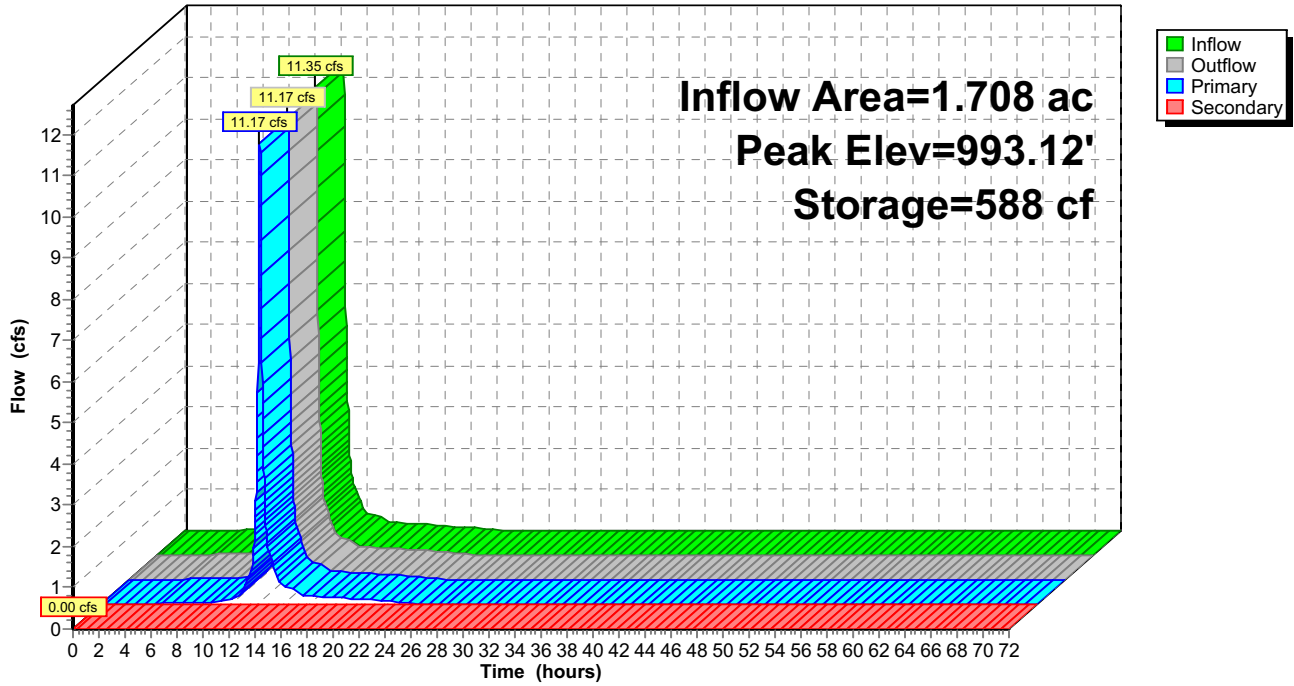
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_C7: CB_C7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_C7: CB_C7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.50	50	0	995.05	4,460	8,065
992.55	197	6	995.10	4,460	8,289
992.60	344	20	995.15	4,460	8,511
992.65	491	41	995.20	4,460	8,735
992.70	638	69	995.25	4,460	8,958
992.75	785	104	995.30	4,460	9,180
992.80	932	147	995.35	4,460	9,404
992.85	1,079	198	995.40	4,460	9,626
992.90	1,226	255	995.45	4,460	9,850
992.95	1,373	320	995.50	4,460	10,073
993.00	1,520	393	995.55	4,460	10,295
993.05	1,667	472	995.60	4,460	10,519
993.10	1,814	559	995.65	4,460	10,741
993.15	1,961	654	995.70	4,460	10,965
993.20	2,108	755	995.75	4,460	11,188
993.25	2,255	864	995.80	4,460	11,410
993.30	2,402	981	995.85	4,460	11,634
993.35	2,549	1,105	995.90	4,460	11,856
993.40	2,696	1,236	995.95	4,460	12,080
993.45	2,843	1,374	996.00	4,460	12,303
993.50	2,990	1,520			
993.55	3,137	1,673			
993.60	3,284	1,834			
993.65	3,431	2,002			
993.70	3,578	2,177			
993.75	3,725	2,359			
993.80	3,872	2,549			
993.85	4,019	2,747			
993.90	4,166	2,951			
993.95	4,313	3,163			
994.00	4,460	3,383			
994.05	4,460	3,605			
994.10	4,460	3,829			
994.15	4,460	4,051			
994.20	4,460	4,275			
994.25	4,460	4,498			
994.30	4,460	4,720			
994.35	4,460	4,944			
994.40	4,460	5,166			
994.45	4,460	5,390			
994.50	4,460	5,613			
994.55	4,460	5,835			
994.60	4,460	6,059			
994.65	4,460	6,281			
994.70	4,460	6,505			
994.75	4,460	6,728			
994.80	4,460	6,950			
994.85	4,460	7,174			
994.90	4,460	7,396			
994.95	4,460	7,620			
995.00	4,460	7,843			

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Summary for Pond CB_C8: CB_C8

Inflow Area = 1.927 ac, 25.17% Impervious, Inflow Depth = 5.02" for 100yr-24hr event
Inflow = 12.90 cfs @ 12.20 hrs, Volume= 0.806 af
Outflow = 12.88 cfs @ 12.21 hrs, Volume= 0.806 af, Atten= 0%, Lag= 0.3 min
Primary = 12.88 cfs @ 12.21 hrs, Volume= 0.806 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 991.68' @ 12.21 hrs Surf.Area= 566 sf Storage= 209 cf

Plug-Flow detention time= 0.2 min calculated for 0.805 af (100% of inflow)
Center-of-Mass det. time= 0.2 min (784.1 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	6,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	812	431	431
994.00	5,500	6,312	6,743

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.83 cfs @ 12.21 hrs HW=991.68' TW=979.89' (Dynamic Tailwater)
↑**1=Orifice/Grate** (Weir Controls 12.83 cfs @ 2.69 fps)

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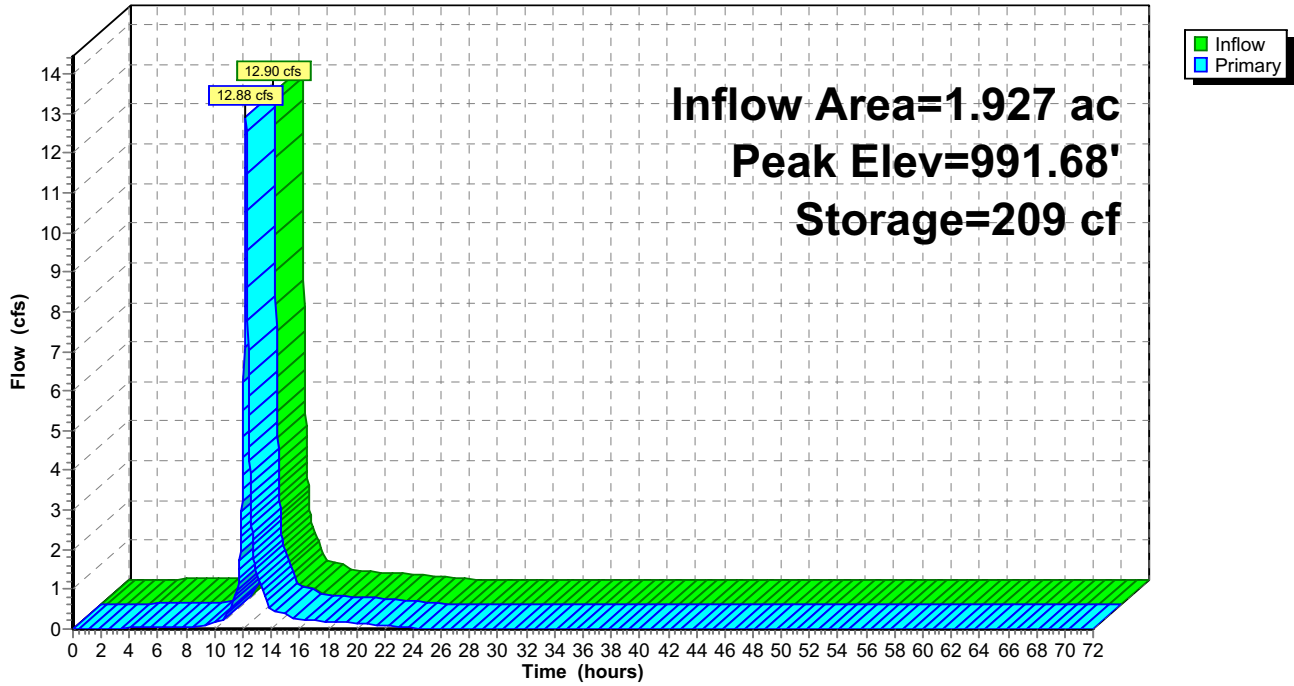
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_C8: CB_C8

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Stage-Area-Storage for Pond CB_C8: CB_C8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
991.00	50	0	993.55	4,445	4,505
991.05	88	3	993.60	4,562	4,731
991.10	126	9	993.65	4,680	4,962
991.15	164	16	993.70	4,797	5,198
991.20	202	25	993.75	4,914	5,441
991.25	241	36	993.80	5,031	5,690
991.30	279	49	993.85	5,148	5,944
991.35	317	64	993.90	5,266	6,205
991.40	355	81	993.95	5,383	6,471
991.45	393	100	994.00	5,500	6,743
991.50	431	120			
991.55	469	143			
991.60	507	167			
991.65	545	193			
991.70	583	222			
991.75	622	252			
991.80	660	284			
991.85	698	318			
991.90	736	354			
991.95	774	391			
992.00	812	431			
992.05	929	475			
992.10	1,046	524			
992.15	1,164	579			
992.20	1,281	640			
992.25	1,398	707			
992.30	1,515	780			
992.35	1,632	859			
992.40	1,750	943			
992.45	1,867	1,034			
992.50	1,984	1,130			
992.55	2,101	1,232			
992.60	2,218	1,340			
992.65	2,336	1,454			
992.70	2,453	1,574			
992.75	2,570	1,699			
992.80	2,687	1,831			
992.85	2,804	1,968			
992.90	2,922	2,111			
992.95	3,039	2,260			
993.00	3,156	2,415			
993.05	3,273	2,576			
993.10	3,390	2,742			
993.15	3,508	2,915			
993.20	3,625	3,093			
993.25	3,742	3,277			
993.30	3,859	3,467			
993.35	3,976	3,663			
993.40	4,094	3,865			
993.45	4,211	4,073			
993.50	4,328	4,286			

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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_C9: CB_C9

Inflow Area = 2.063 ac, 18.86% Impervious, Inflow Depth = 4.84" for 100yr-24hr event
 Inflow = 13.75 cfs @ 12.20 hrs, Volume= 0.832 af
 Outflow = 13.60 cfs @ 12.21 hrs, Volume= 0.832 af, Atten= 1%, Lag= 0.9 min
 Primary = 13.60 cfs @ 12.21 hrs, Volume= 0.832 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.70' @ 12.21 hrs Surf.Area= 1,584 sf Storage= 574 cf

Plug-Flow detention time= 0.5 min calculated for 0.832 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (788.4 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	4,470 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	4,420	4,470	4,470

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	993.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=13.54 cfs @ 12.21 hrs HW=992.70' TW=979.92' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 13.54 cfs @ 2.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.00' TW=991.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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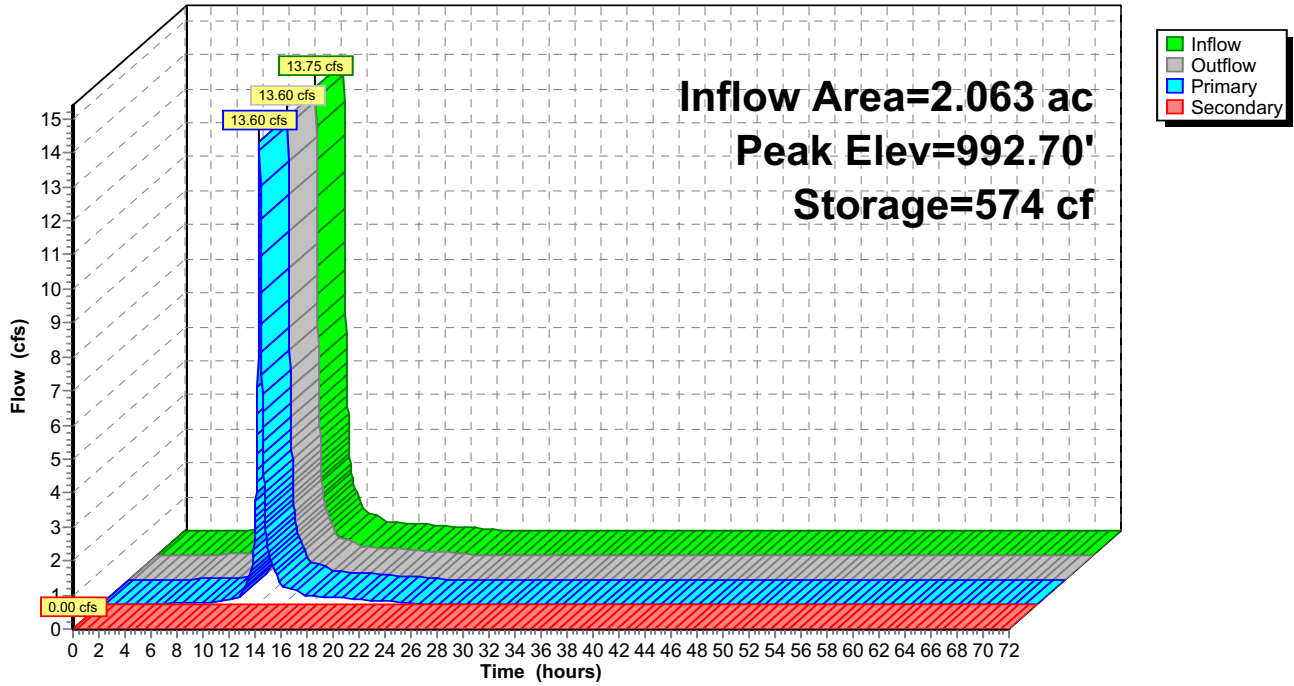
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_C9: CB_C9

Hydrograph



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Stage-Area-Storage for Pond CB_C9: CB_C9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.00	50	0	993.02	2,279	1,188
992.02	94	1	993.04	2,322	1,234
992.04	137	4	993.06	2,366	1,281
992.06	181	7	993.08	2,410	1,328
992.08	225	11	993.10	2,454	1,377
992.10	269	16	993.12	2,497	1,426
992.12	312	22	993.14	2,541	1,477
992.14	356	28	993.16	2,585	1,528
992.16	400	36	993.18	2,628	1,580
992.18	443	44	993.20	2,672	1,633
992.20	487	54	993.22	2,716	1,687
992.22	531	64	993.24	2,759	1,742
992.24	574	75	993.26	2,803	1,797
992.26	618	87	993.28	2,847	1,854
992.28	662	100	993.30	2,890	1,911
992.30	705	113	993.32	2,934	1,970
992.32	749	128	993.34	2,978	2,029
992.34	793	143	993.36	3,022	2,089
992.36	837	160	993.38	3,065	2,150
992.38	880	177	993.40	3,109	2,211
992.40	924	195	993.42	3,153	2,274
992.42	968	214	993.44	3,196	2,337
992.44	1,011	234	993.46	3,240	2,402
992.46	1,055	254	993.48	3,284	2,467
992.48	1,099	276	993.50	3,328	2,533
992.50	1,143	298	993.52	3,371	2,600
992.52	1,186	321	993.54	3,415	2,668
992.54	1,230	346	993.56	3,459	2,737
992.56	1,274	371	993.58	3,502	2,806
992.58	1,317	397	993.60	3,546	2,877
992.60	1,361	423	993.62	3,590	2,948
992.62	1,405	451	993.64	3,633	3,020
992.64	1,448	479	993.66	3,677	3,093
992.66	1,492	509	993.68	3,721	3,167
992.68	1,536	539	993.70	3,765	3,242
992.70	1,580	570	993.72	3,808	3,318
992.72	1,623	602	993.74	3,852	3,395
992.74	1,667	635	993.76	3,896	3,472
992.76	1,711	669	993.78	3,939	3,550
992.78	1,754	704	993.80	3,983	3,630
992.80	1,798	739	993.82	4,027	3,710
992.82	1,842	776	993.84	4,070	3,791
992.84	1,885	813	993.86	4,114	3,873
992.86	1,929	851	993.88	4,158	3,955
992.88	1,973	890	993.90	4,201	4,039
992.90	2,016	930	993.92	4,245	4,123
992.92	2,060	971	993.94	4,289	4,209
992.94	2,104	1,012	993.96	4,333	4,295
992.96	2,148	1,055	993.98	4,376	4,382
992.98	2,191	1,098	994.00	4,420	4,470
993.00	2,235	1,143			

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Summary for Pond CB_E13: CB_E13

Inflow Area = 0.605 ac, 27.77% Impervious, Inflow Depth = 5.09" for 100yr-24hr event
 Inflow = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af
 Outflow = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.2 min
 Primary = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,009.82' @ 12.20 hrs Surf.Area= 231 sf Storage= 45 cf

Plug-Flow detention time= 0.2 min calculated for 0.256 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (781.8 - 781.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,009.50'	2,113 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,009.50	50	0	0
1,011.00	900	713	713
1,012.00	1,900	1,400	2,113

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,010.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=4.17 cfs @ 12.20 hrs HW=1,009.82' TW=979.85' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 4.17 cfs @ 1.85 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,002.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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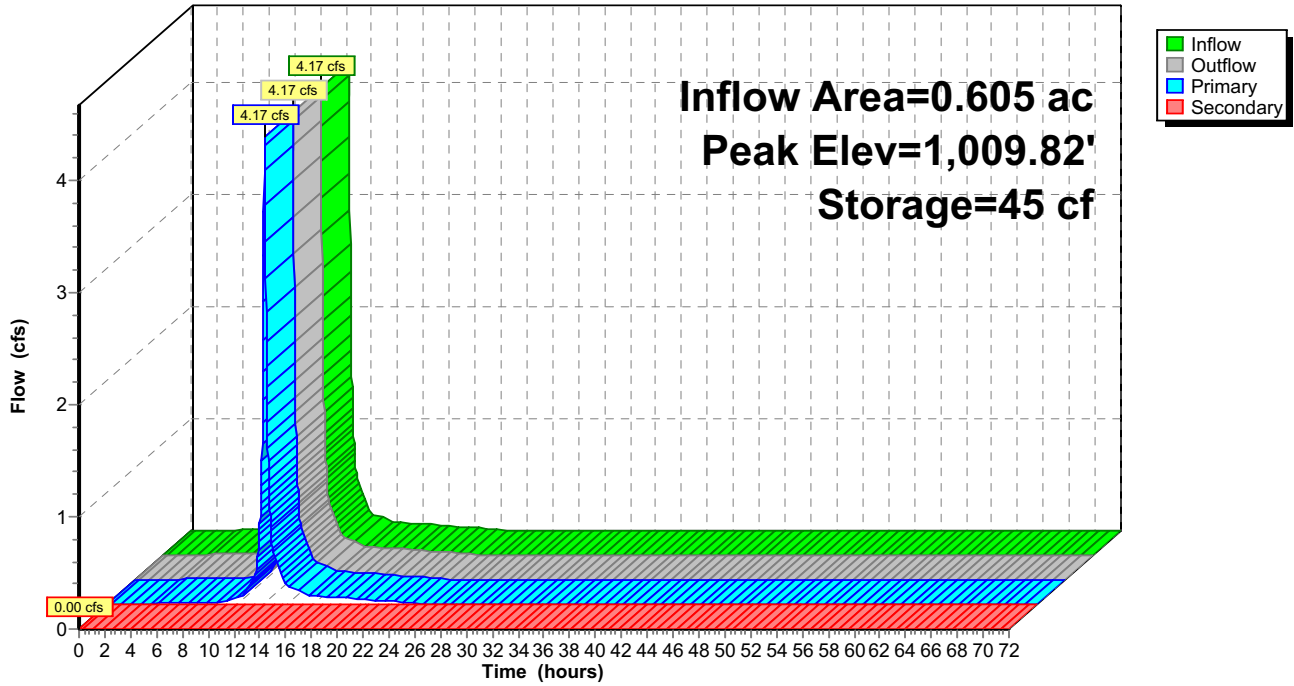
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_E13: CB_E13

Hydrograph



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Stage-Area-Storage for Pond CB_E13: CB_E13

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,009.50	50	0
1,009.55	78	3
1,009.60	107	8
1,009.65	135	14
1,009.70	163	21
1,009.75	192	30
1,009.80	220	40
1,009.85	248	52
1,009.90	277	65
1,009.95	305	80
1,010.00	333	96
1,010.05	362	113
1,010.10	390	132
1,010.15	418	152
1,010.20	447	174
1,010.25	475	197
1,010.30	503	221
1,010.35	532	247
1,010.40	560	274
1,010.45	588	303
1,010.50	617	333
1,010.55	645	365
1,010.60	673	398
1,010.65	702	432
1,010.70	730	468
1,010.75	758	505
1,010.80	787	544
1,010.85	815	584
1,010.90	843	625
1,010.95	872	668
1,011.00	900	713
1,011.05	950	759
1,011.10	1,000	808
1,011.15	1,050	859
1,011.20	1,100	913
1,011.25	1,150	969
1,011.30	1,200	1,027
1,011.35	1,250	1,089
1,011.40	1,300	1,152
1,011.45	1,350	1,219
1,011.50	1,400	1,288
1,011.55	1,450	1,359
1,011.60	1,500	1,433
1,011.65	1,550	1,509
1,011.70	1,600	1,588
1,011.75	1,650	1,669
1,011.80	1,700	1,752
1,011.85	1,750	1,839
1,011.90	1,800	1,927
1,011.95	1,850	2,019
1,012.00	1,900	2,113

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Summary for Pond CB_E15: CB_E15

Inflow Area = 1.926 ac, 26.90% Impervious, Inflow Depth = 7.16" for 100yr-24hr event
Inflow = 28.23 cfs @ 12.22 hrs, Volume= 1.149 af
Outflow = 25.72 cfs @ 12.27 hrs, Volume= 1.149 af, Atten= 9%, Lag= 2.7 min
Primary = 25.72 cfs @ 12.27 hrs, Volume= 1.149 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 993.81' @ 12.27 hrs Surf.Area= 2,065 sf Storage= 1,908 cf

Plug-Flow detention time= 0.6 min calculated for 1.149 af (100% of inflow)
Center-of-Mass det. time= 0.6 min (769.3 - 768.7)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	6,896 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	2,282	2,332	2,332
996.00	2,282	4,564	6,896

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=25.67 cfs @ 12.27 hrs HW=993.80' TW=980.22' (Dynamic Tailwater)

↑ **1=Grate** (Orifice Controls 25.67 cfs @ 6.46 fps)

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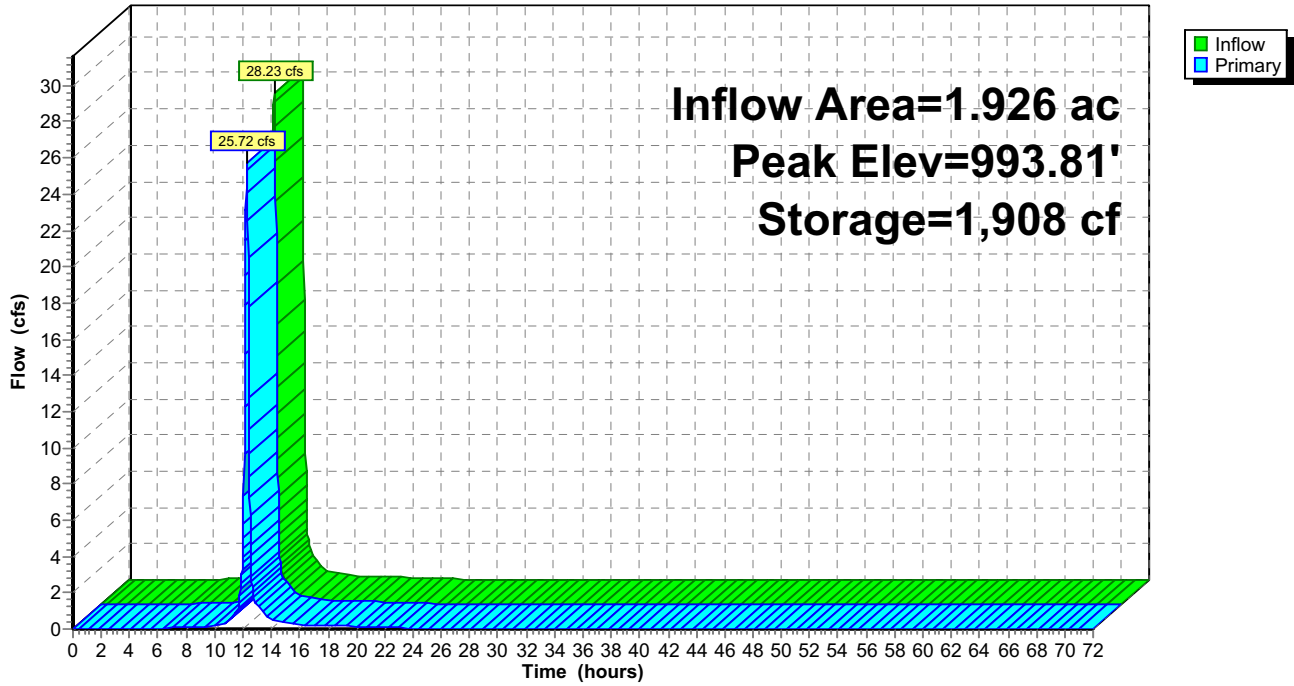
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_E15: CB_E15

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_E15: CB_E15

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
992.00	50	0	994.55	2,282	3,587
992.05	106	4	994.60	2,282	3,701
992.10	162	11	994.65	2,282	3,815
992.15	217	20	994.70	2,282	3,929
992.20	273	32	994.75	2,282	4,044
992.25	329	47	994.80	2,282	4,158
992.30	385	65	994.85	2,282	4,272
992.35	441	86	994.90	2,282	4,386
992.40	496	109	994.95	2,282	4,500
992.45	552	135	995.00	2,282	4,614
992.50	608	165	995.05	2,282	4,728
992.55	664	196	995.10	2,282	4,842
992.60	720	231	995.15	2,282	4,956
992.65	775	268	995.20	2,282	5,070
992.70	831	308	995.25	2,282	5,185
992.75	887	351	995.30	2,282	5,299
992.80	943	397	995.35	2,282	5,413
992.85	999	446	995.40	2,282	5,527
992.90	1,054	497	995.45	2,282	5,641
992.95	1,110	551	995.50	2,282	5,755
993.00	1,166	608	995.55	2,282	5,869
993.05	1,222	668	995.60	2,282	5,983
993.10	1,278	730	995.65	2,282	6,097
993.15	1,333	795	995.70	2,282	6,211
993.20	1,389	864	995.75	2,282	6,326
993.25	1,445	934	995.80	2,282	6,440
993.30	1,501	1,008	995.85	2,282	6,554
993.35	1,557	1,084	995.90	2,282	6,668
993.40	1,612	1,164	995.95	2,282	6,782
993.45	1,668	1,246	996.00	2,282	6,896
993.50	1,724	1,331			
993.55	1,780	1,418			
993.60	1,836	1,508			
993.65	1,891	1,602			
993.70	1,947	1,698			
993.75	2,003	1,796			
993.80	2,059	1,898			
993.85	2,115	2,002			
993.90	2,170	2,109			
993.95	2,226	2,219			
994.00	2,282	2,332			
994.05	2,282	2,446			
994.10	2,282	2,560			
994.15	2,282	2,674			
994.20	2,282	2,788			
994.25	2,282	2,903			
994.30	2,282	3,017			
994.35	2,282	3,131			
994.40	2,282	3,245			
994.45	2,282	3,359			
994.50	2,282	3,473			

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Summary for Pond CB_E16: CB_E16

Inflow Area = 4.099 ac, 17.78% Impervious, Inflow Depth = 4.81" for 100yr-24hr event
Inflow = 25.89 cfs @ 12.21 hrs, Volume= 1.644 af
Outflow = 24.96 cfs @ 12.24 hrs, Volume= 1.644 af, Atten= 4%, Lag= 1.8 min
Primary = 9.31 cfs @ 12.24 hrs, Volume= 1.308 af
Secondary = 15.65 cfs @ 12.24 hrs, Volume= 0.336 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 998.11' @ 12.24 hrs Surf.Area= 2,614 sf Storage= 3,497 cf

Plug-Flow detention time= 2.0 min calculated for 1.644 af (100% of inflow)
Center-of-Mass det. time= 2.0 min (791.9 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	8,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	366	233	233
998.00	2,614	2,980	3,213
1,000.00	2,614	5,228	8,441

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	15.0" Round Culvert L= 227.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 987.40' S= 0.0335 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.31 cfs @ 12.24 hrs HW=998.11' TW=980.07' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 9.31 cfs @ 7.59 fps)

Secondary OutFlow Max=15.63 cfs @ 12.24 hrs HW=998.11' TW=993.74' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Weir Controls 15.63 cfs @ 2.82 fps)

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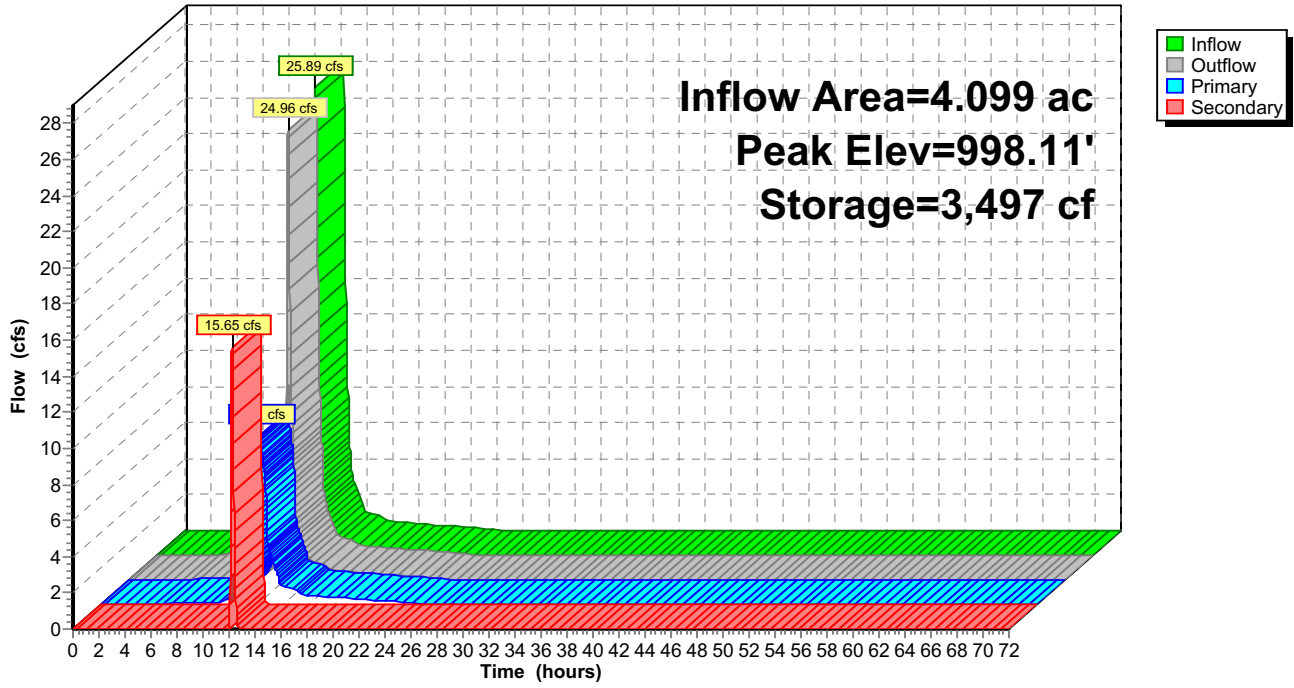
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_E16: CB_E16

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_E16: CB_E16

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
995.00	100	0	997.55	2,108	2,151
995.05	113	5	997.60	2,164	2,257
995.10	127	11	997.65	2,221	2,367
995.15	140	18	997.70	2,277	2,479
995.20	153	25	997.75	2,333	2,595
995.25	167	33	997.80	2,389	2,713
995.30	180	42	997.85	2,445	2,834
995.35	193	51	997.90	2,502	2,957
995.40	206	61	997.95	2,558	3,084
995.45	220	72	998.00	2,614	3,213
995.50	233	83	998.05	2,614	3,344
995.55	246	95	998.10	2,614	3,474
995.60	260	108	998.15	2,614	3,605
995.65	273	121	998.20	2,614	3,736
995.70	286	135	998.25	2,614	3,867
995.75	300	150	998.30	2,614	3,997
995.80	313	165	998.35	2,614	4,128
995.85	326	181	998.40	2,614	4,259
995.90	339	198	998.45	2,614	4,389
995.95	353	215	998.50	2,614	4,520
996.00	366	233	998.55	2,614	4,651
996.05	422	253	998.60	2,614	4,781
996.10	478	275	998.65	2,614	4,912
996.15	535	301	998.70	2,614	5,043
996.20	591	329	998.75	2,614	5,174
996.25	647	360	998.80	2,614	5,304
996.30	703	393	998.85	2,614	5,435
996.35	759	430	998.90	2,614	5,566
996.40	816	469	998.95	2,614	5,696
996.45	872	512	999.00	2,614	5,827
996.50	928	557	999.05	2,614	5,958
996.55	984	604	999.10	2,614	6,088
996.60	1,040	655	999.15	2,614	6,219
996.65	1,097	708	999.20	2,614	6,350
996.70	1,153	765	999.25	2,614	6,481
996.75	1,209	824	999.30	2,614	6,611
996.80	1,265	885	999.35	2,614	6,742
996.85	1,321	950	999.40	2,614	6,873
996.90	1,378	1,018	999.45	2,614	7,003
996.95	1,434	1,088	999.50	2,614	7,134
997.00	1,490	1,161	999.55	2,614	7,265
997.05	1,546	1,237	999.60	2,614	7,395
997.10	1,602	1,316	999.65	2,614	7,526
997.15	1,659	1,397	999.70	2,614	7,657
997.20	1,715	1,481	999.75	2,614	7,788
997.25	1,771	1,569	999.80	2,614	7,918
997.30	1,827	1,659	999.85	2,614	8,049
997.35	1,883	1,751	999.90	2,614	8,180
997.40	1,940	1,847	999.95	2,614	8,310
997.45	1,996	1,945	1,000.00	2,614	8,441
997.50	2,052	2,047			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_E21: CB_E21

Inflow Area = 0.376 ac, 3.46% Impervious, Inflow Depth = 4.42" for 100yr-24hr event
 Inflow = 2.36 cfs @ 12.20 hrs, Volume= 0.138 af
 Outflow = 2.34 cfs @ 12.21 hrs, Volume= 0.138 af, Atten= 1%, Lag= 0.8 min
 Primary = 2.34 cfs @ 12.21 hrs, Volume= 0.138 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.22' @ 12.21 hrs Surf.Area= 824 sf Storage= 95 cf

Plug-Flow detention time= 0.5 min calculated for 0.138 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (801.2 - 800.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	5,448 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	50	0	0
1,001.00	3,615	1,833	1,833
1,002.00	3,615	3,615	5,448

Device	Routing	Invert	Outlet Devices
#1	Primary	1,000.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,001.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=2.33 cfs @ 12.21 hrs HW=1,000.22' TW=979.92' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 2.33 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=995.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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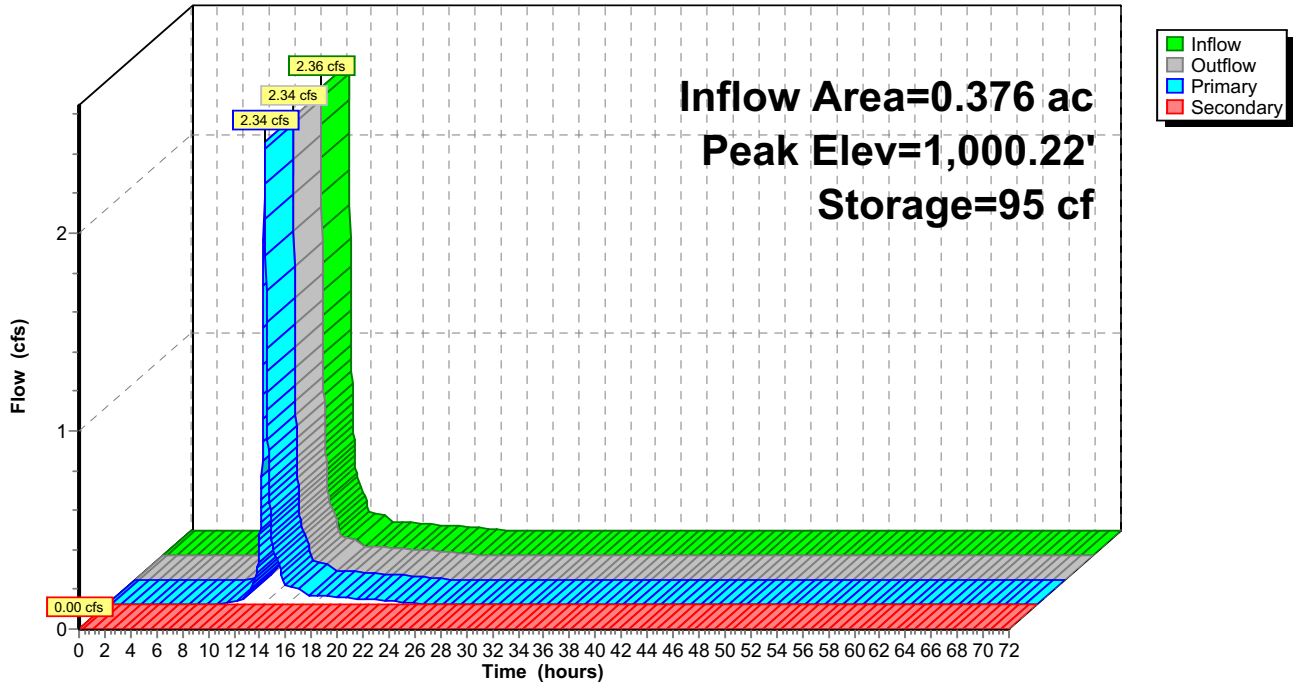
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_E21: CB_E21

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Stage-Area-Storage for Pond CB_E21: CB_E21

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,000.00	50	0	1,001.02	3,615	1,905
1,000.02	121	2	1,001.04	3,615	1,977
1,000.04	193	5	1,001.06	3,615	2,049
1,000.06	264	9	1,001.08	3,615	2,122
1,000.08	335	15	1,001.10	3,615	2,194
1,000.10	407	23	1,001.12	3,615	2,266
1,000.12	478	32	1,001.14	3,615	2,339
1,000.14	549	42	1,001.16	3,615	2,411
1,000.16	620	54	1,001.18	3,615	2,483
1,000.18	692	67	1,001.20	3,615	2,556
1,000.20	763	81	1,001.22	3,615	2,628
1,000.22	834	97	1,001.24	3,615	2,700
1,000.24	906	115	1,001.26	3,615	2,772
1,000.26	977	133	1,001.28	3,615	2,845
1,000.28	1,048	154	1,001.30	3,615	2,917
1,000.30	1,119	175	1,001.32	3,615	2,989
1,000.32	1,191	199	1,001.34	3,615	3,062
1,000.34	1,262	223	1,001.36	3,615	3,134
1,000.36	1,333	249	1,001.38	3,615	3,206
1,000.38	1,405	276	1,001.40	3,615	3,278
1,000.40	1,476	305	1,001.42	3,615	3,351
1,000.42	1,547	335	1,001.44	3,615	3,423
1,000.44	1,619	367	1,001.46	3,615	3,495
1,000.46	1,690	400	1,001.48	3,615	3,568
1,000.48	1,761	435	1,001.50	3,615	3,640
1,000.50	1,833	471	1,001.52	3,615	3,712
1,000.52	1,904	508	1,001.54	3,615	3,785
1,000.54	1,975	547	1,001.56	3,615	3,857
1,000.56	2,046	587	1,001.58	3,615	3,929
1,000.58	2,118	629	1,001.60	3,615	4,002
1,000.60	2,189	672	1,001.62	3,615	4,074
1,000.62	2,260	716	1,001.64	3,615	4,146
1,000.64	2,332	762	1,001.66	3,615	4,218
1,000.66	2,403	809	1,001.68	3,615	4,291
1,000.68	2,474	858	1,001.70	3,615	4,363
1,000.70	2,546	908	1,001.72	3,615	4,435
1,000.72	2,617	960	1,001.74	3,615	4,508
1,000.74	2,688	1,013	1,001.76	3,615	4,580
1,000.76	2,759	1,068	1,001.78	3,615	4,652
1,000.78	2,831	1,123	1,001.80	3,615	4,724
1,000.80	2,902	1,181	1,001.82	3,615	4,797
1,000.82	2,973	1,240	1,001.84	3,615	4,869
1,000.84	3,045	1,300	1,001.86	3,615	4,941
1,000.86	3,116	1,361	1,001.88	3,615	5,014
1,000.88	3,187	1,424	1,001.90	3,615	5,086
1,000.90	3,258	1,489	1,001.92	3,615	5,158
1,000.92	3,330	1,555	1,001.94	3,615	5,231
1,000.94	3,401	1,622	1,001.96	3,615	5,303
1,000.96	3,472	1,691	1,001.98	3,615	5,375
1,000.98	3,544	1,761	1,002.00	3,615	5,448
1,001.00	3,615	1,833			

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Summary for Pond CB_E22: CB_E22

Inflow Area = 0.586 ac, 17.58% Impervious, Inflow Depth = 4.81" for 100yr-24hr event
 Inflow = 3.89 cfs @ 12.20 hrs, Volume= 0.235 af
 Outflow = 3.85 cfs @ 12.21 hrs, Volume= 0.235 af, Atten= 1%, Lag= 0.8 min
 Primary = 3.85 cfs @ 12.21 hrs, Volume= 0.235 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.30' @ 12.21 hrs Surf.Area= 988 sf Storage= 157 cf

Plug-Flow detention time= 0.5 min calculated for 0.235 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (789.4 - 788.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	4,750 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.00	3,150	1,600	1,600
1,004.00	3,150	3,150	4,750

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.83 cfs @ 12.21 hrs HW=1,002.30' TW=979.92' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 3.83 cfs @ 1.80 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,000.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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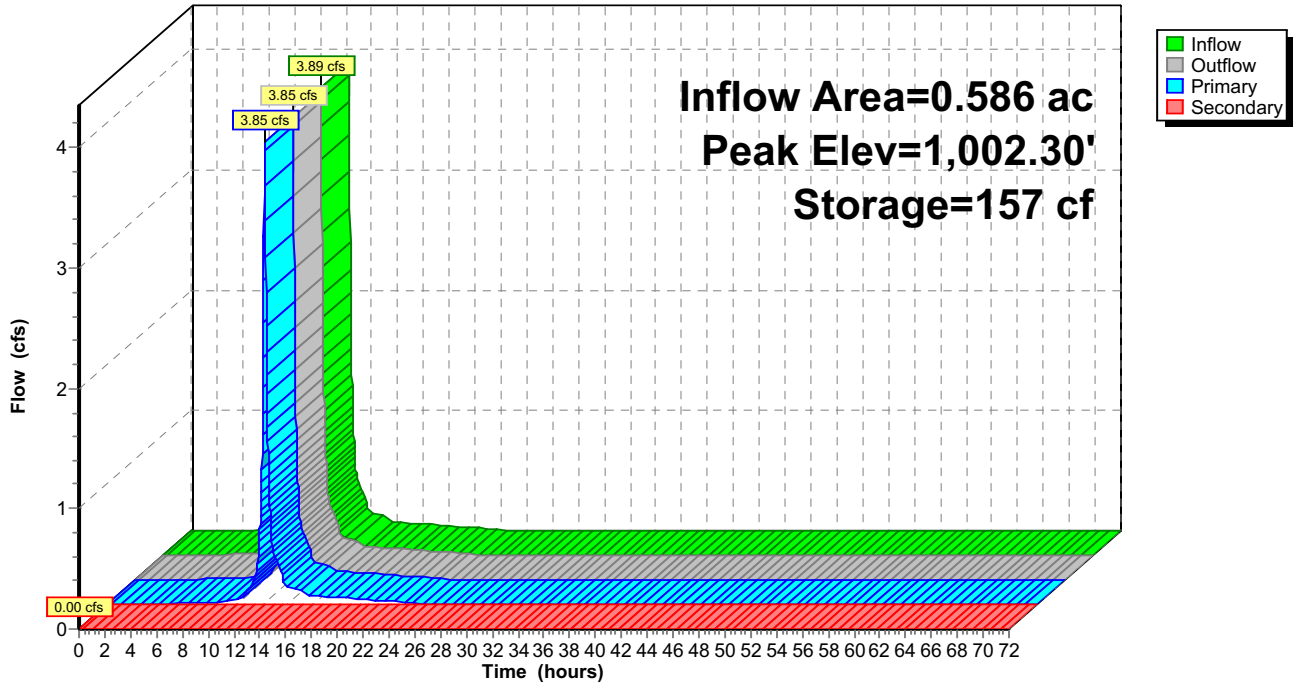
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Pond CB_E22: CB_E22

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Stage-Area-Storage for Pond CB_E22: CB_E22

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,002.00	50	0	1,003.02	3,150	1,663
1,002.02	112	2	1,003.04	3,150	1,726
1,002.04	174	4	1,003.06	3,150	1,789
1,002.06	236	9	1,003.08	3,150	1,852
1,002.08	298	14	1,003.10	3,150	1,915
1,002.10	360	21	1,003.12	3,150	1,978
1,002.12	422	28	1,003.14	3,150	2,041
1,002.14	484	37	1,003.16	3,150	2,104
1,002.16	546	48	1,003.18	3,150	2,167
1,002.18	608	59	1,003.20	3,150	2,230
1,002.20	670	72	1,003.22	3,150	2,293
1,002.22	732	86	1,003.24	3,150	2,356
1,002.24	794	101	1,003.26	3,150	2,419
1,002.26	856	118	1,003.28	3,150	2,482
1,002.28	918	136	1,003.30	3,150	2,545
1,002.30	980	154	1,003.32	3,150	2,608
1,002.32	1,042	175	1,003.34	3,150	2,671
1,002.34	1,104	196	1,003.36	3,150	2,734
1,002.36	1,166	219	1,003.38	3,150	2,797
1,002.38	1,228	243	1,003.40	3,150	2,860
1,002.40	1,290	268	1,003.42	3,150	2,923
1,002.42	1,352	294	1,003.44	3,150	2,986
1,002.44	1,414	322	1,003.46	3,150	3,049
1,002.46	1,476	351	1,003.48	3,150	3,112
1,002.48	1,538	381	1,003.50	3,150	3,175
1,002.50	1,600	413	1,003.52	3,150	3,238
1,002.52	1,662	445	1,003.54	3,150	3,301
1,002.54	1,724	479	1,003.56	3,150	3,364
1,002.56	1,786	514	1,003.58	3,150	3,427
1,002.58	1,848	550	1,003.60	3,150	3,490
1,002.60	1,910	588	1,003.62	3,150	3,553
1,002.62	1,972	627	1,003.64	3,150	3,616
1,002.64	2,034	667	1,003.66	3,150	3,679
1,002.66	2,096	708	1,003.68	3,150	3,742
1,002.68	2,158	751	1,003.70	3,150	3,805
1,002.70	2,220	795	1,003.72	3,150	3,868
1,002.72	2,282	840	1,003.74	3,150	3,931
1,002.74	2,344	886	1,003.76	3,150	3,994
1,002.76	2,406	933	1,003.78	3,150	4,057
1,002.78	2,468	982	1,003.80	3,150	4,120
1,002.80	2,530	1,032	1,003.82	3,150	4,183
1,002.82	2,592	1,083	1,003.84	3,150	4,246
1,002.84	2,654	1,136	1,003.86	3,150	4,309
1,002.86	2,716	1,189	1,003.88	3,150	4,372
1,002.88	2,778	1,244	1,003.90	3,150	4,435
1,002.90	2,840	1,300	1,003.92	3,150	4,498
1,002.92	2,902	1,358	1,003.94	3,150	4,561
1,002.94	2,964	1,417	1,003.96	3,150	4,624
1,002.96	3,026	1,476	1,003.98	3,150	4,687
1,002.98	3,088	1,538	1,004.00	3,150	4,750
1,003.00	3,150	1,600			

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Summary for Pond CB_E23: CB_E23

Inflow Area = 1.215 ac, 7.98% Impervious, Inflow Depth = 4.54" for 100yr-24hr event
 Inflow = 7.77 cfs @ 12.20 hrs, Volume= 0.460 af
 Outflow = 7.61 cfs @ 12.22 hrs, Volume= 0.460 af, Atten= 2%, Lag= 1.3 min
 Primary = 7.61 cfs @ 12.22 hrs, Volume= 0.460 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.48' @ 12.22 hrs Surf.Area= 1,899 sf Storage= 465 cf

Plug-Flow detention time= 0.7 min calculated for 0.460 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (797.4 - 796.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	13,245 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.50	5,870	4,440	4,440
1,005.00	5,870	8,805	13,245

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.60 cfs @ 12.22 hrs HW=1,002.48' TW=979.96' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 7.60 cfs @ 2.26 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,002.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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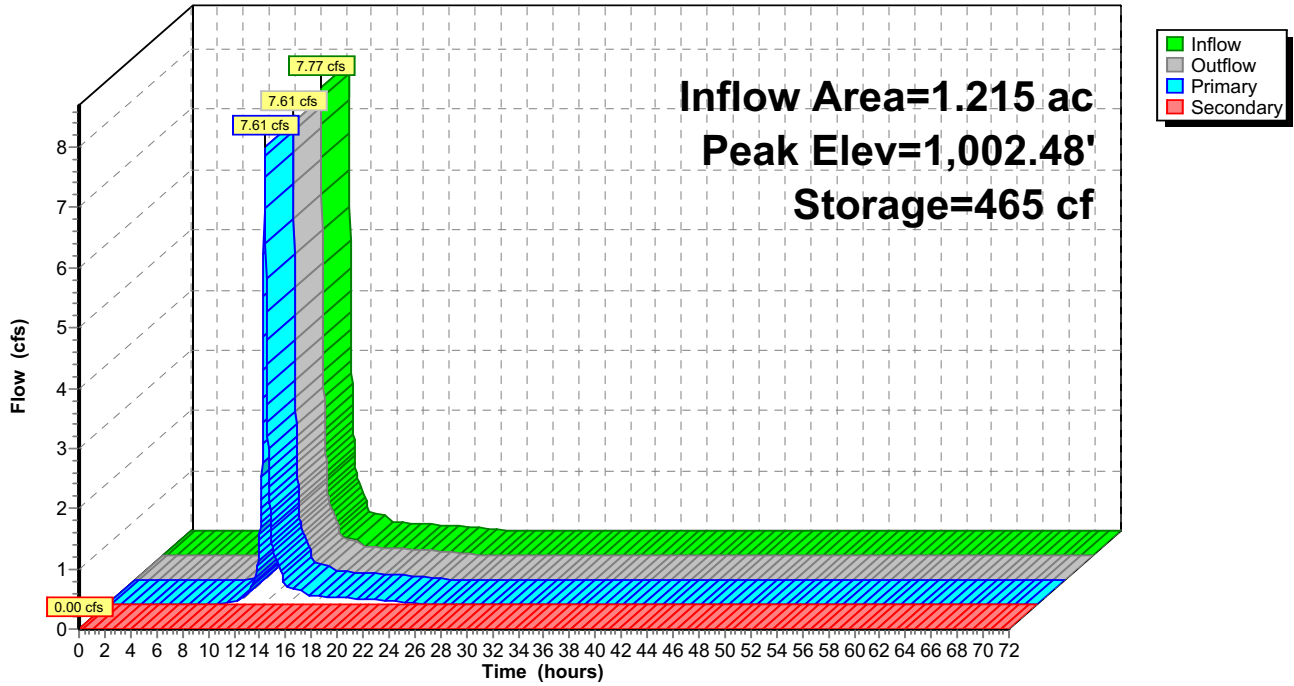
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_E23: CB_E23

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Stage-Area-Storage for Pond CB_E23: CB_E23

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
1,002.00	50	0	1,004.55	5,870	10,603
1,002.05	244	7	1,004.60	5,870	10,897
1,002.10	438	24	1,004.65	5,870	11,190
1,002.15	632	51	1,004.70	5,870	11,484
1,002.20	826	88	1,004.75	5,870	11,778
1,002.25	1,020	134	1,004.80	5,870	12,071
1,002.30	1,214	190	1,004.85	5,870	12,365
1,002.35	1,408	255	1,004.90	5,870	12,658
1,002.40	1,602	330	1,004.95	5,870	12,952
1,002.45	1,796	415	1,005.00	5,870	13,245
1,002.50	1,990	510			
1,002.55	2,184	614			
1,002.60	2,378	728			
1,002.65	2,572	852			
1,002.70	2,766	986			
1,002.75	2,960	1,129			
1,002.80	3,154	1,282			
1,002.85	3,348	1,444			
1,002.90	3,542	1,616			
1,002.95	3,736	1,798			
1,003.00	3,930	1,990			
1,003.05	4,124	2,191			
1,003.10	4,318	2,402			
1,003.15	4,512	2,623			
1,003.20	4,706	2,854			
1,003.25	4,900	3,094			
1,003.30	5,094	3,344			
1,003.35	5,288	3,603			
1,003.40	5,482	3,872			
1,003.45	5,676	4,151			
1,003.50	5,870	4,440			
1,003.55	5,870	4,733			
1,003.60	5,870	5,027			
1,003.65	5,870	5,320			
1,003.70	5,870	5,614			
1,003.75	5,870	5,908			
1,003.80	5,870	6,201			
1,003.85	5,870	6,495			
1,003.90	5,870	6,788			
1,003.95	5,870	7,082			
1,004.00	5,870	7,375			
1,004.05	5,870	7,668			
1,004.10	5,870	7,962			
1,004.15	5,870	8,255			
1,004.20	5,870	8,549			
1,004.25	5,870	8,843			
1,004.30	5,870	9,136			
1,004.35	5,870	9,430			
1,004.40	5,870	9,723			
1,004.45	5,870	10,017			
1,004.50	5,870	10,310			

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Summary for Pond CB_E29: CB_E29

Inflow Area = 1.254 ac, 16.11% Impervious, Inflow Depth = 4.77" for 100yr-24hr event
 Inflow = 8.27 cfs @ 12.20 hrs, Volume= 0.498 af
 Outflow = 5.92 cfs @ 12.32 hrs, Volume= 0.498 af, Atten= 28%, Lag= 7.3 min
 Primary = 5.92 cfs @ 12.32 hrs, Volume= 0.498 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.65' @ 12.29 hrs Surf.Area= 3,692 sf Storage= 1,991 cf

Plug-Flow detention time= 3.5 min calculated for 0.498 af (100% of inflow)
 Center-of-Mass det. time= 3.5 min (793.6 - 790.0)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	124,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	900	500	500
998.00	9,500	10,400	10,900
1,010.00	9,500	114,000	124,900

Device	Routing	Invert	Outlet Devices
#1	Primary	999.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	995.00'	15.0" Round Culvert L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 994.59' S= 0.0114 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=5.92 cfs @ 12.32 hrs HW=996.64' TW=980.44' (Dynamic Tailwater)

- 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 2=Culvert (Barrel Controls 5.92 cfs @ 4.84 fps)

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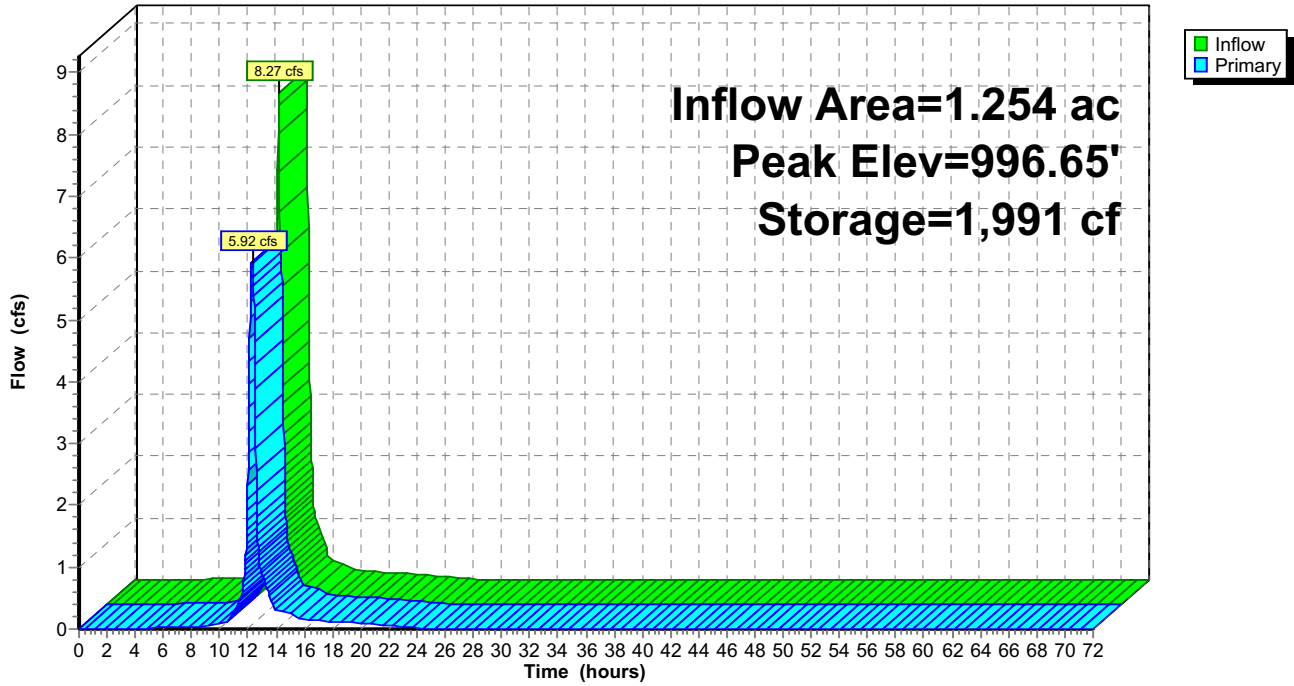
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Pond CB_E29: CB_E29

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_E29: CB_E29

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
995.00	100	0	1,002.65	9,500	55,075
995.15	220	24	1,002.80	9,500	56,500
995.30	340	66	1,002.95	9,500	57,925
995.45	460	126	1,003.10	9,500	59,350
995.60	580	204	1,003.25	9,500	60,775
995.75	700	300	1,003.40	9,500	62,200
995.90	820	414	1,003.55	9,500	63,625
996.05	1,115	550	1,003.70	9,500	65,050
996.20	1,760	766	1,003.85	9,500	66,475
996.35	2,405	1,078	1,004.00	9,500	67,900
996.50	3,050	1,488	1,004.15	9,500	69,325
996.65	3,695	1,993	1,004.30	9,500	70,750
996.80	4,340	2,596	1,004.45	9,500	72,175
996.95	4,985	3,295	1,004.60	9,500	73,600
997.10	5,630	4,092	1,004.75	9,500	75,025
997.25	6,275	4,984	1,004.90	9,500	76,450
997.40	6,920	5,974	1,005.05	9,500	77,875
997.55	7,565	7,060	1,005.20	9,500	79,300
997.70	8,210	8,244	1,005.35	9,500	80,725
997.85	8,855	9,523	1,005.50	9,500	82,150
998.00	9,500	10,900	1,005.65	9,500	83,575
998.15	9,500	12,325	1,005.80	9,500	85,000
998.30	9,500	13,750	1,005.95	9,500	86,425
998.45	9,500	15,175	1,006.10	9,500	87,850
998.60	9,500	16,600	1,006.25	9,500	89,275
998.75	9,500	18,025	1,006.40	9,500	90,700
998.90	9,500	19,450	1,006.55	9,500	92,125
999.05	9,500	20,875	1,006.70	9,500	93,550
999.20	9,500	22,300	1,006.85	9,500	94,975
999.35	9,500	23,725	1,007.00	9,500	96,400
999.50	9,500	25,150	1,007.15	9,500	97,825
999.65	9,500	26,575	1,007.30	9,500	99,250
999.80	9,500	28,000	1,007.45	9,500	100,675
999.95	9,500	29,425	1,007.60	9,500	102,100
1,000.10	9,500	30,850	1,007.75	9,500	103,525
1,000.25	9,500	32,275	1,007.90	9,500	104,950
1,000.40	9,500	33,700	1,008.05	9,500	106,375
1,000.55	9,500	35,125	1,008.20	9,500	107,800
1,000.70	9,500	36,550	1,008.35	9,500	109,225
1,000.85	9,500	37,975	1,008.50	9,500	110,650
1,001.00	9,500	39,400	1,008.65	9,500	112,075
1,001.15	9,500	40,825	1,008.80	9,500	113,500
1,001.30	9,500	42,250	1,008.95	9,500	114,925
1,001.45	9,500	43,675	1,009.10	9,500	116,350
1,001.60	9,500	45,100	1,009.25	9,500	117,775
1,001.75	9,500	46,525	1,009.40	9,500	119,200
1,001.90	9,500	47,950	1,009.55	9,500	120,625
1,002.05	9,500	49,375	1,009.70	9,500	122,050
1,002.20	9,500	50,800	1,009.85	9,500	123,475
1,002.35	9,500	52,225	1,010.00	9,500	124,900
1,002.50	9,500	53,650			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_F5: CB_F5

Inflow Area = 1.224 ac, 21.24% Impervious, Inflow Depth = 4.91" for 100yr-24hr event
Inflow = 8.23 cfs @ 12.20 hrs, Volume= 0.501 af
Outflow = 8.16 cfs @ 12.21 hrs, Volume= 0.501 af, Atten= 1%, Lag= 0.8 min
Primary = 8.16 cfs @ 12.21 hrs, Volume= 0.501 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 983.50' @ 12.21 hrs Surf.Area= 1,223 sf Storage= 318 cf

Plug-Flow detention time= 0.5 min calculated for 0.501 af (100% of inflow)
Center-of-Mass det. time= 0.5 min (786.6 - 786.2)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	13,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	50	0	0
984.00	2,400	1,225	1,225
986.00	9,900	12,300	13,525

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.12 cfs @ 12.21 hrs HW=983.50' TW=970.73' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 8.12 cfs @ 2.31 fps)

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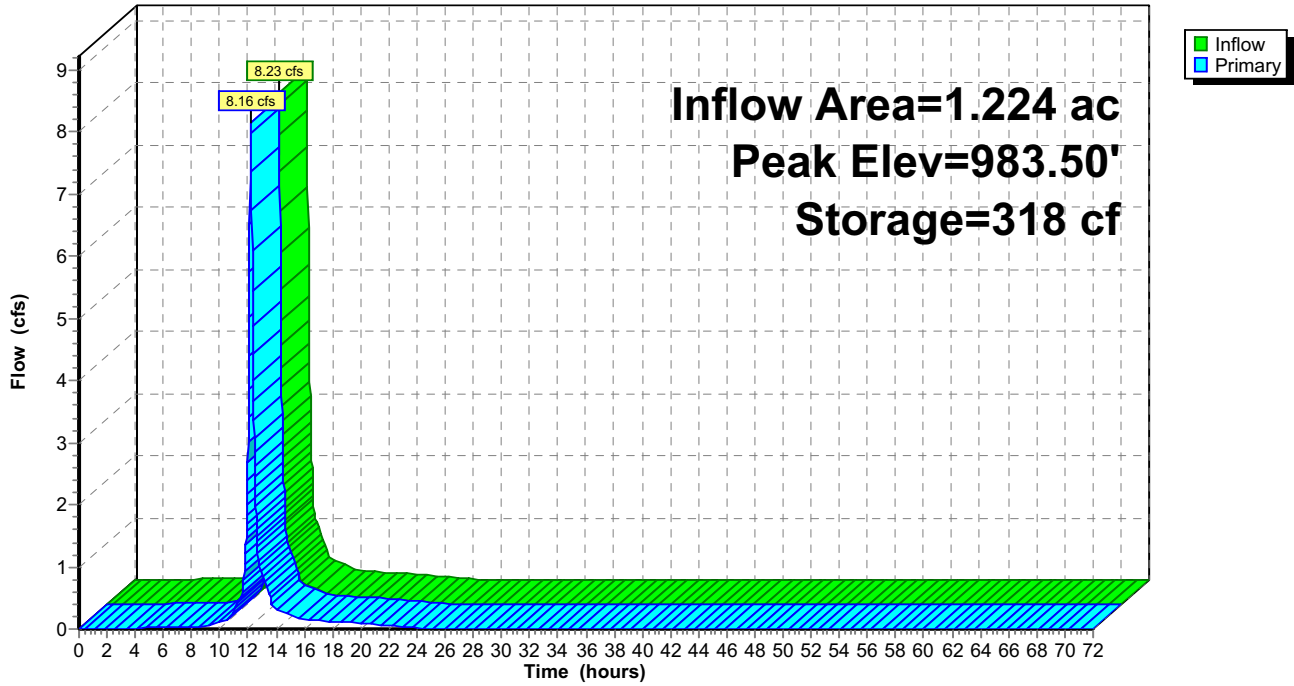
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_F5: CB_F5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_F5: CB_F5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
983.00	50	0	985.55	8,212	9,450
983.05	167	5	985.60	8,400	9,865
983.10	285	17	985.65	8,587	10,290
983.15	402	34	985.70	8,775	10,724
983.20	520	57	985.75	8,963	11,167
983.25	638	86	985.80	9,150	11,620
983.30	755	121	985.85	9,338	12,082
983.35	873	161	985.90	9,525	12,554
983.40	990	208	985.95	9,713	13,035
983.45	1,108	260	986.00	9,900	13,525
983.50	1,225	319			
983.55	1,342	383			
983.60	1,460	453			
983.65	1,577	529			
983.70	1,695	611			
983.75	1,813	698			
983.80	1,930	792			
983.85	2,048	891			
983.90	2,165	997			
983.95	2,283	1,108			
984.00	2,400	1,225			
984.05	2,587	1,350			
984.10	2,775	1,484			
984.15	2,962	1,627			
984.20	3,150	1,780			
984.25	3,338	1,942			
984.30	3,525	2,114			
984.35	3,713	2,295			
984.40	3,900	2,485			
984.45	4,088	2,685			
984.50	4,275	2,894			
984.55	4,462	3,112			
984.60	4,650	3,340			
984.65	4,837	3,577			
984.70	5,025	3,824			
984.75	5,213	4,080			
984.80	5,400	4,345			
984.85	5,588	4,620			
984.90	5,775	4,904			
984.95	5,963	5,197			
985.00	6,150	5,500			
985.05	6,337	5,812			
985.10	6,525	6,134			
985.15	6,712	6,465			
985.20	6,900	6,805			
985.25	7,088	7,155			
985.30	7,275	7,514			
985.35	7,463	7,882			
985.40	7,650	8,260			
985.45	7,838	8,647			
985.50	8,025	9,044			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_F6: CB_F6

Inflow Area = 0.921 ac, 21.06% Impervious, Inflow Depth = 5.19" for 100yr-24hr event
 Inflow = 6.19 cfs @ 12.20 hrs, Volume= 0.399 af
 Outflow = 6.18 cfs @ 12.20 hrs, Volume= 0.399 af, Atten= 0%, Lag= 0.4 min
 Primary = 6.18 cfs @ 12.20 hrs, Volume= 0.399 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.41' @ 12.20 hrs Surf.Area= 574 sf Storage= 140 cf

Plug-Flow detention time= 0.4 min calculated for 0.399 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (784.2 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	5,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
988.00	3,527	5,441	5,441

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	987.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

Primary OutFlow Max=6.15 cfs @ 12.20 hrs HW=985.41' TW=970.68' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 6.15 cfs @ 2.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=983.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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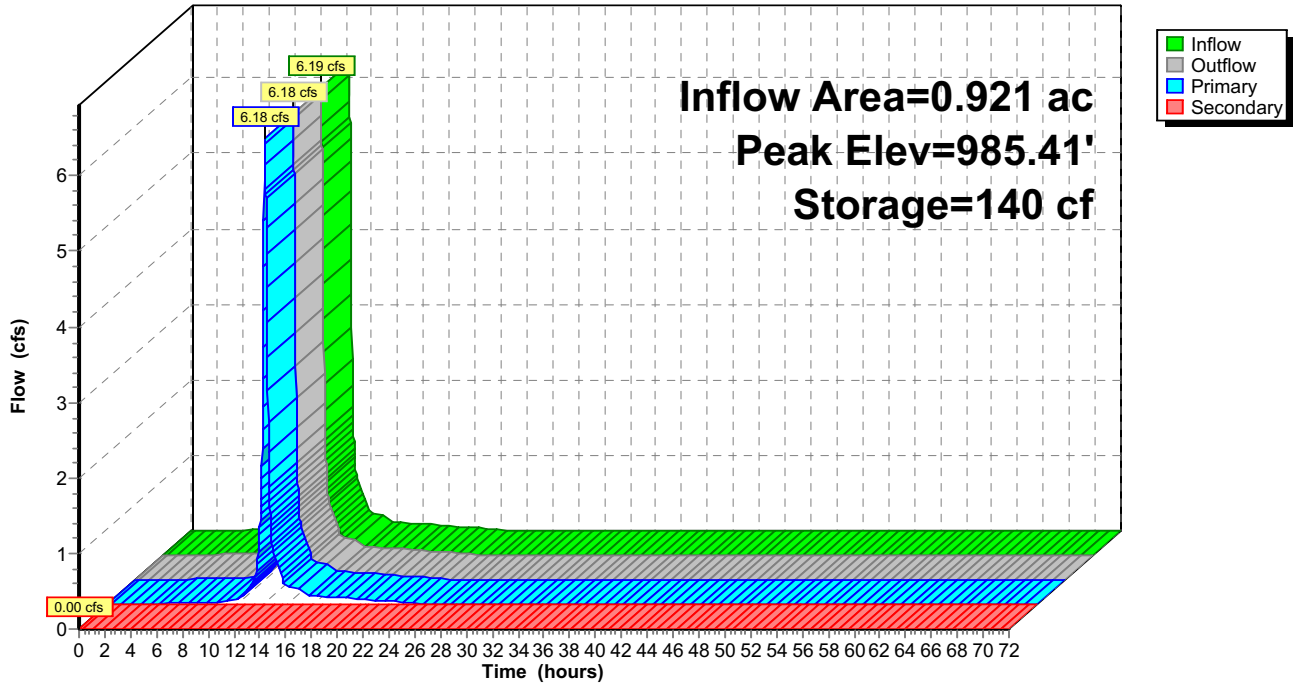
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_F6: CB_F6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_F6: CB_F6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
985.00	100	0	987.55	3,013	3,969
985.05	157	6	987.60	3,070	4,121
985.10	214	16	987.65	3,127	4,276
985.15	271	28	987.70	3,184	4,434
985.20	328	43	987.75	3,241	4,594
985.25	386	61	987.80	3,299	4,758
985.30	443	81	987.85	3,356	4,924
985.35	500	105	987.90	3,413	5,094
985.40	557	131	987.95	3,470	5,266
985.45	614	161	988.00	3,527	5,441
985.50	671	193			
985.55	728	228			
985.60	785	266			
985.65	843	306			
985.70	900	350			
985.75	957	396			
985.80	1,014	446			
985.85	1,071	498			
985.90	1,128	553			
985.95	1,185	610			
986.00	1,242	671			
986.05	1,299	735			
986.10	1,357	801			
986.15	1,414	870			
986.20	1,471	942			
986.25	1,528	1,017			
986.30	1,585	1,095			
986.35	1,642	1,176			
986.40	1,699	1,259			
986.45	1,756	1,346			
986.50	1,814	1,435			
986.55	1,871	1,527			
986.60	1,928	1,622			
986.65	1,985	1,720			
986.70	2,042	1,821			
986.75	2,099	1,924			
986.80	2,156	2,031			
986.85	2,213	2,140			
986.90	2,270	2,252			
986.95	2,328	2,367			
987.00	2,385	2,485			
987.05	2,442	2,605			
987.10	2,499	2,729			
987.15	2,556	2,855			
987.20	2,613	2,984			
987.25	2,670	3,117			
987.30	2,727	3,251			
987.35	2,784	3,389			
987.40	2,842	3,530			
987.45	2,899	3,673			
987.50	2,956	3,820			

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Summary for Pond CB_F7: CB_F7

Inflow Area = 2.573 ac, 14.89% Impervious, Inflow Depth = 4.73" for 100yr-24hr event
Inflow = 15.60 cfs @ 12.22 hrs, Volume= 1.015 af
Outflow = 10.41 cfs @ 12.35 hrs, Volume= 1.015 af, Atten= 33%, Lag= 7.9 min
Primary = 8.65 cfs @ 12.35 hrs, Volume= 0.993 af
Secondary = 1.77 cfs @ 12.35 hrs, Volume= 0.022 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 985.77' @ 12.35 hrs Surf.Area= 4,748 sf Storage= 6,707 cf

Plug-Flow detention time= 7.3 min calculated for 1.015 af (100% of inflow)
Center-of-Mass det. time= 6.9 min (800.0 - 793.1)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	21,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	100	0	0
988.00	8,500	21,500	21,500

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	15.0" Round Culvert L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 983.00' / 980.71' S= 0.0458 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	985.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=8.64 cfs @ 12.35 hrs HW=985.77' TW=971.41' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 8.64 cfs @ 7.04 fps)

Secondary OutFlow Max=1.75 cfs @ 12.35 hrs HW=985.77' TW=985.37' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Weir Controls 1.75 cfs @ 1.32 fps)

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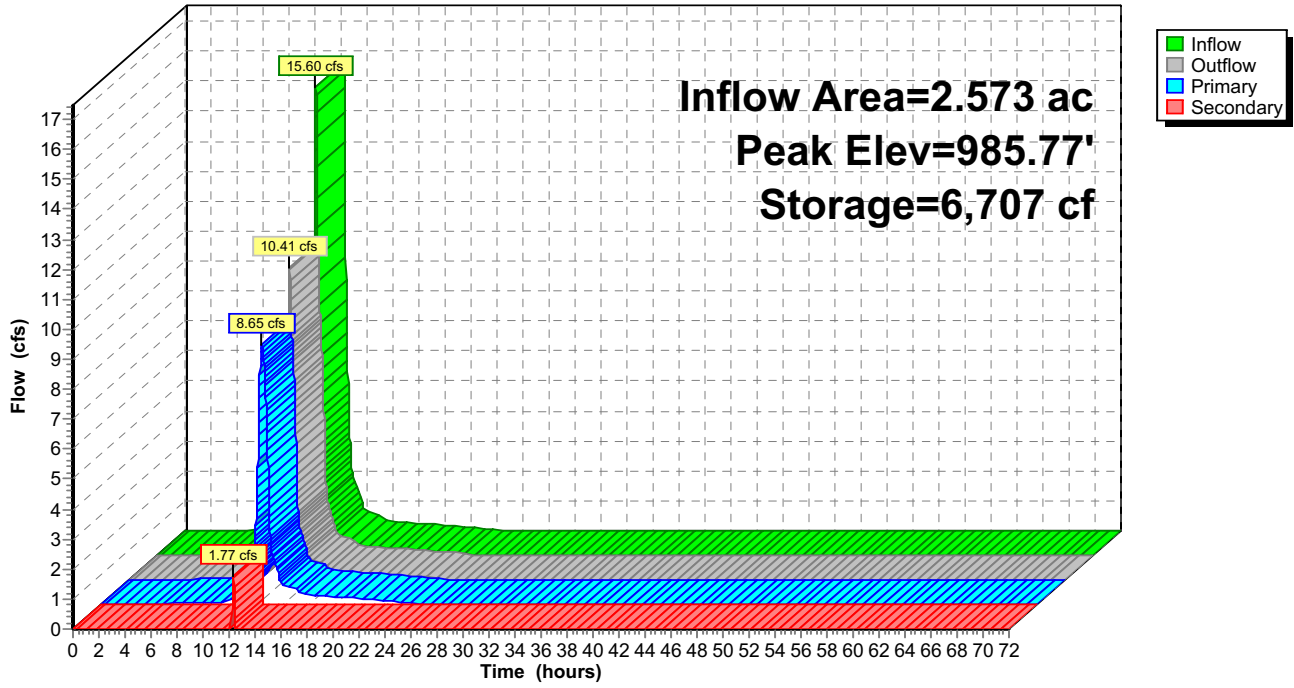
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_F7: CB_F7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_F7: CB_F7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
983.00	100	0	985.55	4,384	5,717
983.05	184	7	985.60	4,468	5,938
983.10	268	18	985.65	4,552	6,164
983.15	352	34	985.70	4,636	6,394
983.20	436	54	985.75	4,720	6,628
983.25	520	78	985.80	4,804	6,866
983.30	604	106	985.85	4,888	7,108
983.35	688	138	985.90	4,972	7,354
983.40	772	174	985.95	5,056	7,605
983.45	856	215	986.00	5,140	7,860
983.50	940	260	986.05	5,224	8,119
983.55	1,024	309	986.10	5,308	8,382
983.60	1,108	362	986.15	5,392	8,650
983.65	1,192	420	986.20	5,476	8,922
983.70	1,276	482	986.25	5,560	9,198
983.75	1,360	548	986.30	5,644	9,478
983.80	1,444	618	986.35	5,728	9,762
983.85	1,528	692	986.40	5,812	10,050
983.90	1,612	770	986.45	5,896	10,343
983.95	1,696	853	986.50	5,980	10,640
984.00	1,780	940	986.55	6,064	10,941
984.05	1,864	1,031	986.60	6,148	11,246
984.10	1,948	1,126	986.65	6,232	11,556
984.15	2,032	1,226	986.70	6,316	11,870
984.20	2,116	1,330	986.75	6,400	12,188
984.25	2,200	1,438	986.80	6,484	12,510
984.30	2,284	1,550	986.85	6,568	12,836
984.35	2,368	1,666	986.90	6,652	13,166
984.40	2,452	1,786	986.95	6,736	13,501
984.45	2,536	1,911	987.00	6,820	13,840
984.50	2,620	2,040	987.05	6,904	14,183
984.55	2,704	2,173	987.10	6,988	14,530
984.60	2,788	2,310	987.15	7,072	14,882
984.65	2,872	2,452	987.20	7,156	15,238
984.70	2,956	2,598	987.25	7,240	15,598
984.75	3,040	2,748	987.30	7,324	15,962
984.80	3,124	2,902	987.35	7,408	16,330
984.85	3,208	3,060	987.40	7,492	16,702
984.90	3,292	3,222	987.45	7,576	17,079
984.95	3,376	3,389	987.50	7,660	17,460
985.00	3,460	3,560	987.55	7,744	17,845
985.05	3,544	3,735	987.60	7,828	18,234
985.10	3,628	3,914	987.65	7,912	18,628
985.15	3,712	4,098	987.70	7,996	19,026
985.20	3,796	4,286	987.75	8,080	19,428
985.25	3,880	4,478	987.80	8,164	19,834
985.30	3,964	4,674	987.85	8,248	20,244
985.35	4,048	4,874	987.90	8,332	20,658
985.40	4,132	5,078	987.95	8,416	21,077
985.45	4,216	5,287	988.00	8,500	21,500
985.50	4,300	5,500			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_H5: CB_H5

Inflow Area = 2.168 ac, 27.21% Impervious, Inflow Depth = 4.74" for 100yr-24hr event
 Inflow = 13.84 cfs @ 12.20 hrs, Volume= 0.856 af
 Outflow = 13.67 cfs @ 12.21 hrs, Volume= 0.856 af, Atten= 1%, Lag= 0.9 min
 Primary = 13.67 cfs @ 12.21 hrs, Volume= 0.856 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 972.70' @ 12.21 hrs Surf.Area= 1,680 sf Storage= 610 cf

Plug-Flow detention time= 0.5 min calculated for 0.855 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (783.9 - 783.4)

Volume	Invert	Avail.Storage	Storage Description
#1	972.00'	30,964 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
972.00	50	0	0
974.00	4,677	4,727	4,727
976.00	21,560	26,237	30,964

Device	Routing	Invert	Outlet Devices
#1	Primary	972.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.62 cfs @ 12.21 hrs HW=972.70' TW=969.12' (Dynamic Tailwater)

↑**1=Grate** (Weir Controls 13.62 cfs @ 2.74 fps)

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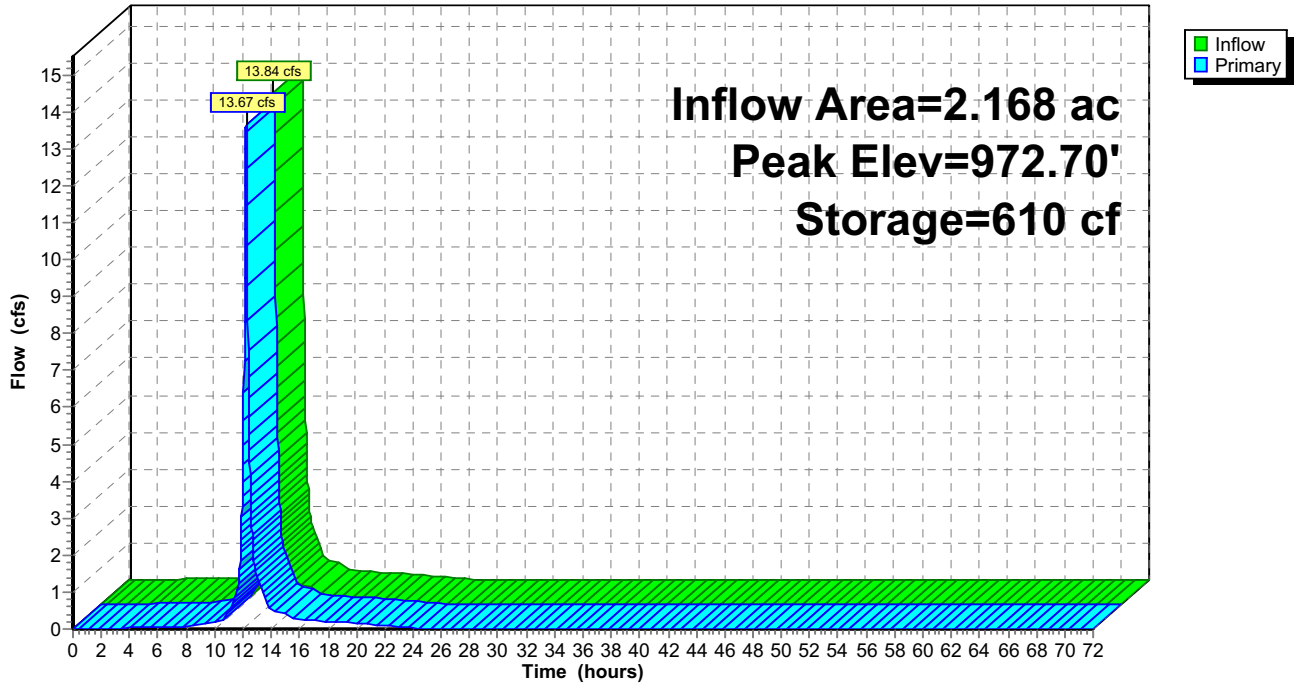
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_H5: CB_H5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_H5: CB_H5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
972.00	50	0	974.55	9,320	8,576
972.05	166	5	974.60	9,742	9,053
972.10	281	17	974.65	10,164	9,550
972.15	397	34	974.70	10,586	10,069
972.20	513	56	974.75	11,008	10,609
972.25	628	85	974.80	11,430	11,170
972.30	744	119	974.85	11,852	11,752
972.35	860	159	974.90	12,274	12,355
972.40	975	205	974.95	12,696	12,979
972.45	1,091	257	975.00	13,119	13,625
972.50	1,207	314	975.05	13,541	14,291
972.55	1,322	377	975.10	13,963	14,979
972.60	1,438	446	975.15	14,385	15,687
972.65	1,554	521	975.20	14,807	16,417
972.70	1,669	602	975.25	15,229	17,168
972.75	1,785	688	975.30	15,651	17,940
972.80	1,901	780	975.35	16,073	18,733
972.85	2,016	878	975.40	16,495	19,547
972.90	2,132	982	975.45	16,917	20,383
972.95	2,248	1,091	975.50	17,339	21,239
973.00	2,364	1,207	975.55	17,761	22,117
973.05	2,479	1,328	975.60	18,183	23,015
973.10	2,595	1,455	975.65	18,605	23,935
973.15	2,711	1,587	975.70	19,028	24,876
973.20	2,826	1,726	975.75	19,450	25,838
973.25	2,942	1,870	975.80	19,872	26,821
973.30	3,058	2,020	975.85	20,294	27,825
973.35	3,173	2,176	975.90	20,716	28,850
973.40	3,289	2,337	975.95	21,138	29,897
973.45	3,405	2,505	976.00	21,560	30,964
973.50	3,520	2,678			
973.55	3,636	2,857			
973.60	3,752	3,041			
973.65	3,867	3,232			
973.70	3,983	3,428			
973.75	4,099	3,630			
973.80	4,214	3,838			
973.85	4,330	4,051			
973.90	4,446	4,271			
973.95	4,561	4,496			
974.00	4,677	4,727			
974.05	5,099	4,971			
974.10	5,521	5,237			
974.15	5,943	5,524			
974.20	6,365	5,831			
974.25	6,787	6,160			
974.30	7,209	6,510			
974.35	7,632	6,881			
974.40	8,054	7,273			
974.45	8,476	7,686			
974.50	8,898	8,121			

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Summary for Pond CB_H6: CB_H6

Inflow Area = 1.008 ac, 19.54% Impervious, Inflow Depth = 3.98" for 100yr-24hr event
 Inflow = 5.45 cfs @ 12.20 hrs, Volume= 0.334 af
 Outflow = 5.30 cfs @ 12.22 hrs, Volume= 0.334 af, Atten= 3%, Lag= 1.4 min
 Primary = 5.30 cfs @ 12.22 hrs, Volume= 0.334 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 973.37' @ 12.22 hrs Surf.Area= 1,941 sf Storage= 373 cf

Plug-Flow detention time= 0.8 min calculated for 0.334 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (794.1 - 793.3)

Volume	Invert	Avail.Storage	Storage Description
#1	973.00'	35,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.00	50	0	0
974.00	5,100	2,575	2,575
975.00	20,000	12,550	15,125
976.00	20,000	20,000	35,125

Device	Routing	Invert	Outlet Devices
#1	Primary	973.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.28 cfs @ 12.22 hrs HW=973.37' TW=969.18' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 5.28 cfs @ 2.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=967.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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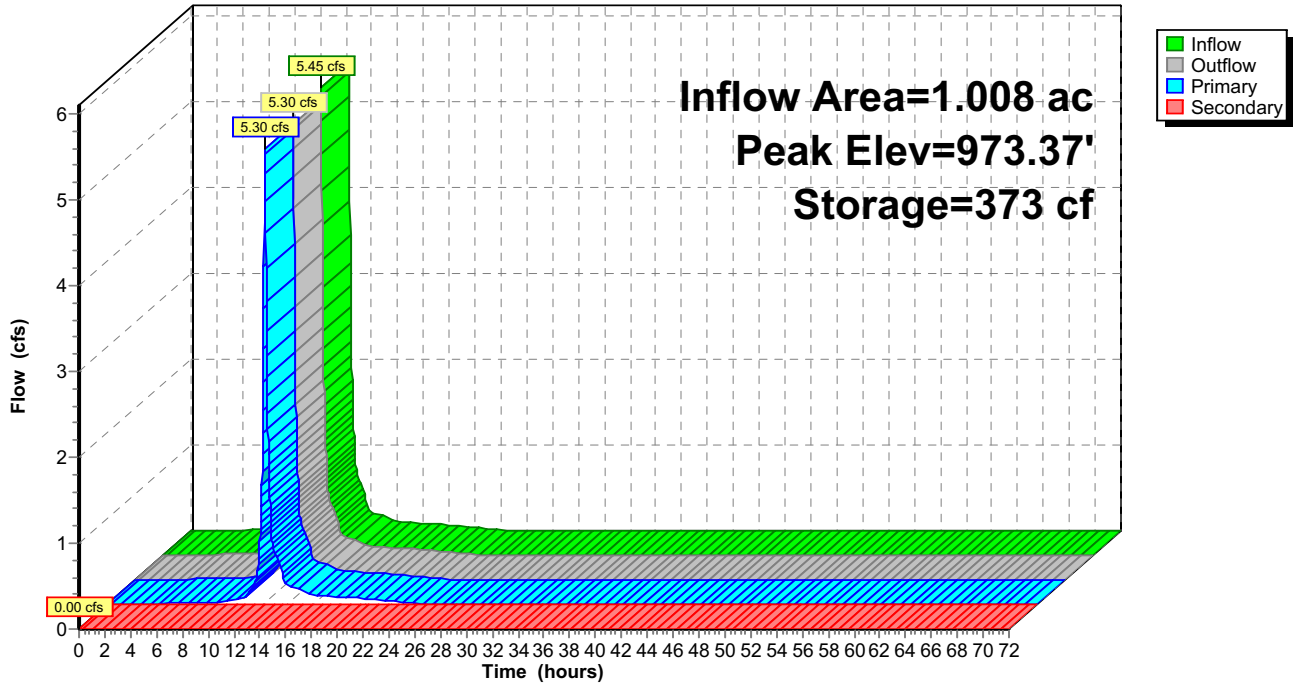
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_H6: CB_H6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_H6: CB_H6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
973.00	50	0	975.55	20,000	26,125
973.05	302	9	975.60	20,000	27,125
973.10	555	30	975.65	20,000	28,125
973.15	807	64	975.70	20,000	29,125
973.20	1,060	111	975.75	20,000	30,125
973.25	1,313	170	975.80	20,000	31,125
973.30	1,565	242	975.85	20,000	32,125
973.35	1,818	327	975.90	20,000	33,125
973.40	2,070	424	975.95	20,000	34,125
973.45	2,323	534	976.00	20,000	35,125
973.50	2,575	656			
973.55	2,827	791			
973.60	3,080	939			
973.65	3,332	1,099			
973.70	3,585	1,272			
973.75	3,838	1,458			
973.80	4,090	1,656			
973.85	4,343	1,867			
973.90	4,595	2,090			
973.95	4,848	2,326			
974.00	5,100	2,575			
974.05	5,845	2,849			
974.10	6,590	3,160			
974.15	7,335	3,508			
974.20	8,080	3,893			
974.25	8,825	4,316			
974.30	9,570	4,775			
974.35	10,315	5,273			
974.40	11,060	5,807			
974.45	11,805	6,379			
974.50	12,550	6,988			
974.55	13,295	7,634			
974.60	14,040	8,317			
974.65	14,785	9,038			
974.70	15,530	9,796			
974.75	16,275	10,591			
974.80	17,020	11,423			
974.85	17,765	12,293			
974.90	18,510	13,199			
974.95	19,255	14,144			
975.00	20,000	15,125			
975.05	20,000	16,125			
975.10	20,000	17,125			
975.15	20,000	18,125			
975.20	20,000	19,125			
975.25	20,000	20,125			
975.30	20,000	21,125			
975.35	20,000	22,125			
975.40	20,000	23,125			
975.45	20,000	24,125			
975.50	20,000	25,125			

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Summary for Pond CB_H7: CB_H7

Inflow Area = 1.176 ac, 19.64% Impervious, Inflow Depth = 4.17" for 100yr-24hr event
 Inflow = 6.67 cfs @ 12.20 hrs, Volume= 0.408 af
 Outflow = 6.40 cfs @ 12.23 hrs, Volume= 0.408 af, Atten= 4%, Lag= 1.8 min
 Primary = 6.40 cfs @ 12.23 hrs, Volume= 0.408 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 974.42' @ 12.23 hrs Surf.Area= 2,430 sf Storage= 1,045 cf

Plug-Flow detention time= 6.9 min calculated for 0.408 af (100% of inflow)
 Center-of-Mass det. time= 6.5 min (798.2 - 791.8)

Volume	Invert	Avail.Storage	Storage Description
#1	973.99'	4,872 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.99	50	0	0
974.00	2,430	12	12
976.00	2,430	4,860	4,872

Device	Routing	Invert	Outlet Devices
#1	Primary	974.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.37 cfs @ 12.23 hrs HW=974.42' TW=969.21' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 6.37 cfs @ 2.13 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.99' TW=973.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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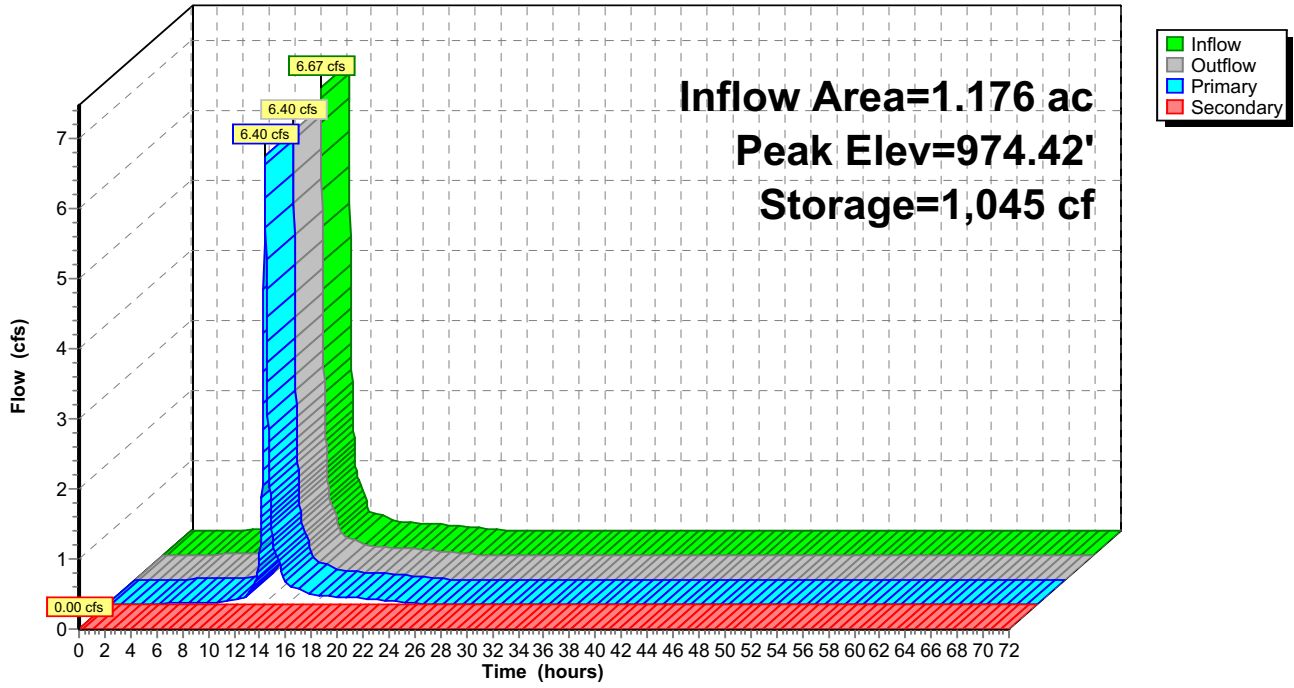
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_H7: CB_H7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_H7: CB_H7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
973.99	50	0	975.01	2,430	2,467
974.01	2,430	37	975.03	2,430	2,515
974.03	2,430	85	975.05	2,430	2,564
974.05	2,430	134	975.07	2,430	2,613
974.07	2,430	183	975.09	2,430	2,661
974.09	2,430	231	975.11	2,430	2,710
974.11	2,430	280	975.13	2,430	2,758
974.13	2,430	328	975.15	2,430	2,807
974.15	2,430	377	975.17	2,430	2,855
974.17	2,430	425	975.19	2,430	2,904
974.19	2,430	474	975.21	2,430	2,953
974.21	2,430	523	975.23	2,430	3,001
974.23	2,430	571	975.25	2,430	3,050
974.25	2,430	620	975.27	2,430	3,098
974.27	2,430	668	975.29	2,430	3,147
974.29	2,430	717	975.31	2,430	3,196
974.31	2,430	766	975.33	2,430	3,244
974.33	2,430	814	975.35	2,430	3,293
974.35	2,430	863	975.37	2,430	3,342
974.37	2,430	911	975.39	2,430	3,390
974.39	2,430	960	975.41	2,430	3,439
974.41	2,430	1,009	975.43	2,430	3,487
974.43	2,430	1,057	975.45	2,430	3,536
974.45	2,430	1,106	975.47	2,430	3,585
974.47	2,430	1,155	975.49	2,430	3,633
974.49	2,430	1,203	975.51	2,430	3,682
974.51	2,430	1,252	975.53	2,430	3,730
974.53	2,430	1,300	975.55	2,430	3,779
974.55	2,430	1,349	975.57	2,430	3,828
974.57	2,430	1,398	975.59	2,430	3,876
974.59	2,430	1,446	975.61	2,430	3,925
974.61	2,430	1,495	975.63	2,430	3,973
974.63	2,430	1,543	975.65	2,430	4,022
974.65	2,430	1,592	975.67	2,430	4,070
974.67	2,430	1,640	975.69	2,430	4,119
974.69	2,430	1,689	975.71	2,430	4,168
974.71	2,430	1,738	975.73	2,430	4,216
974.73	2,430	1,786	975.75	2,430	4,265
974.75	2,430	1,835	975.77	2,430	4,313
974.77	2,430	1,883	975.79	2,430	4,362
974.79	2,430	1,932	975.81	2,430	4,411
974.81	2,430	1,981	975.83	2,430	4,459
974.83	2,430	2,029	975.85	2,430	4,508
974.85	2,430	2,078	975.87	2,430	4,557
974.87	2,430	2,127	975.89	2,430	4,605
974.89	2,430	2,175	975.91	2,430	4,654
974.91	2,430	2,224	975.93	2,430	4,702
974.93	2,430	2,272	975.95	2,430	4,751
974.95	2,430	2,321	975.97	2,430	4,800
974.97	2,430	2,370	975.99	2,430	4,848
974.99	2,430	2,418			

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Summary for Pond CB_I14: CB_I14

Inflow Area = 0.648 ac, 15.59% Impervious, Inflow Depth = 4.75" for 100yr-24hr event
Inflow = 4.27 cfs @ 12.20 hrs, Volume= 0.257 af
Outflow = 4.03 cfs @ 12.23 hrs, Volume= 0.257 af, Atten= 6%, Lag= 2.1 min
Primary = 4.03 cfs @ 12.23 hrs, Volume= 0.257 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 986.09' @ 12.23 hrs Surf.Area= 901 sf Storage= 439 cf

Plug-Flow detention time= 2.5 min calculated for 0.257 af (100% of inflow)
Center-of-Mass det. time= 2.5 min (792.9 - 790.4)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	7,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
986.00	640	370	370
988.00	6,500	7,140	7,510

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	15.0" Round FES_I14 L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 985.00' / 981.70' S= 0.0236 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	987.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=4.02 cfs @ 12.23 hrs HW=986.09' TW=970.92' (Dynamic Tailwater)
↑1=FES_I14 (Inlet Controls 4.02 cfs @ 3.55 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=0.00' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

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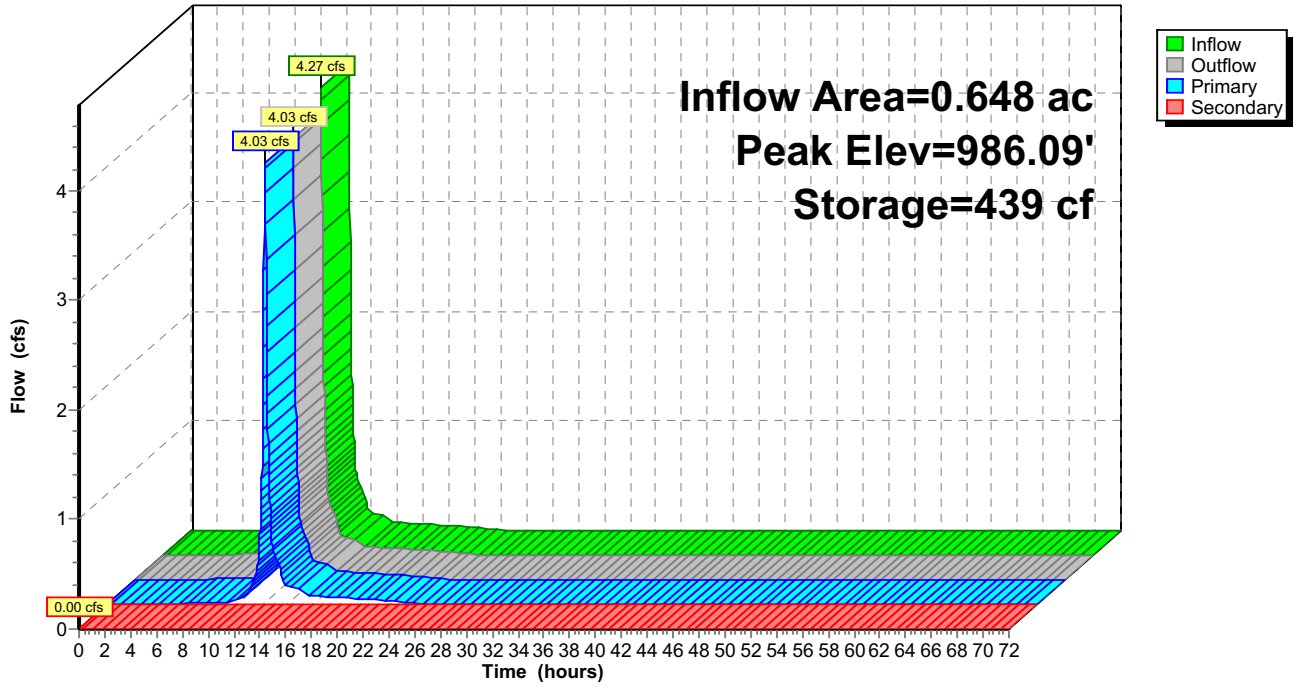
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Pond CB_I14: CB_I14

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Stage-Area-Storage for Pond CB_I14: CB_I14

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
985.00	100	0	987.55	5,181	4,882
985.05	127	6	987.60	5,328	5,144
985.10	154	13	987.65	5,474	5,414
985.15	181	21	987.70	5,621	5,692
985.20	208	31	987.75	5,768	5,977
985.25	235	42	987.80	5,914	6,269
985.30	262	54	987.85	6,061	6,568
985.35	289	68	987.90	6,207	6,875
985.40	316	83	987.95	6,354	7,189
985.45	343	100	988.00	6,500	7,510
985.50	370	118			
985.55	397	137			
985.60	424	157			
985.65	451	179			
985.70	478	202			
985.75	505	227			
985.80	532	253			
985.85	559	280			
985.90	586	309			
985.95	613	339			
986.00	640	370			
986.05	786	406			
986.10	933	449			
986.15	1,079	499			
986.20	1,226	557			
986.25	1,373	622			
986.30	1,519	694			
986.35	1,666	773			
986.40	1,812	860			
986.45	1,959	955			
986.50	2,105	1,056			
986.55	2,251	1,165			
986.60	2,398	1,281			
986.65	2,544	1,405			
986.70	2,691	1,536			
986.75	2,838	1,674			
986.80	2,984	1,820			
986.85	3,131	1,972			
986.90	3,277	2,133			
986.95	3,424	2,300			
987.00	3,570	2,475			
987.05	3,716	2,657			
987.10	3,863	2,847			
987.15	4,009	3,043			
987.20	4,156	3,248			
987.25	4,303	3,459			
987.30	4,449	3,678			
987.35	4,596	3,904			
987.40	4,742	4,137			
987.45	4,889	4,378			
987.50	5,035	4,626			

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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_I7: CB_I7

Inflow Area = 0.815 ac, 18.77% Impervious, Inflow Depth = 4.84" for 100yr-24hr event
 Inflow = 5.43 cfs @ 12.20 hrs, Volume= 0.329 af
 Outflow = 5.35 cfs @ 12.22 hrs, Volume= 0.329 af, Atten= 2%, Lag= 1.1 min
 Primary = 5.35 cfs @ 12.22 hrs, Volume= 0.329 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 986.38' @ 12.22 hrs Surf.Area= 1,400 sf Storage= 283 cf

Plug-Flow detention time= 0.7 min calculated for 0.329 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (788.7 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	986.00'	21,100 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
986.00	100	0	0
988.00	7,000	7,100	7,100
990.00	7,000	14,000	21,100

Device	Routing	Invert	Outlet Devices
#1	Primary	986.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.33 cfs @ 12.22 hrs HW=986.38' TW=970.84' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 5.33 cfs @ 2.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=986.00' TW=985.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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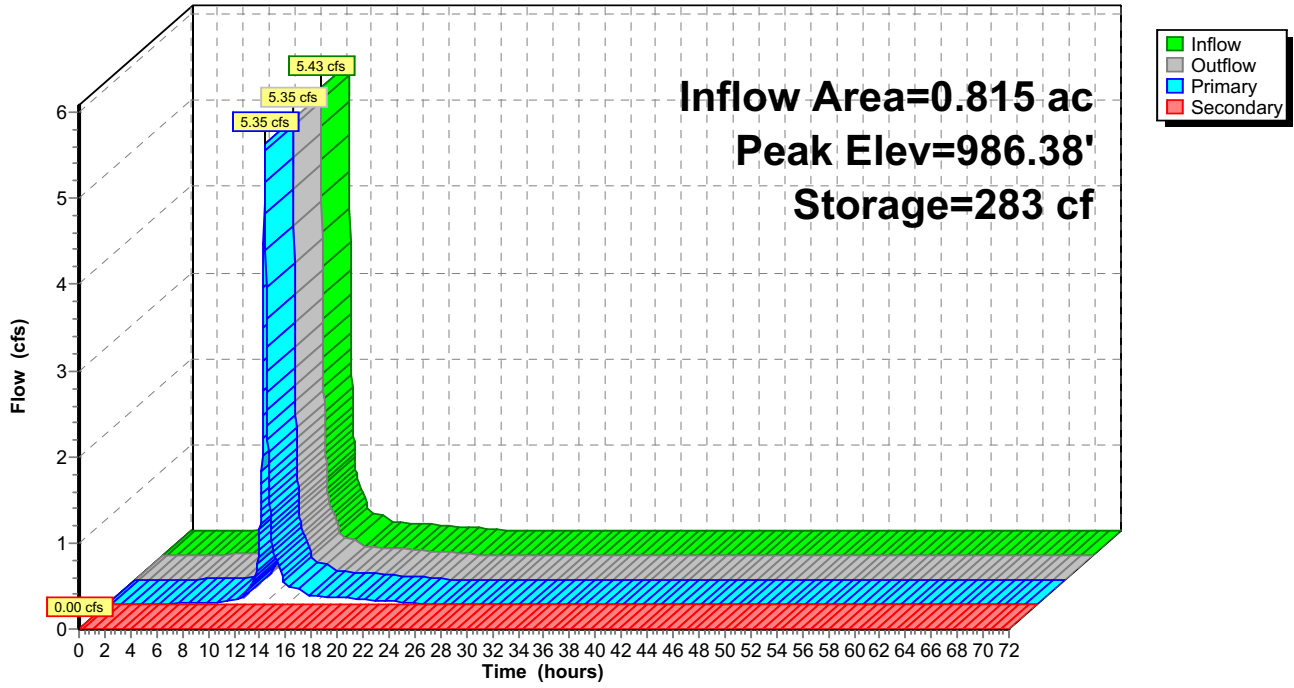
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_I7: CB_I7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_I7: CB_I7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
986.00	100	0	988.55	7,000	10,950
986.05	272	9	988.60	7,000	11,300
986.10	445	27	988.65	7,000	11,650
986.15	617	54	988.70	7,000	12,000
986.20	790	89	988.75	7,000	12,350
986.25	963	133	988.80	7,000	12,700
986.30	1,135	185	988.85	7,000	13,050
986.35	1,308	246	988.90	7,000	13,400
986.40	1,480	316	988.95	7,000	13,750
986.45	1,653	394	989.00	7,000	14,100
986.50	1,825	481	989.05	7,000	14,450
986.55	1,997	577	989.10	7,000	14,800
986.60	2,170	681	989.15	7,000	15,150
986.65	2,342	794	989.20	7,000	15,500
986.70	2,515	915	989.25	7,000	15,850
986.75	2,688	1,045	989.30	7,000	16,200
986.80	2,860	1,184	989.35	7,000	16,550
986.85	3,033	1,331	989.40	7,000	16,900
986.90	3,205	1,487	989.45	7,000	17,250
986.95	3,378	1,652	989.50	7,000	17,600
987.00	3,550	1,825	989.55	7,000	17,950
987.05	3,722	2,007	989.60	7,000	18,300
987.10	3,895	2,197	989.65	7,000	18,650
987.15	4,067	2,396	989.70	7,000	19,000
987.20	4,240	2,604	989.75	7,000	19,350
987.25	4,413	2,820	989.80	7,000	19,700
987.30	4,585	3,045	989.85	7,000	20,050
987.35	4,758	3,279	989.90	7,000	20,400
987.40	4,930	3,521	989.95	7,000	20,750
987.45	5,103	3,772	990.00	7,000	21,100
987.50	5,275	4,031			
987.55	5,447	4,299			
987.60	5,620	4,576			
987.65	5,792	4,861			
987.70	5,965	5,155			
987.75	6,138	5,458			
987.80	6,310	5,769			
987.85	6,483	6,089			
987.90	6,655	6,417			
987.95	6,828	6,754			
988.00	7,000	7,100			
988.05	7,000	7,450			
988.10	7,000	7,800			
988.15	7,000	8,150			
988.20	7,000	8,500			
988.25	7,000	8,850			
988.30	7,000	9,200			
988.35	7,000	9,550			
988.40	7,000	9,900			
988.45	7,000	10,250			
988.50	7,000	10,600			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_I8: CB_I8

Inflow Area = 1.173 ac, 25.23% Impervious, Inflow Depth = 5.02" for 100yr-24hr event
 Inflow = 8.01 cfs @ 12.20 hrs, Volume= 0.491 af
 Outflow = 8.00 cfs @ 12.20 hrs, Volume= 0.491 af, Atten= 0%, Lag= 0.3 min
 Primary = 8.00 cfs @ 12.20 hrs, Volume= 0.491 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 987.49' @ 12.20 hrs Surf.Area= 434 sf Storage= 119 cf

Plug-Flow detention time= 0.2 min calculated for 0.490 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (783.5 - 783.3)

Volume	Invert	Avail.Storage	Storage Description
#1	987.00'	3,105 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
987.00	50	0	0
988.00	830	440	440
989.00	1,500	1,165	1,605
990.00	1,500	1,500	3,105

Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.98 cfs @ 12.20 hrs HW=987.49' TW=970.77' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 7.98 cfs @ 2.29 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=987.00' TW=986.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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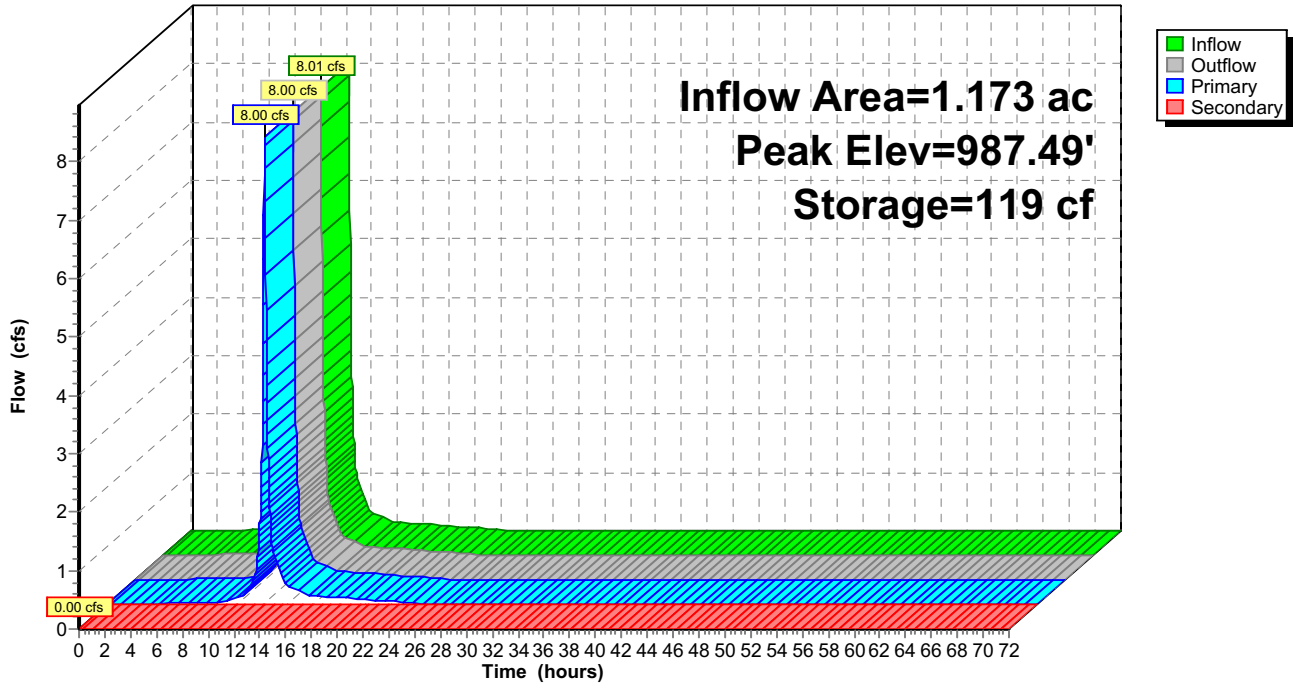
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_I8: CB_I8

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_I8: CB_I8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
987.00	50	0	989.55	1,500	2,430
987.05	89	3	989.60	1,500	2,505
987.10	128	9	989.65	1,500	2,580
987.15	167	16	989.70	1,500	2,655
987.20	206	26	989.75	1,500	2,730
987.25	245	37	989.80	1,500	2,805
987.30	284	50	989.85	1,500	2,880
987.35	323	65	989.90	1,500	2,955
987.40	362	82	989.95	1,500	3,030
987.45	401	101	990.00	1,500	3,105
987.50	440	123			
987.55	479	145			
987.60	518	170			
987.65	557	197			
987.70	596	226			
987.75	635	257			
987.80	674	290			
987.85	713	324			
987.90	752	361			
987.95	791	399			
988.00	830	440			
988.05	863	482			
988.10	897	526			
988.15	930	572			
988.20	964	619			
988.25	998	668			
988.30	1,031	719			
988.35	1,065	772			
988.40	1,098	826			
988.45	1,132	881			
988.50	1,165	939			
988.55	1,198	998			
988.60	1,232	1,059			
988.65	1,265	1,121			
988.70	1,299	1,185			
988.75	1,333	1,251			
988.80	1,366	1,318			
988.85	1,400	1,388			
988.90	1,433	1,458			
988.95	1,467	1,531			
989.00	1,500	1,605			
989.05	1,500	1,680			
989.10	1,500	1,755			
989.15	1,500	1,830			
989.20	1,500	1,905			
989.25	1,500	1,980			
989.30	1,500	2,055			
989.35	1,500	2,130			
989.40	1,500	2,205			
989.45	1,500	2,280			
989.50	1,500	2,355			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_I9: CB_I9

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 5.09" for 100yr-24hr event
 Inflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af
 Outflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.20 hrs Surf.Area= 140 sf Storage= 17 cf

Plug-Flow detention time= 0.2 min calculated for 0.108 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (781.8 - 781.6)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	300	88	88
980.00	300	450	538
984.00	340	1,280	1,818

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.76 cfs @ 12.20 hrs HW=978.18' TW=970.71' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.76 cfs @ 1.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=969.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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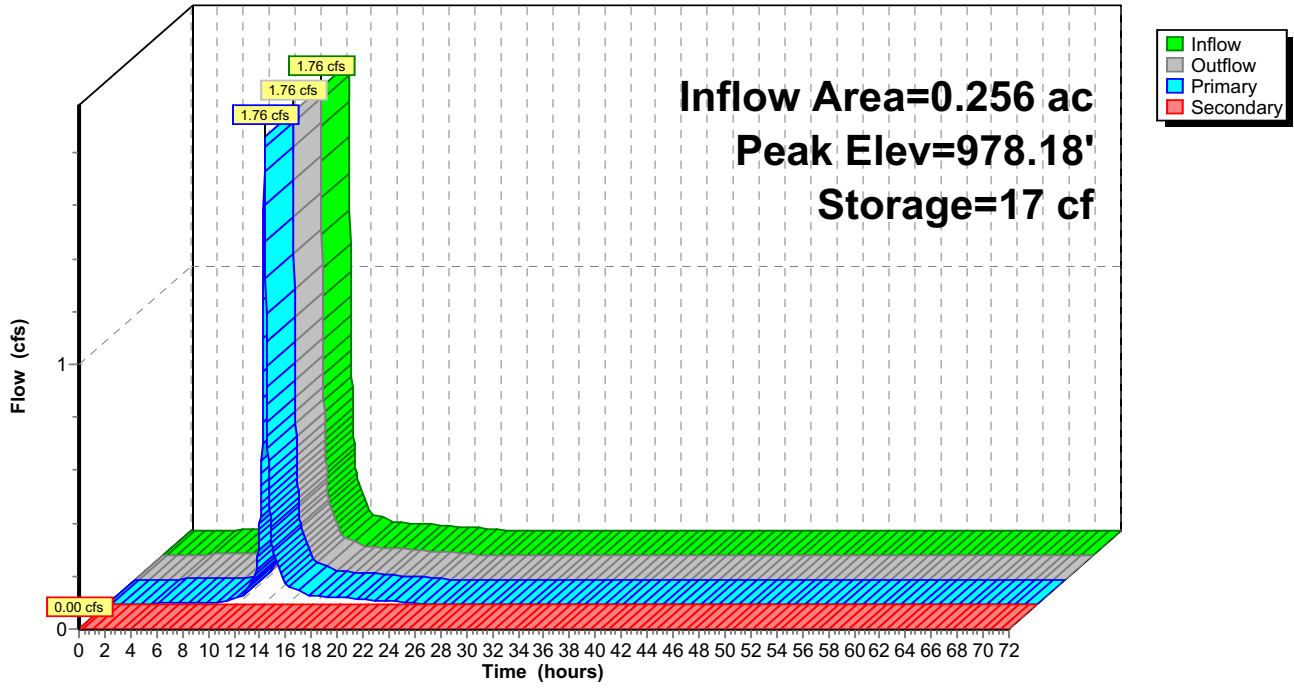
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_I9: CB_I9

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_I9: CB_I9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	983.10	331	1,516
978.10	100	8	983.20	332	1,549
978.20	150	20	983.30	333	1,582
978.30	200	37	983.40	334	1,615
978.40	250	60	983.50	335	1,649
978.50	300	88	983.60	336	1,682
978.60	300	118	983.70	337	1,716
978.70	300	148	983.80	338	1,750
978.80	300	177	983.90	339	1,784
978.90	300	207	984.00	340	1,818
979.00	300	238			
979.10	300	268			
979.20	300	298			
979.30	300	327			
979.40	300	357			
979.50	300	388			
979.60	300	418			
979.70	300	448			
979.80	300	477			
979.90	300	507			
980.00	300	538			
980.10	301	568			
980.20	302	598			
980.30	303	628			
980.40	304	658			
980.50	305	689			
980.60	306	719			
980.70	307	750			
980.80	308	781			
980.90	309	812			
981.00	310	843			
981.10	311	874			
981.20	312	905			
981.30	313	936			
981.40	314	967			
981.50	315	999			
981.60	316	1,030			
981.70	317	1,062			
981.80	318	1,094			
981.90	319	1,126			
982.00	320	1,158			
982.10	321	1,190			
982.20	322	1,222			
982.30	323	1,254			
982.40	324	1,286			
982.50	325	1,319			
982.60	326	1,351			
982.70	327	1,384			
982.80	328	1,417			
982.90	329	1,450			
983.00	330	1,483			

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Summary for Pond CB_J3: CB_J3

Inflow Area = 1.496 ac, 20.32% Impervious, Inflow Depth = 4.88" for 100yr-24hr event
 Inflow = 10.03 cfs @ 12.20 hrs, Volume= 0.609 af
 Outflow = 10.00 cfs @ 12.21 hrs, Volume= 0.609 af, Atten= 0%, Lag= 0.5 min
 Primary = 10.00 cfs @ 12.21 hrs, Volume= 0.609 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.57' @ 12.21 hrs Surf.Area= 765 sf Storage= 233 cf

Plug-Flow detention time= 0.3 min calculated for 0.609 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (787.1 - 786.8)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	4,575 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	1,300	675	675
993.00	1,300	1,300	1,975
995.00	1,300	2,600	4,575

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	992.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.96 cfs @ 12.21 hrs HW=991.57' TW=975.16' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 9.96 cfs @ 2.47 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=991.00' TW=973.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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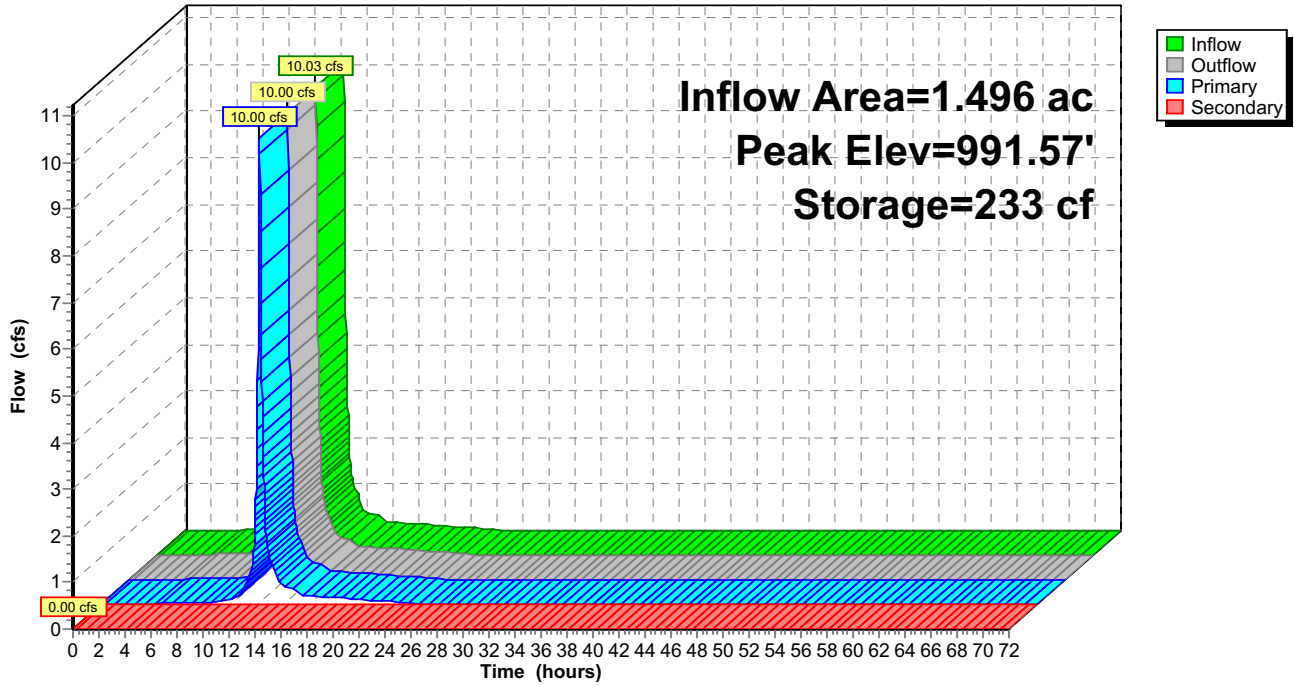
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_J3: CB_J3

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_J3: CB_J3

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
991.00	50	0	993.55	1,300	2,690
991.05	112	4	993.60	1,300	2,755
991.10	175	11	993.65	1,300	2,820
991.15	237	22	993.70	1,300	2,885
991.20	300	35	993.75	1,300	2,950
991.25	363	52	993.80	1,300	3,015
991.30	425	71	993.85	1,300	3,080
991.35	488	94	993.90	1,300	3,145
991.40	550	120	993.95	1,300	3,210
991.45	613	149	994.00	1,300	3,275
991.50	675	181	994.05	1,300	3,340
991.55	737	217	994.10	1,300	3,405
991.60	800	255	994.15	1,300	3,470
991.65	862	297	994.20	1,300	3,535
991.70	925	341	994.25	1,300	3,600
991.75	988	389	994.30	1,300	3,665
991.80	1,050	440	994.35	1,300	3,730
991.85	1,113	494	994.40	1,300	3,795
991.90	1,175	551	994.45	1,300	3,860
991.95	1,238	612	994.50	1,300	3,925
992.00	1,300	675	994.55	1,300	3,990
992.05	1,300	740	994.60	1,300	4,055
992.10	1,300	805	994.65	1,300	4,120
992.15	1,300	870	994.70	1,300	4,185
992.20	1,300	935	994.75	1,300	4,250
992.25	1,300	1,000	994.80	1,300	4,315
992.30	1,300	1,065	994.85	1,300	4,380
992.35	1,300	1,130	994.90	1,300	4,445
992.40	1,300	1,195	994.95	1,300	4,510
992.45	1,300	1,260	995.00	1,300	4,575
992.50	1,300	1,325			
992.55	1,300	1,390			
992.60	1,300	1,455			
992.65	1,300	1,520			
992.70	1,300	1,585			
992.75	1,300	1,650			
992.80	1,300	1,715			
992.85	1,300	1,780			
992.90	1,300	1,845			
992.95	1,300	1,910			
993.00	1,300	1,975			
993.05	1,300	2,040			
993.10	1,300	2,105			
993.15	1,300	2,170			
993.20	1,300	2,235			
993.25	1,300	2,300			
993.30	1,300	2,365			
993.35	1,300	2,430			
993.40	1,300	2,495			
993.45	1,300	2,560			
993.50	1,300	2,625			

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Summary for Pond CB_J4: CB_J4

Inflow Area = 0.993 ac, 12.19% Impervious, Inflow Depth = 4.66" for 100yr-24hr event
Inflow = 6.45 cfs @ 12.20 hrs, Volume= 0.385 af
Outflow = 5.19 cfs @ 12.27 hrs, Volume= 0.385 af, Atten= 20%, Lag= 4.4 min
Primary = 5.19 cfs @ 12.27 hrs, Volume= 0.385 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 995.40' @ 12.27 hrs Surf.Area= 1,972 sf Storage= 1,413 cf

Plug-Flow detention time= 3.5 min calculated for 0.385 af (100% of inflow)
Center-of-Mass det. time= 3.5 min (796.7 - 793.2)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	5,650 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	2,800	2,850	2,850
997.00	2,800	2,800	5,650

Device	Routing	Invert	Outlet Devices
#1	Secondary	995.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	994.00'	15.0" Round Culvert L= 166.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 994.00' / 991.00' S= 0.0181 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=5.19 cfs @ 12.27 hrs HW=995.40' TW=975.54' (Dynamic Tailwater)
↑**2=Culvert** (Inlet Controls 5.19 cfs @ 4.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=991.00' (Dynamic Tailwater)
↑**1=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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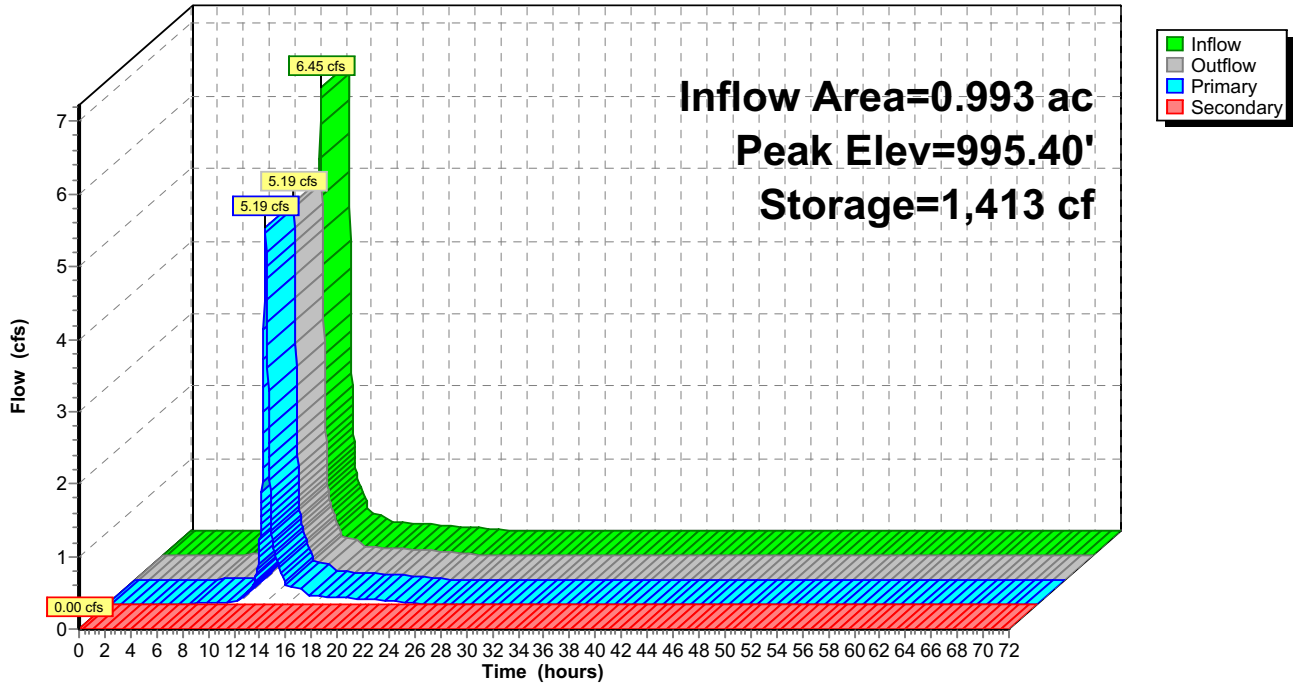
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_J4: CB_J4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_J4: CB_J4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
994.00	50	0	996.55	2,800	4,390
994.05	119	4	996.60	2,800	4,530
994.10	188	12	996.65	2,800	4,670
994.15	256	23	996.70	2,800	4,810
994.20	325	38	996.75	2,800	4,950
994.25	394	55	996.80	2,800	5,090
994.30	462	77	996.85	2,800	5,230
994.35	531	102	996.90	2,800	5,370
994.40	600	130	996.95	2,800	5,510
994.45	669	162	997.00	2,800	5,650
994.50	738	197			
994.55	806	235			
994.60	875	278			
994.65	944	323			
994.70	1,013	372			
994.75	1,081	424			
994.80	1,150	480			
994.85	1,219	539			
994.90	1,287	602			
994.95	1,356	668			
995.00	1,425	738			
995.05	1,494	810			
995.10	1,563	887			
995.15	1,631	967			
995.20	1,700	1,050			
995.25	1,769	1,137			
995.30	1,837	1,227			
995.35	1,906	1,320			
995.40	1,975	1,417			
995.45	2,044	1,518			
995.50	2,113	1,622			
995.55	2,181	1,729			
995.60	2,250	1,840			
995.65	2,319	1,954			
995.70	2,388	2,072			
995.75	2,456	2,193			
995.80	2,525	2,317			
995.85	2,594	2,445			
995.90	2,662	2,577			
995.95	2,731	2,712			
996.00	2,800	2,850			
996.05	2,800	2,990			
996.10	2,800	3,130			
996.15	2,800	3,270			
996.20	2,800	3,410			
996.25	2,800	3,550			
996.30	2,800	3,690			
996.35	2,800	3,830			
996.40	2,800	3,970			
996.45	2,800	4,110			
996.50	2,800	4,250			

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 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L4: CB_L4

Inflow Area = 0.167 ac, 20.96% Impervious, Inflow Depth = 4.86" for 100yr-24hr event
 Inflow = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af
 Outflow = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.13' @ 12.20 hrs Surf.Area= 235 sf Storage= 19 cf

Plug-Flow detention time= 0.3 min calculated for 0.068 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (786.9 - 786.6)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	750	200	200
980.00	750	1,125	1,325

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.11 cfs @ 12.20 hrs HW=978.13' TW=970.67' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 1.11 cfs @ 1.19 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=967.50' (Dynamic Tailwater)
 ↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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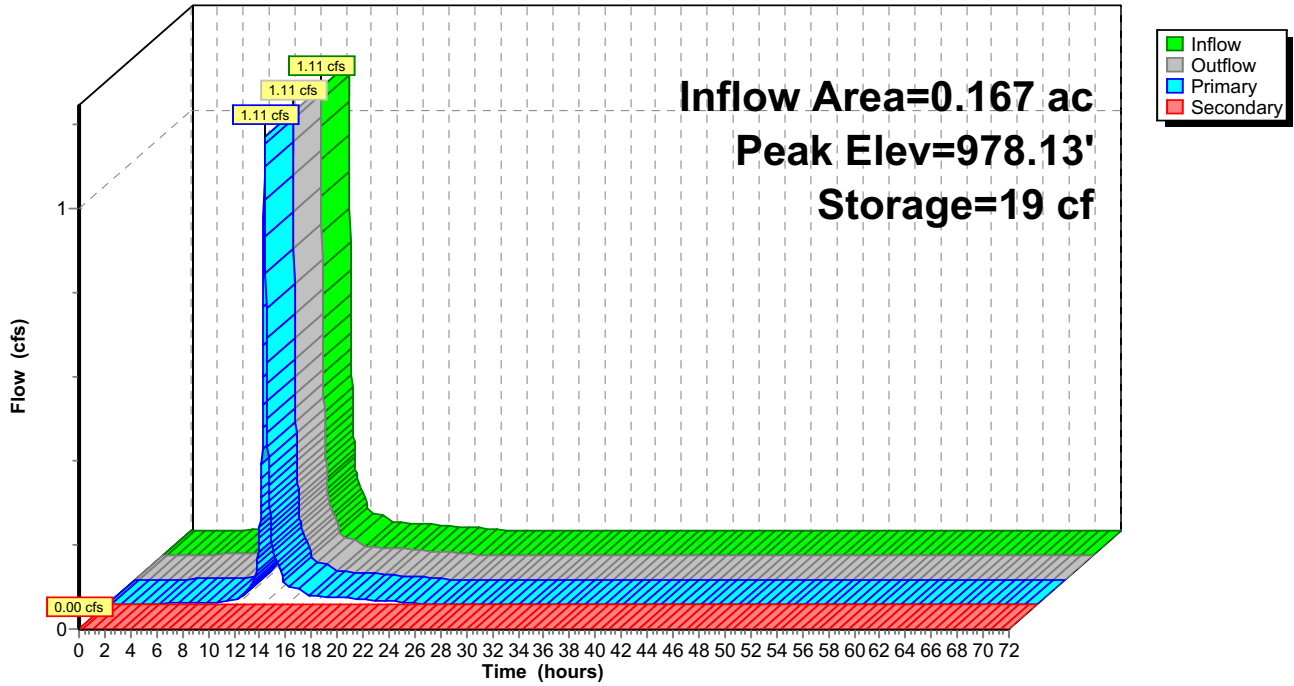
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L4: CB_L4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_L4: CB_L4

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	979.02	750	590
978.02	78	1	979.04	750	605
978.04	106	3	979.06	750	620
978.06	134	6	979.08	750	635
978.08	162	8	979.10	750	650
978.10	190	12	979.12	750	665
978.12	218	16	979.14	750	680
978.14	246	21	979.16	750	695
978.16	274	26	979.18	750	710
978.18	302	32	979.20	750	725
978.20	330	38	979.22	750	740
978.22	358	45	979.24	750	755
978.24	386	52	979.26	750	770
978.26	414	60	979.28	750	785
978.28	442	69	979.30	750	800
978.30	470	78	979.32	750	815
978.32	498	88	979.34	750	830
978.34	526	98	979.36	750	845
978.36	554	109	979.38	750	860
978.38	582	120	979.40	750	875
978.40	610	132	979.42	750	890
978.42	638	144	979.44	750	905
978.44	666	158	979.46	750	920
978.46	694	171	979.48	750	935
978.48	722	185	979.50	750	950
978.50	750	200	979.52	750	965
978.52	750	215	979.54	750	980
978.54	750	230	979.56	750	995
978.56	750	245	979.58	750	1,010
978.58	750	260	979.60	750	1,025
978.60	750	275	979.62	750	1,040
978.62	750	290	979.64	750	1,055
978.64	750	305	979.66	750	1,070
978.66	750	320	979.68	750	1,085
978.68	750	335	979.70	750	1,100
978.70	750	350	979.72	750	1,115
978.72	750	365	979.74	750	1,130
978.74	750	380	979.76	750	1,145
978.76	750	395	979.78	750	1,160
978.78	750	410	979.80	750	1,175
978.80	750	425	979.82	750	1,190
978.82	750	440	979.84	750	1,205
978.84	750	455	979.86	750	1,220
978.86	750	470	979.88	750	1,235
978.88	750	485	979.90	750	1,250
978.90	750	500	979.92	750	1,265
978.92	750	515	979.94	750	1,280
978.94	750	530	979.96	750	1,295
978.96	750	545	979.98	750	1,310
978.98	750	560	980.00	750	1,325
979.00	750	575			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L5: CB_L5

Inflow Area = 0.763 ac, 22.02% Impervious, Inflow Depth = 7.41" for 100yr-24hr event
 Inflow = 7.27 cfs @ 12.21 hrs, Volume= 0.471 af
 Outflow = 7.25 cfs @ 12.22 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.4 min
 Primary = 7.25 cfs @ 12.22 hrs, Volume= 0.471 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 977.96' @ 12.22 hrs Surf.Area= 586 sf Storage= 147 cf

Plug-Flow detention time= 0.3 min calculated for 0.471 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (790.4 - 790.1)

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	6,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	50	0	0
978.00	630	170	170
980.00	5,700	6,330	6,500

Device	Routing	Invert	Outlet Devices
#1	Primary	977.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.24 cfs @ 12.22 hrs HW=977.96' TW=970.79' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 7.24 cfs @ 2.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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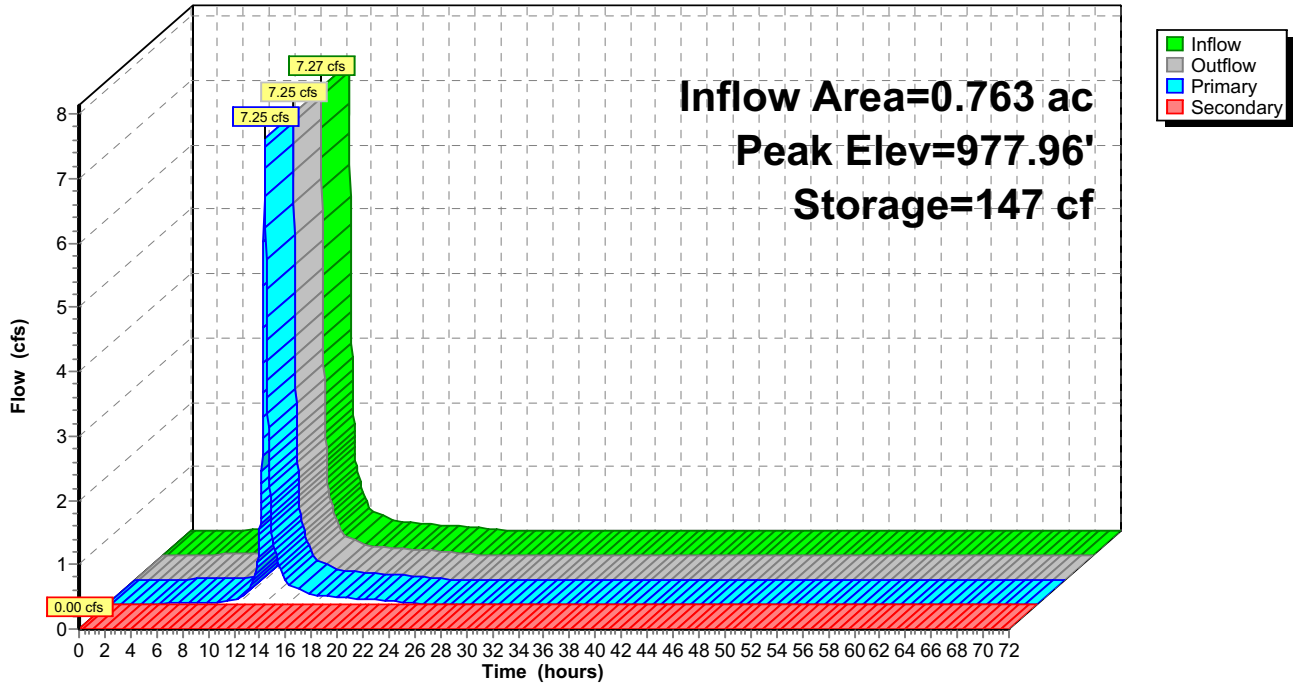
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L5: CB_L5

Hydrograph



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Stage-Area-Storage for Pond CB_L5: CB_L5

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
977.50	50	0
977.55	108	4
977.60	166	11
977.65	224	21
977.70	282	33
977.75	340	49
977.80	398	67
977.85	456	89
977.90	514	113
977.95	572	140
978.00	630	170
978.05	757	205
978.10	884	246
978.15	1,010	293
978.20	1,137	347
978.25	1,264	407
978.30	1,390	473
978.35	1,517	546
978.40	1,644	625
978.45	1,771	710
978.50	1,898	802
978.55	2,024	900
978.60	2,151	1,004
978.65	2,278	1,115
978.70	2,405	1,232
978.75	2,531	1,355
978.80	2,658	1,485
978.85	2,785	1,621
978.90	2,911	1,764
978.95	3,038	1,912
979.00	3,165	2,068
979.05	3,292	2,229
979.10	3,419	2,397
979.15	3,545	2,571
979.20	3,672	2,751
979.25	3,799	2,938
979.30	3,925	3,131
979.35	4,052	3,331
979.40	4,179	3,536
979.45	4,306	3,748
979.50	4,433	3,967
979.55	4,559	4,192
979.60	4,686	4,423
979.65	4,813	4,660
979.70	4,940	4,904
979.75	5,066	5,154
979.80	5,193	5,411
979.85	5,320	5,674
979.90	5,446	5,943
979.95	5,573	6,218
980.00	5,700	6,500

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Summary for Pond CB_L6: CB_L6

Inflow Area = 1.091 ac, 19.98% Impervious, Inflow Depth = 4.87" for 100yr-24hr event
 Inflow = 7.30 cfs @ 12.20 hrs, Volume= 0.443 af
 Outflow = 6.44 cfs @ 12.25 hrs, Volume= 0.443 af, Atten= 12%, Lag= 3.2 min
 Primary = 4.13 cfs @ 12.25 hrs, Volume= 0.286 af
 Secondary = 2.31 cfs @ 12.25 hrs, Volume= 0.157 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.32' @ 12.25 hrs Surf.Area= 2,210 sf Storage= 2,142 cf

Plug-Flow detention time= 12.1 min calculated for 0.443 af (100% of inflow)
 Center-of-Mass det. time= 12.2 min (799.3 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	13,500 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	100	0	0
980.00	13,400	13,500	13,500

Device	Routing	Invert	Outlet Devices
#1	Secondary	978.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.12 cfs @ 12.25 hrs HW=978.32' TW=971.01' (Dynamic Tailwater)
 ↑**2=Grate** (Weir Controls 4.12 cfs @ 1.84 fps)

Secondary OutFlow Max=2.30 cfs @ 12.25 hrs HW=978.32' TW=977.95' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir**(Weir Controls 2.30 cfs @ 1.45 fps)

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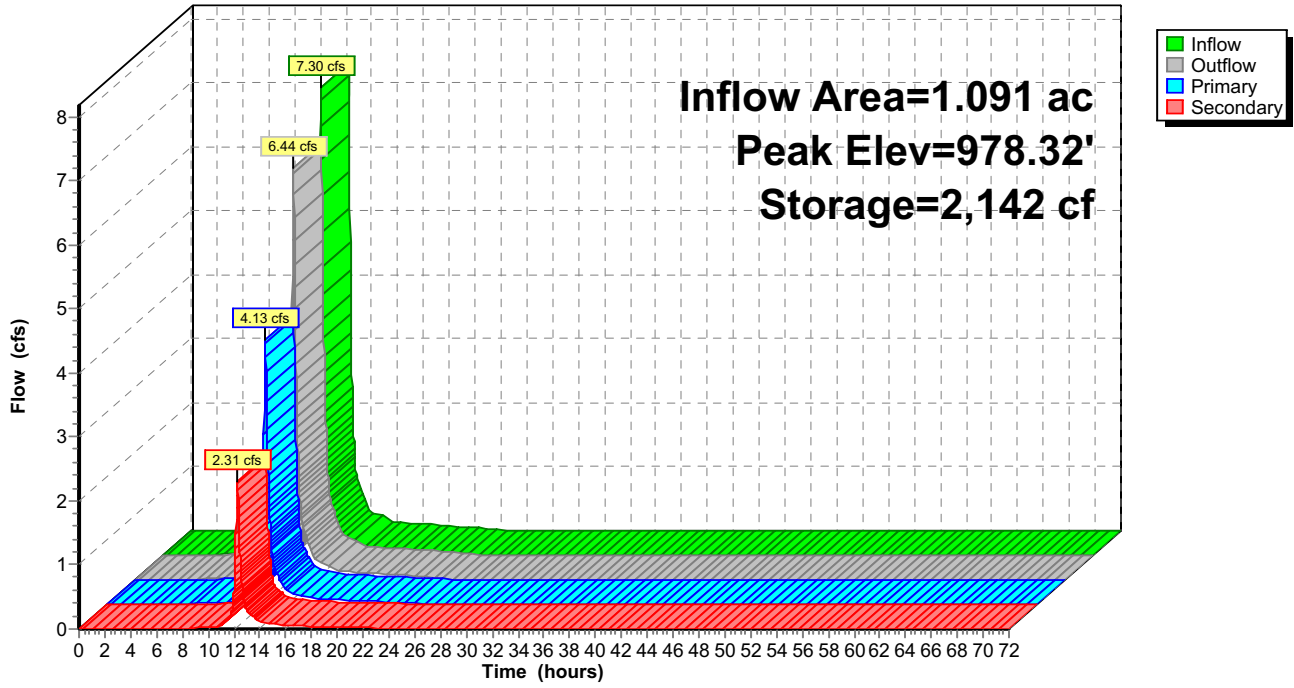
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L6: CB_L6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond CB_L6: CB_L6

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	100	0	979.02	6,883	6,885
978.02	233	135	979.04	7,016	7,020
978.04	366	270	979.06	7,149	7,155
978.06	499	405	979.08	7,282	7,290
978.08	632	540	979.10	7,415	7,425
978.10	765	675	979.12	7,548	7,560
978.12	898	810	979.14	7,681	7,695
978.14	1,031	945	979.16	7,814	7,830
978.16	1,164	1,080	979.18	7,947	7,965
978.18	1,297	1,215	979.20	8,080	8,100
978.20	1,430	1,350	979.22	8,213	8,235
978.22	1,563	1,485	979.24	8,346	8,370
978.24	1,696	1,620	979.26	8,479	8,505
978.26	1,829	1,755	979.28	8,612	8,640
978.28	1,962	1,890	979.30	8,745	8,775
978.30	2,095	2,025	979.32	8,878	8,910
978.32	2,228	2,160	979.34	9,011	9,045
978.34	2,361	2,295	979.36	9,144	9,180
978.36	2,494	2,430	979.38	9,277	9,315
978.38	2,627	2,565	979.40	9,410	9,450
978.40	2,760	2,700	979.42	9,543	9,585
978.42	2,893	2,835	979.44	9,676	9,720
978.44	3,026	2,970	979.46	9,809	9,855
978.46	3,159	3,105	979.48	9,942	9,990
978.48	3,292	3,240	979.50	10,075	10,125
978.50	3,425	3,375	979.52	10,208	10,260
978.52	3,558	3,510	979.54	10,341	10,395
978.54	3,691	3,645	979.56	10,474	10,530
978.56	3,824	3,780	979.58	10,607	10,665
978.58	3,957	3,915	979.60	10,740	10,800
978.60	4,090	4,050	979.62	10,873	10,935
978.62	4,223	4,185	979.64	11,006	11,070
978.64	4,356	4,320	979.66	11,139	11,205
978.66	4,489	4,455	979.68	11,272	11,340
978.68	4,622	4,590	979.70	11,405	11,475
978.70	4,755	4,725	979.72	11,538	11,610
978.72	4,888	4,860	979.74	11,671	11,745
978.74	5,021	4,995	979.76	11,804	11,880
978.76	5,154	5,130	979.78	11,937	12,015
978.78	5,287	5,265	979.80	12,070	12,150
978.80	5,420	5,400	979.82	12,203	12,285
978.82	5,553	5,535	979.84	12,336	12,420
978.84	5,686	5,670	979.86	12,469	12,555
978.86	5,819	5,805	979.88	12,602	12,690
978.88	5,952	5,940	979.90	12,735	12,825
978.90	6,085	6,075	979.92	12,868	12,960
978.92	6,218	6,210	979.94	13,001	13,095
978.94	6,351	6,345	979.96	13,134	13,230
978.96	6,484	6,480	979.98	13,267	13,365
978.98	6,617	6,615	980.00	13,400	13,500
979.00	6,750	6,750			

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Summary for Pond CB_L7: CB_L7

Inflow Area = 0.759 ac, 21.21% Impervious, Inflow Depth = 4.91" for 100yr-24hr event
 Inflow = 5.10 cfs @ 12.20 hrs, Volume= 0.310 af
 Outflow = 5.09 cfs @ 12.20 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.4 min
 Primary = 5.09 cfs @ 12.20 hrs, Volume= 0.310 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 979.36' @ 12.20 hrs Surf.Area= 535 sf Storage= 107 cf

Plug-Flow detention time= 0.3 min calculated for 0.310 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (786.5 - 786.2)

Volume	Invert	Avail.Storage	Storage Description
#1	979.00'	715 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
979.00	50	0	0
980.00	1,380	715	715

Device	Routing	Invert	Outlet Devices
#1	Primary	979.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.90'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.07 cfs @ 12.20 hrs HW=979.36' TW=970.68' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 5.07 cfs @ 1.97 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=979.00' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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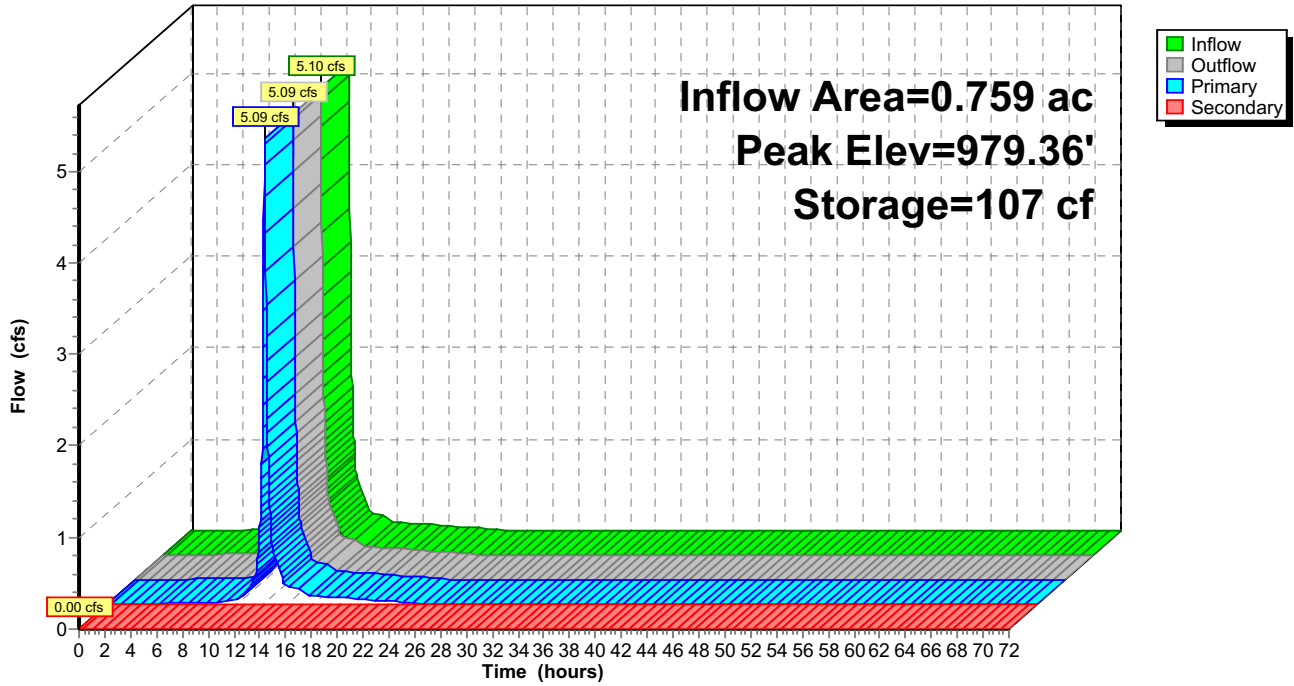
Hollydale - Proposed Conditions - 07.07.21
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L7: CB_L7

Hydrograph



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Stage-Area-Storage for Pond CB_L7: CB_L7

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
979.00	50	0	979.51	728	198
979.01	63	1	979.52	742	206
979.02	77	1	979.53	755	213
979.03	90	2	979.54	768	221
979.04	103	3	979.55	781	229
979.05	116	4	979.56	795	237
979.06	130	5	979.57	808	245
979.07	143	7	979.58	821	253
979.08	156	8	979.59	835	261
979.09	170	10	979.60	848	269
979.10	183	12	979.61	861	278
979.11	196	14	979.62	875	287
979.12	210	16	979.63	888	295
979.13	223	18	979.64	901	304
979.14	236	20	979.65	914	313
979.15	249	22	979.66	928	323
979.16	263	25	979.67	941	332
979.17	276	28	979.68	954	341
979.18	289	31	979.69	968	351
979.19	303	34	979.70	981	361
979.20	316	37	979.71	994	371
979.21	329	40	979.72	1,008	381
979.22	343	43	979.73	1,021	391
979.23	356	47	979.74	1,034	401
979.24	369	50	979.75	1,048	412
979.25	383	54	979.76	1,061	422
979.26	396	58	979.77	1,074	433
979.27	409	62	979.78	1,087	444
979.28	422	66	979.79	1,101	455
979.29	436	70	979.80	1,114	466
979.30	449	75	979.81	1,127	477
979.31	462	79	979.82	1,141	488
979.32	476	84	979.83	1,154	500
979.33	489	89	979.84	1,167	511
979.34	502	94	979.85	1,181	523
979.35	516	99	979.86	1,194	535
979.36	529	104	979.87	1,207	547
979.37	542	110	979.88	1,220	559
979.38	555	115	979.89	1,234	571
979.39	569	121	979.90	1,247	584
979.40	582	126	979.91	1,260	596
979.41	595	132	979.92	1,274	609
979.42	609	138	979.93	1,287	622
979.43	622	144	979.94	1,300	635
979.44	635	151	979.95	1,314	648
979.45	649	157	979.96	1,327	661
979.46	662	164	979.97	1,340	674
979.47	675	170	979.98	1,353	688
979.48	688	177	979.99	1,367	701
979.49	702	184	980.00	1,380	715
979.50	715	191			

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Summary for Pond CB_L8: CB_L8

Inflow Area = 1.441 ac, 22.07% Impervious, Inflow Depth = 5.29" for 100yr-24hr event
 Inflow = 12.13 cfs @ 12.23 hrs, Volume= 0.635 af
 Outflow = 11.56 cfs @ 12.27 hrs, Volume= 0.635 af, Atten= 5%, Lag= 2.0 min
 Primary = 11.56 cfs @ 12.27 hrs, Volume= 0.635 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 980.63' @ 12.27 hrs Surf.Area= 3,626 sf Storage= 1,158 cf

Plug-Flow detention time= 1.1 min calculated for 0.635 af (100% of inflow)
 Center-of-Mass det. time= 1.1 min (781.7 - 780.6)

Volume	Invert	Avail.Storage	Storage Description
#1	980.00'	11,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
980.00	50	0	0
982.00	11,400	11,450	11,450

Device	Routing	Invert	Outlet Devices
#1	Primary	980.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	981.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.52 cfs @ 12.27 hrs HW=980.63' TW=971.10' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 11.52 cfs @ 2.59 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=980.00' TW=979.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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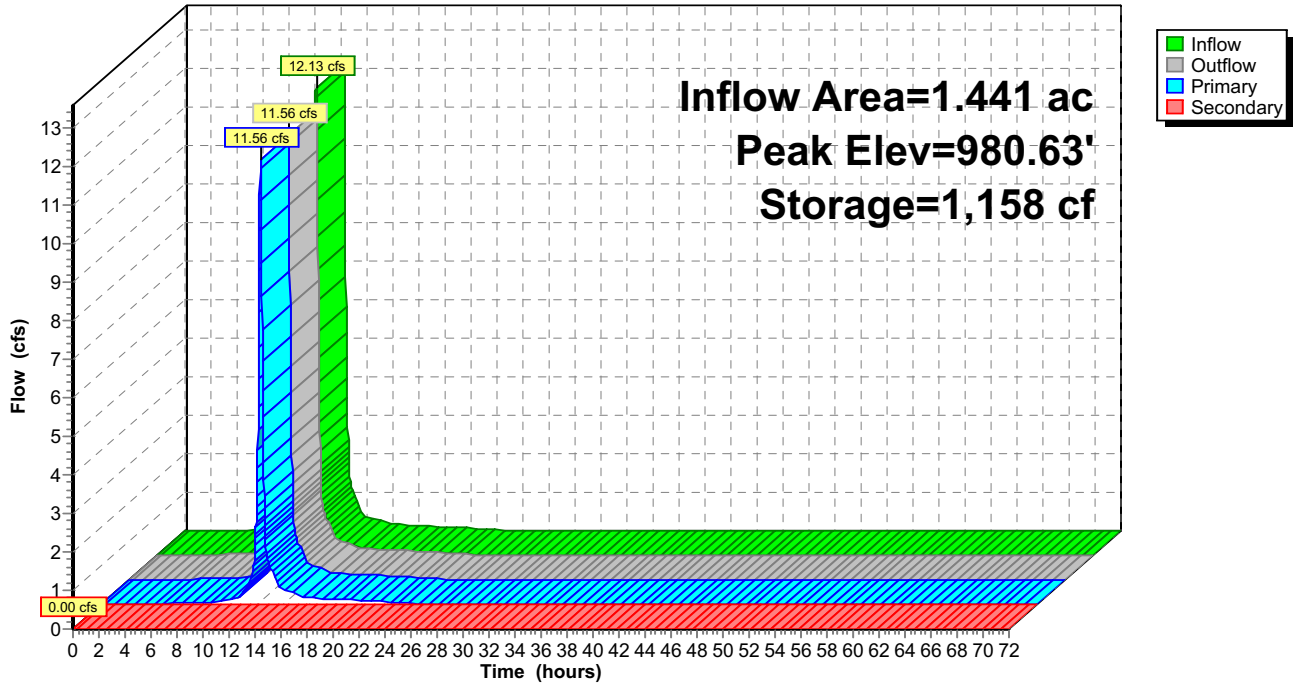
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L8: CB_L8

Hydrograph



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Stage-Area-Storage for Pond CB_L8: CB_L8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
980.00	50	0	981.02	5,838	3,003
980.02	163	2	981.04	5,952	3,121
980.04	277	7	981.06	6,065	3,241
980.06	390	13	981.08	6,179	3,364
980.08	504	22	981.10	6,293	3,488
980.10	618	33	981.12	6,406	3,615
980.12	731	47	981.14	6,519	3,745
980.14	844	63	981.16	6,633	3,876
980.16	958	81	981.18	6,746	4,010
980.18	1,071	101	981.20	6,860	4,146
980.20	1,185	124	981.22	6,974	4,284
980.22	1,299	148	981.24	7,087	4,425
980.24	1,412	175	981.26	7,200	4,568
980.26	1,525	205	981.28	7,314	4,713
980.28	1,639	236	981.30	7,427	4,860
980.30	1,752	270	981.32	7,541	5,010
980.32	1,866	307	981.34	7,655	5,162
980.34	1,980	345	981.36	7,768	5,316
980.36	2,093	386	981.38	7,881	5,473
980.38	2,206	429	981.40	7,995	5,631
980.40	2,320	474	981.42	8,108	5,793
980.42	2,433	522	981.44	8,222	5,956
980.44	2,547	571	981.46	8,336	6,121
980.46	2,661	623	981.48	8,449	6,289
980.48	2,774	678	981.50	8,563	6,459
980.50	2,888	734	981.52	8,676	6,632
980.52	3,001	793	981.54	8,789	6,806
980.54	3,114	854	981.56	8,903	6,983
980.56	3,228	918	981.58	9,017	7,163
980.58	3,342	984	981.60	9,130	7,344
980.60	3,455	1,052	981.62	9,244	7,528
980.62	3,569	1,122	981.64	9,357	7,714
980.64	3,682	1,194	981.66	9,470	7,902
980.66	3,795	1,269	981.68	9,584	8,093
980.68	3,909	1,346	981.70	9,698	8,285
980.70	4,023	1,425	981.72	9,811	8,480
980.72	4,136	1,507	981.74	9,925	8,678
980.74	4,250	1,591	981.76	10,038	8,877
980.76	4,363	1,677	981.78	10,151	9,079
980.78	4,476	1,765	981.80	10,265	9,283
980.80	4,590	1,856	981.82	10,379	9,490
980.82	4,704	1,949	981.84	10,492	9,699
980.84	4,817	2,044	981.86	10,606	9,910
980.86	4,931	2,142	981.88	10,719	10,123
980.88	5,044	2,241	981.90	10,832	10,338
980.90	5,157	2,343	981.92	10,946	10,556
980.92	5,271	2,448	981.94	11,060	10,776
980.94	5,385	2,554	981.96	11,173	10,999
980.96	5,498	2,663	981.98	11,287	11,223
980.98	5,612	2,774	982.00	11,400	11,450
981.00	5,725	2,888			

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Summary for Pond CB_L9: CB_L9

Inflow Area = 2.129 ac, 19.16% Impervious, Inflow Depth = 4.85" for 100yr-24hr event
Inflow = 14.19 cfs @ 12.20 hrs, Volume= 0.860 af
Outflow = 11.21 cfs @ 12.28 hrs, Volume= 0.860 af, Atten= 21%, Lag= 4.7 min
Primary = 7.26 cfs @ 12.28 hrs, Volume= 0.792 af
Secondary = 3.95 cfs @ 12.28 hrs, Volume= 0.068 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Peak Elev= 984.13' @ 12.28 hrs Surf.Area= 3,440 sf Storage= 4,838 cf

Plug-Flow detention time= 6.4 min calculated for 0.860 af (100% of inflow)
Center-of-Mass det. time= 6.4 min (794.1 - 787.7)

Volume	Invert	Avail.Storage	Storage Description
#1	982.00'	7,815 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
982.00	100	0	0
983.50	3,440	2,655	2,655
985.00	3,440	5,160	7,815

Device	Routing	Invert	Outlet Devices
#1	Primary	982.00'	15.0" Round Culvert L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 982.00' / 975.68' S= 0.0388 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	983.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.25 cfs @ 12.28 hrs HW=984.13' TW=971.14' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 7.25 cfs @ 5.91 fps)

Secondary OutFlow Max=3.94 cfs @ 12.28 hrs HW=984.13' TW=980.63' (Dynamic Tailwater)
↑2=Broad-Crested Rectangular Weir(Weir Controls 3.94 cfs @ 2.07 fps)

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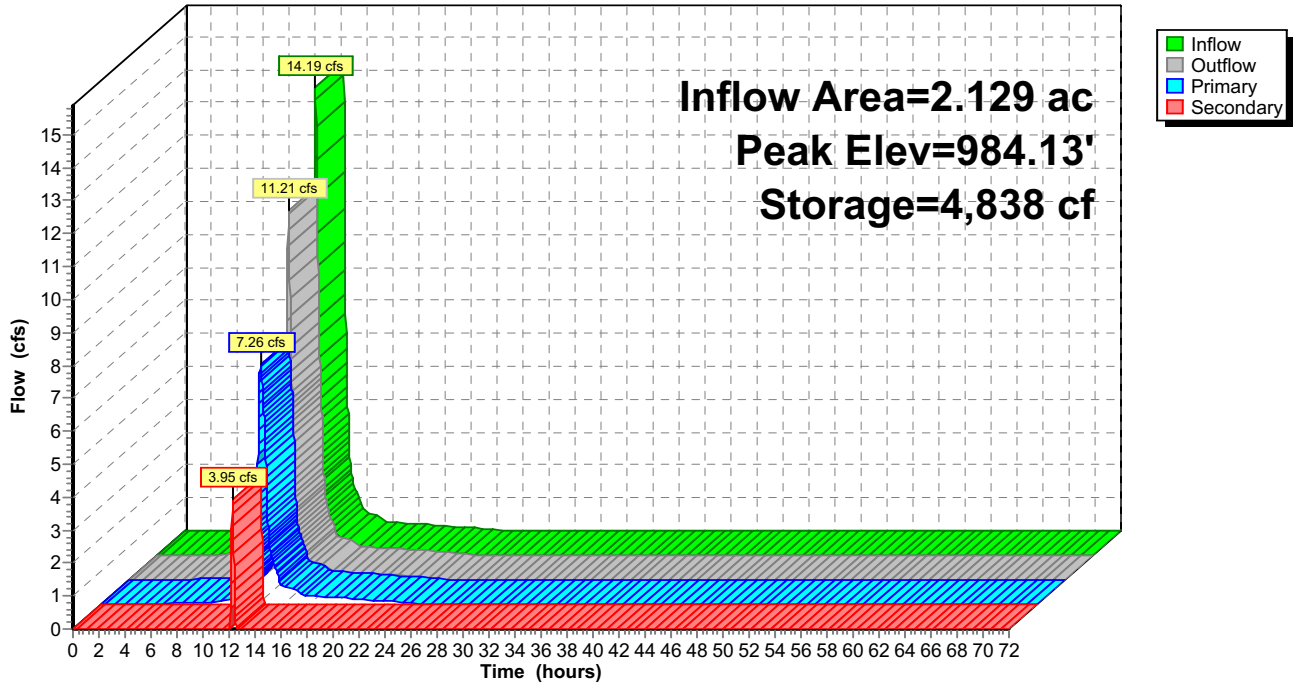
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Pond CB_L9: CB_L9

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Stage-Area-Storage for Pond CB_L9: CB_L9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
982.00	100	0	984.55	3,440	6,267
982.05	211	8	984.60	3,440	6,439
982.10	323	21	984.65	3,440	6,611
982.15	434	40	984.70	3,440	6,783
982.20	545	65	984.75	3,440	6,955
982.25	657	95	984.80	3,440	7,127
982.30	768	130	984.85	3,440	7,299
982.35	879	171	984.90	3,440	7,471
982.40	991	218	984.95	3,440	7,643
982.45	1,102	270	985.00	3,440	7,815
982.50	1,213	328			
982.55	1,325	392			
982.60	1,436	461			
982.65	1,547	535			
982.70	1,659	616			
982.75	1,770	701			
982.80	1,881	793			
982.85	1,993	889			
982.90	2,104	992			
982.95	2,215	1,100			
983.00	2,327	1,213			
983.05	2,438	1,332			
983.10	2,549	1,457			
983.15	2,661	1,587			
983.20	2,772	1,723			
983.25	2,883	1,865			
983.30	2,995	2,012			
983.35	3,106	2,164			
983.40	3,217	2,322			
983.45	3,329	2,486			
983.50	3,440	2,655			
983.55	3,440	2,827			
983.60	3,440	2,999			
983.65	3,440	3,171			
983.70	3,440	3,343			
983.75	3,440	3,515			
983.80	3,440	3,687			
983.85	3,440	3,859			
983.90	3,440	4,031			
983.95	3,440	4,203			
984.00	3,440	4,375			
984.05	3,440	4,547			
984.10	3,440	4,719			
984.15	3,440	4,891			
984.20	3,440	5,063			
984.25	3,440	5,235			
984.30	3,440	5,407			
984.35	3,440	5,579			
984.40	3,440	5,751			
984.45	3,440	5,923			
984.50	3,440	6,095			

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Summary for Pond CB_O10: CB_O10

Inflow Area = 0.609 ac, 15.44% Impervious, Inflow Depth = 4.75" for 100yr-24hr event
 Inflow = 4.01 cfs @ 12.20 hrs, Volume= 0.241 af
 Outflow = 3.98 cfs @ 12.21 hrs, Volume= 0.241 af, Atten= 1%, Lag= 0.7 min
 Primary = 3.98 cfs @ 12.21 hrs, Volume= 0.241 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.31' @ 12.21 hrs Surf.Area= 853 sf Storage= 140 cf

Plug-Flow detention time= 0.5 min calculated for 0.241 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (791.0 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	25,530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
980.00	5,240	5,290	5,290
982.00	15,000	20,240	25,530

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	980.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.96 cfs @ 12.21 hrs HW=978.31' TW=970.73' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 3.96 cfs @ 1.82 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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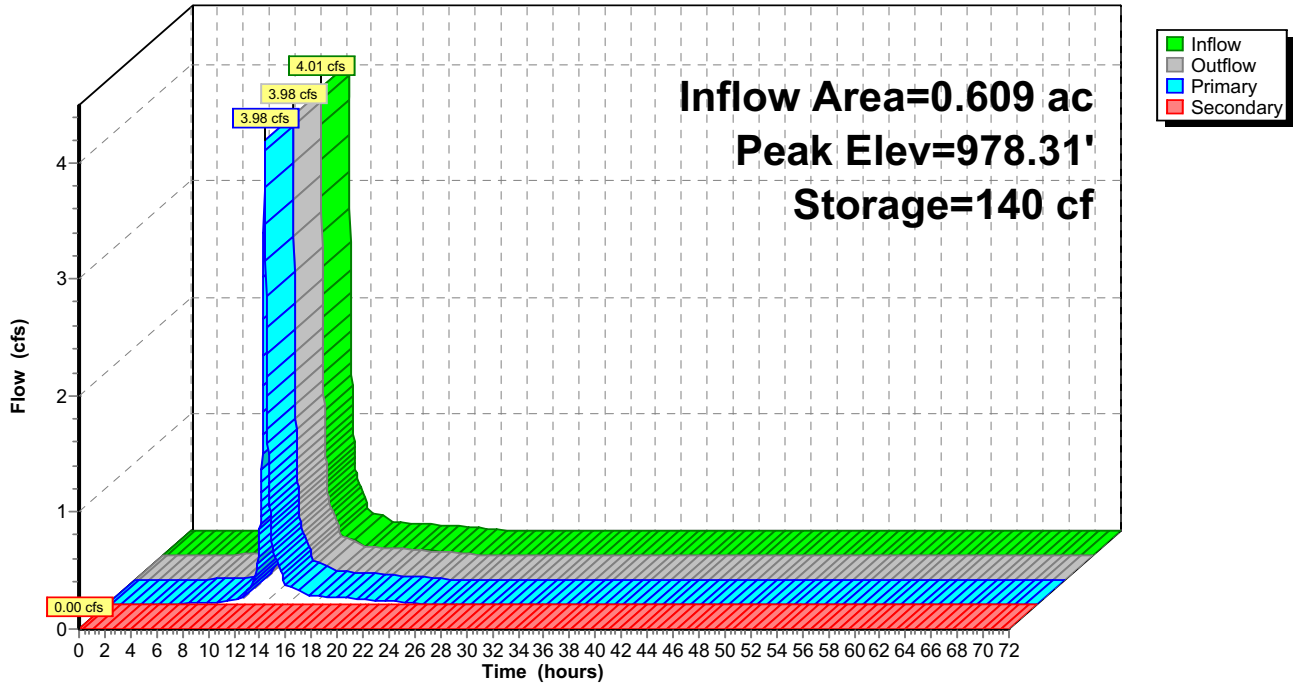
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Pond CB_O10: CB_O10

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Stage-Area-Storage for Pond CB_O10: CB_O10

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	980.55	7,924	8,910
978.05	180	6	980.60	8,168	9,312
978.10	310	18	980.65	8,412	9,727
978.15	439	37	980.70	8,656	10,154
978.20	569	62	980.75	8,900	10,593
978.25	699	94	980.80	9,144	11,044
978.30	828	132	980.85	9,388	11,507
978.35	958	176	980.90	9,632	11,982
978.40	1,088	228	980.95	9,876	12,470
978.45	1,218	285	981.00	10,120	12,970
978.50	1,348	349	981.05	10,364	13,482
978.55	1,477	420	981.10	10,608	14,006
978.60	1,607	497	981.15	10,852	14,543
978.65	1,737	581	981.20	11,096	15,092
978.70	1,867	671	981.25	11,340	15,653
978.75	1,996	767	981.30	11,584	16,226
978.80	2,126	870	981.35	11,828	16,811
978.85	2,256	980	981.40	12,072	17,408
978.90	2,385	1,096	981.45	12,316	18,018
978.95	2,515	1,218	981.50	12,560	18,640
979.00	2,645	1,348	981.55	12,804	19,274
979.05	2,775	1,483	981.60	13,048	19,920
979.10	2,905	1,625	981.65	13,292	20,579
979.15	3,034	1,773	981.70	13,536	21,250
979.20	3,164	1,928	981.75	13,780	21,933
979.25	3,294	2,090	981.80	14,024	22,628
979.30	3,423	2,258	981.85	14,268	23,335
979.35	3,553	2,432	981.90	14,512	24,054
979.40	3,683	2,613	981.95	14,756	24,786
979.45	3,813	2,800	982.00	15,000	25,530
979.50	3,943	2,994			
979.55	4,072	3,195			
979.60	4,202	3,402			
979.65	4,332	3,615			
979.70	4,462	3,835			
979.75	4,591	4,061			
979.80	4,721	4,294			
979.85	4,851	4,533			
979.90	4,980	4,779			
979.95	5,110	5,031			
980.00	5,240	5,290			
980.05	5,484	5,558			
980.10	5,728	5,838			
980.15	5,972	6,131			
980.20	6,216	6,436			
980.25	6,460	6,753			
980.30	6,704	7,082			
980.35	6,948	7,423			
980.40	7,192	7,776			
980.45	7,436	8,142			
980.50	7,680	8,520			

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_O8: CB_O8

Inflow Area = 0.490 ac, 12.24% Impervious, Inflow Depth = 4.66" for 100yr-24hr event
 Inflow = 3.19 cfs @ 12.20 hrs, Volume= 0.190 af
 Outflow = 3.18 cfs @ 12.20 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.2 min
 Primary = 3.18 cfs @ 12.20 hrs, Volume= 0.190 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 975.77' @ 12.20 hrs Surf.Area= 237 sf Storage= 38 cf

Plug-Flow detention time= 0.2 min calculated for 0.190 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (793.3 - 793.1)

Volume	Invert	Avail.Storage	Storage Description
#1	975.50'	913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
975.50	50	0	0
976.00	400	113	113
978.00	400	800	913

Device	Routing	Invert	Outlet Devices
#1	Primary	975.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	976.00'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.18 cfs @ 12.20 hrs HW=975.77' TW=970.66' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 3.18 cfs @ 1.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.50' TW=967.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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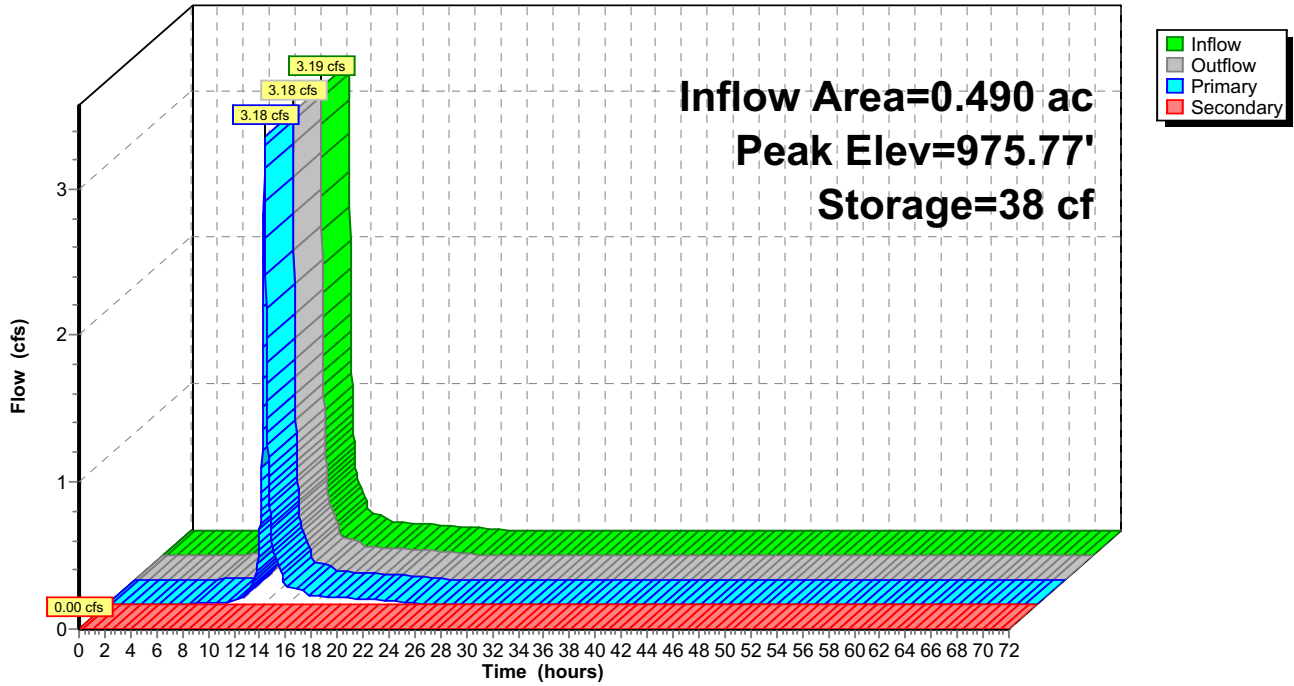
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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_O8: CB_O8

Hydrograph



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Stage-Area-Storage for Pond CB_O8: CB_O8

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
975.50	50	0
975.55	85	3
975.60	120	9
975.65	155	15
975.70	190	24
975.75	225	34
975.80	260	46
975.85	295	60
975.90	330	76
975.95	365	93
976.00	400	113
976.05	400	132
976.10	400	153
976.15	400	172
976.20	400	193
976.25	400	213
976.30	400	232
976.35	400	253
976.40	400	272
976.45	400	293
976.50	400	313
976.55	400	332
976.60	400	353
976.65	400	372
976.70	400	393
976.75	400	413
976.80	400	432
976.85	400	453
976.90	400	472
976.95	400	493
977.00	400	513
977.05	400	532
977.10	400	553
977.15	400	572
977.20	400	593
977.25	400	613
977.30	400	632
977.35	400	653
977.40	400	672
977.45	400	693
977.50	400	713
977.55	400	732
977.60	400	753
977.65	400	772
977.70	400	793
977.75	400	813
977.80	400	832
977.85	400	853
977.90	400	872
977.95	400	893
978.00	400	913

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_O9: CB_O9

Inflow Area = 1.143 ac, 19.86% Impervious, Inflow Depth = 4.87" for 100yr-24hr event
 Inflow = 7.65 cfs @ 12.20 hrs, Volume= 0.464 af
 Outflow = 7.62 cfs @ 12.21 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.5 min
 Primary = 7.62 cfs @ 12.21 hrs, Volume= 0.464 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.48' @ 12.21 hrs Surf.Area= 742 sf Storage= 189 cf

Plug-Flow detention time= 0.3 min calculated for 0.464 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (787.5 - 787.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	2,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
979.00	1,500	775	775
980.00	1,500	1,500	2,275

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.59 cfs @ 12.21 hrs HW=978.48' TW=970.70' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 7.59 cfs @ 2.26 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=975.50' (Dynamic Tailwater)
 ↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

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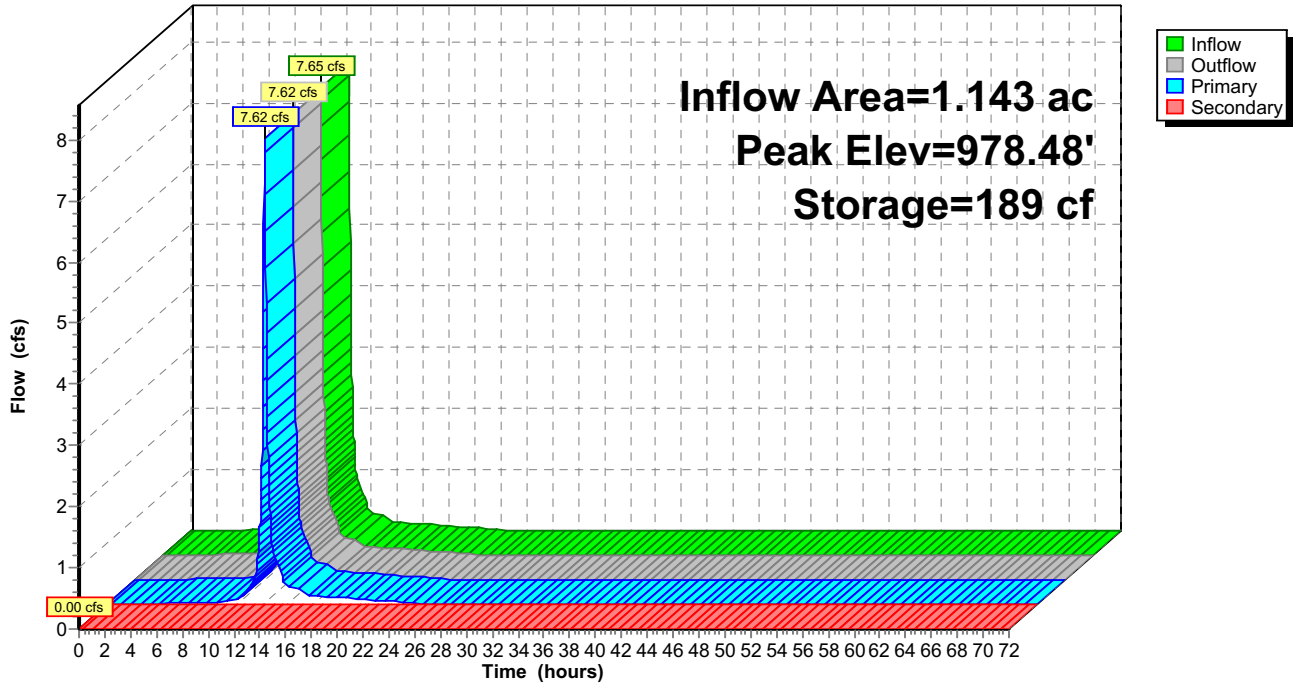
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Pond CB_09: CB_09

Hydrograph



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Stage-Area-Storage for Pond CB_O9: CB_O9

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
978.00	50	0	979.02	1,500	805
978.02	79	1	979.04	1,500	835
978.04	108	3	979.06	1,500	865
978.06	137	6	979.08	1,500	895
978.08	166	9	979.10	1,500	925
978.10	195	12	979.12	1,500	955
978.12	224	16	979.14	1,500	985
978.14	253	21	979.16	1,500	1,015
978.16	282	27	979.18	1,500	1,045
978.18	311	32	979.20	1,500	1,075
978.20	340	39	979.22	1,500	1,105
978.22	369	46	979.24	1,500	1,135
978.24	398	54	979.26	1,500	1,165
978.26	427	62	979.28	1,500	1,195
978.28	456	71	979.30	1,500	1,225
978.30	485	80	979.32	1,500	1,255
978.32	514	90	979.34	1,500	1,285
978.34	543	101	979.36	1,500	1,315
978.36	572	112	979.38	1,500	1,345
978.38	601	124	979.40	1,500	1,375
978.40	630	136	979.42	1,500	1,405
978.42	659	149	979.44	1,500	1,435
978.44	688	162	979.46	1,500	1,465
978.46	717	176	979.48	1,500	1,495
978.48	746	191	979.50	1,500	1,525
978.50	775	206	979.52	1,500	1,555
978.52	804	222	979.54	1,500	1,585
978.54	833	238	979.56	1,500	1,615
978.56	862	255	979.58	1,500	1,645
978.58	891	273	979.60	1,500	1,675
978.60	920	291	979.62	1,500	1,705
978.62	949	310	979.64	1,500	1,735
978.64	978	329	979.66	1,500	1,765
978.66	1,007	349	979.68	1,500	1,795
978.68	1,036	369	979.70	1,500	1,825
978.70	1,065	390	979.72	1,500	1,855
978.72	1,094	412	979.74	1,500	1,885
978.74	1,123	434	979.76	1,500	1,915
978.76	1,152	457	979.78	1,500	1,945
978.78	1,181	480	979.80	1,500	1,975
978.80	1,210	504	979.82	1,500	2,005
978.82	1,239	528	979.84	1,500	2,035
978.84	1,268	554	979.86	1,500	2,065
978.86	1,297	579	979.88	1,500	2,095
978.88	1,326	605	979.90	1,500	2,125
978.90	1,355	632	979.92	1,500	2,155
978.92	1,384	660	979.94	1,500	2,185
978.94	1,413	688	979.96	1,500	2,215
978.96	1,442	716	979.98	1,500	2,245
978.98	1,471	745	980.00	1,500	2,275
979.00	1,500	775			

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Summary for Pond P1N: Pond 1N

Inflow Area = 5.394 ac, 29.66% Impervious, Inflow Depth = 5.14" for 100yr-24hr event
 Inflow = 36.95 cfs @ 12.20 hrs, Volume= 2.310 af
 Outflow = 4.15 cfs @ 13.43 hrs, Volume= 1.806 af, Atten= 89%, Lag= 73.8 min
 Primary = 4.15 cfs @ 13.43 hrs, Volume= 1.806 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.50' Surf.Area= 0.946 ac Storage= 4.353 af
 Peak Elev= 1,010.81' @ 12.93 hrs Surf.Area= 1.332 ac Storage= 5.827 af (1.475 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 208.6 min (989.2 - 780.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	9.367 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,000.00	0.243	0.000	0.000
1,002.00	0.315	0.558	0.558
1,004.00	0.392	0.707	1.265
1,006.00	0.482	0.874	2.139
1,008.00	0.584	1.066	3.205
1,010.00	1.067	1.651	4.856
1,012.00	1.722	2.789	7.645
1,013.00	1.722	1.722	9.367

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	15.0" Round Main outlet (Structure 248 to 249) L= 30.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 1,009.50' / 1,009.10' S= 0.0133 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	1,010.80'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,007.00'	15.0" Round low flow pipe L= 44.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,006.50' / 1,007.00' S= -0.0114 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#4	Secondary	1,012.00'	10.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=4.16 cfs @ 13.43 hrs HW=1,010.78' TW=1,010.29' (Dynamic Tailwater)

1=Main outlet (Structure 248 to 249)(Passes 4.16 cfs of 4.34 cfs potential flow)

2=Orifice/Grate (Controls 0.00 cfs)

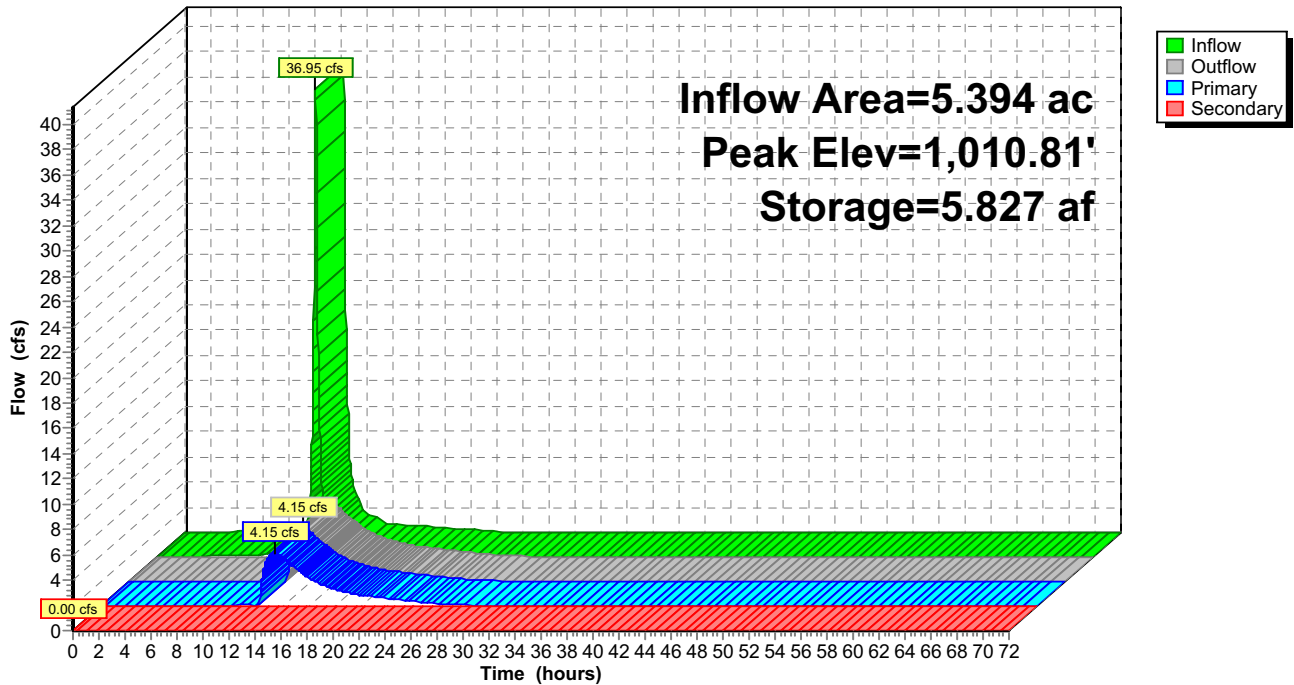
3=low flow pipe (Inlet Controls 4.16 cfs @ 3.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,009.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P1N: Pond 1N

Hydrograph



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Stage-Area-Storage for Pond P1N: Pond 1N

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,000.00	0.243	0.000	1,007.65	0.566	3.004
1,000.15	0.248	0.037	1,007.80	0.574	3.089
1,000.30	0.254	0.075	1,007.95	0.581	3.176
1,000.45	0.259	0.113	1,008.10	0.608	3.265
1,000.60	0.265	0.152	1,008.25	0.644	3.359
1,000.75	0.270	0.192	1,008.40	0.681	3.458
1,000.90	0.275	0.233	1,008.55	0.717	3.563
1,001.05	0.281	0.275	1,008.70	0.753	3.673
1,001.20	0.286	0.318	1,008.85	0.789	3.789
1,001.35	0.292	0.361	1,009.00	0.826	3.910
1,001.50	0.297	0.405	1,009.15	0.862	4.036
1,001.65	0.302	0.450	1,009.30	0.898	4.168
1,001.80	0.308	0.496	1,009.45	0.934	4.306
1,001.95	0.313	0.542	1,009.60	0.970	4.449
1,002.10	0.319	0.590	1,009.75	1.007	4.597
1,002.25	0.325	0.638	1,009.90	1.043	4.751
1,002.40	0.330	0.687	1,010.05	1.083	4.910
1,002.55	0.336	0.737	1,010.20	1.133	5.076
1,002.70	0.342	0.788	1,010.35	1.182	5.250
1,002.85	0.348	0.840	1,010.50	1.231	5.430
1,003.00	0.354	0.892	1,010.65	1.280	5.619
1,003.15	0.359	0.946	1,010.80	1.329	5.814
1,003.30	0.365	1.000	1,010.95	1.378	6.017
1,003.45	0.371	1.055	1,011.10	1.427	6.228
1,003.60	0.377	1.111	1,011.25	1.476	6.446
1,003.75	0.382	1.168	1,011.40	1.525	6.671
1,003.90	0.388	1.226	1,011.55	1.575	6.903
1,004.05	0.394	1.285	1,011.70	1.624	7.143
1,004.20	0.401	1.344	1,011.85	1.673	7.390
1,004.35	0.408	1.405	1,012.00	1.722	7.645
1,004.50	0.415	1.467	1,012.15	1.722	7.903
1,004.65	0.421	1.529	1,012.30	1.722	8.162
1,004.80	0.428	1.593	1,012.45	1.722	8.420
1,004.95	0.435	1.658	1,012.60	1.722	8.678
1,005.10	0.442	1.723	1,012.75	1.722	8.937
1,005.25	0.448	1.790	1,012.90	1.722	9.195
1,005.40	0.455	1.858			
1,005.55	0.462	1.927			
1,005.70	0.469	1.996			
1,005.85	0.475	2.067			
1,006.00	0.482	2.139			
1,006.15	0.490	2.212			
1,006.30	0.497	2.286			
1,006.45	0.505	2.361			
1,006.60	0.513	2.437			
1,006.75	0.520	2.515			
1,006.90	0.528	2.593			
1,007.05	0.536	2.673			
1,007.20	0.543	2.754			
1,007.35	0.551	2.836			
1,007.50	0.558	2.919			

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Summary for Pond P1S: Pond 1S

Inflow Area = 106.817 ac, 34.75% Impervious, Inflow Depth > 5.01" for 100yr-24hr event
Inflow = 182.89 cfs @ 12.22 hrs, Volume= 44.638 af
Outflow = 45.07 cfs @ 13.66 hrs, Volume= 44.156 af, Atten= 75%, Lag= 86.5 min
Primary = 43.36 cfs @ 13.66 hrs, Volume= 43.983 af
Secondary = 1.71 cfs @ 13.66 hrs, Volume= 0.173 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
Starting Elev= 967.00' Surf.Area= 1.857 ac Storage= 5.676 af
Peak Elev= 971.17' @ 13.66 hrs Surf.Area= 2.919 ac Storage= 15.662 af (9.986 af above start)

Plug-Flow detention time= 428.0 min calculated for 38.480 af (86% of inflow)
Center-of-Mass det. time= 178.6 min (1,319.7 - 1,141.2)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	24.421 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
960.00	0.217	0.000	0.000
962.00	0.476	0.693	0.693
964.00	0.854	1.329	2.022
966.00	1.248	2.102	4.124
967.00	1.857	1.552	5.676
968.00	2.126	1.991	7.668
970.00	2.620	4.746	12.414
972.00	3.129	5.749	18.163
974.00	3.129	6.258	24.421

Device	Routing	Invert	Outlet Devices
#1	Primary	967.00'	30.0" Round Main outlet (Structure 294 to 295) L= 31.4' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.00' / 966.84' S= 0.0051 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	971.00'	48.0" Horiz. Structure 294 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	30.0" Round low flow pipe L= 25.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0391 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#4	Secondary	971.00'	10.0' long x 4.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=43.36 cfs @ 13.66 hrs HW=971.17' TW=0.00' (Dynamic Tailwater)

1=Main outlet (Structure 294 to 295)(Passes 43.36 cfs of 43.68 cfs potential flow)

2=Structure 294 Grate (Weir Controls 2.95 cfs @ 1.36 fps)

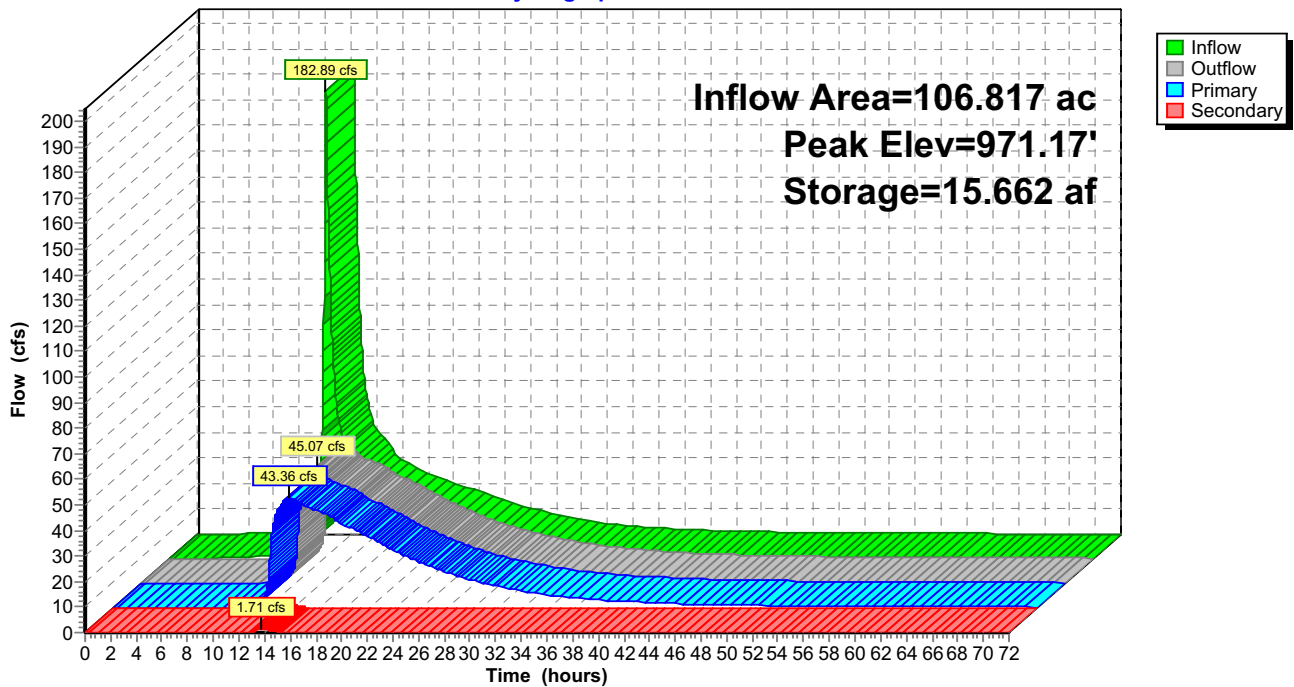
3=low flow pipe (Inlet Controls 40.41 cfs @ 8.23 fps)

Secondary OutFlow Max=1.71 cfs @ 13.66 hrs HW=971.17' TW=0.00' (Dynamic Tailwater)

4=EOF (Weir Controls 1.71 cfs @ 0.99 fps)

Pond P1S: Pond 1S

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Stage-Area-Storage for Pond P1S: Pond 1S

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
960.00	0.217	0.000	967.65	2.032	6.940
960.15	0.236	0.034	967.80	2.072	7.248
960.30	0.256	0.071	967.95	2.113	7.562
960.45	0.275	0.111	968.10	2.151	7.881
960.60	0.295	0.154	968.25	2.188	8.207
960.75	0.314	0.199	968.40	2.225	8.538
960.90	0.334	0.248	968.55	2.262	8.874
961.05	0.353	0.299	968.70	2.299	9.216
961.20	0.372	0.354	968.85	2.336	9.564
961.35	0.392	0.411	969.00	2.373	9.917
961.50	0.411	0.471	969.15	2.410	10.276
961.65	0.431	0.534	969.30	2.447	10.640
961.80	0.450	0.600	969.45	2.484	11.010
961.95	0.469	0.669	969.60	2.521	11.386
962.10	0.495	0.741	969.75	2.559	11.767
962.25	0.523	0.818	969.90	2.596	12.153
962.40	0.551	0.898	970.05	2.633	12.545
962.55	0.580	0.983	970.20	2.671	12.943
962.70	0.608	1.072	970.35	2.709	13.347
962.85	0.636	1.166	970.50	2.747	13.756
963.00	0.665	1.263	970.65	2.786	14.171
963.15	0.693	1.365	970.80	2.824	14.592
963.30	0.721	1.471	970.95	2.862	15.018
963.45	0.750	1.581	971.10	2.900	15.450
963.60	0.778	1.696	971.25	2.938	15.888
963.75	0.806	1.815	971.40	2.976	16.332
963.90	0.835	1.938	971.55	3.015	16.781
964.05	0.863	2.065	971.70	3.053	17.236
964.20	0.893	2.197	971.85	3.091	17.697
964.35	0.923	2.333	972.00	3.129	18.163
964.50	0.952	2.474	972.15	3.129	18.633
964.65	0.982	2.619	972.30	3.129	19.102
964.80	1.011	2.768	972.45	3.129	19.571
964.95	1.041	2.922	972.60	3.129	20.041
965.10	1.070	3.081	972.75	3.129	20.510
965.25	1.100	3.243	972.90	3.129	20.979
965.40	1.130	3.411	973.05	3.129	21.449
965.55	1.159	3.582	973.20	3.129	21.918
965.70	1.189	3.758	973.35	3.129	22.387
965.85	1.218	3.939	973.50	3.129	22.857
966.00	1.248	4.124	973.65	3.129	23.326
966.15	1.339	4.318	973.80	3.129	23.795
966.30	1.431	4.526	973.95	3.129	24.265
966.45	1.522	4.747			
966.60	1.613	4.982			
966.75	1.705	5.231			
966.90	1.796	5.494			
967.05	1.870	5.769			
967.20	1.911	6.053			
967.35	1.951	6.343			
967.50	1.991	6.638			

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Summary for Pond P2S: Pond 2S

[80] Warning: Exceeded Pond 4P by 0.06' @ 12.24 hrs (2.02 cfs 0.034 af)

Inflow Area = 7.044 ac, 38.20% Impervious, Inflow Depth = 5.38" for 100yr-24hr event
 Inflow = 49.83 cfs @ 12.20 hrs, Volume= 3.156 af
 Outflow = 18.11 cfs @ 12.44 hrs, Volume= 3.146 af, Atten= 64%, Lag= 14.4 min
 Primary = 18.11 cfs @ 12.44 hrs, Volume= 3.146 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 969.00' Surf.Area= 20,740 sf Storage= 78,236 cf
 Peak Elev= 971.34' @ 12.44 hrs Surf.Area= 25,195 sf Storage= 131,970 cf (53,735 cf above start)

Plug-Flow detention time= 365.3 min calculated for 1.349 af (43% of inflow)
 Center-of-Mass det. time= 97.9 min (873.0 - 775.1)

Volume	Invert	Avail.Storage	Storage Description
#1	962.00'	201,932 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
962.00	6,080	0	0
964.00	8,581	14,661	14,661
966.00	11,400	19,981	34,642
968.00	14,549	25,949	60,591
969.00	20,740	17,645	78,236
970.00	22,651	21,696	99,931
972.00	26,450	49,101	149,032
974.00	26,450	52,900	201,932

Device	Routing	Invert	Outlet Devices
#1	Primary	969.00'	24.0" Round Main outlet (Structure 251 to 252) L= 30.8' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 968.69' S= 0.0101 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	972.00'	48.0" Horiz. Structure 251 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	24.0" Round low flow pipe L= 36.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0272 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Secondary	972.00'	8.0' long x 32.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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Primary OutFlow Max=18.11 cfs @ 12.44 hrs HW=971.34' TW=0.00' (Dynamic Tailwater)

1=Main outlet (Structure 251 to 252)(Barrel Controls 18.11 cfs @ 6.20 fps)

2=Structure 251 Grate (Controls 0.00 cfs)

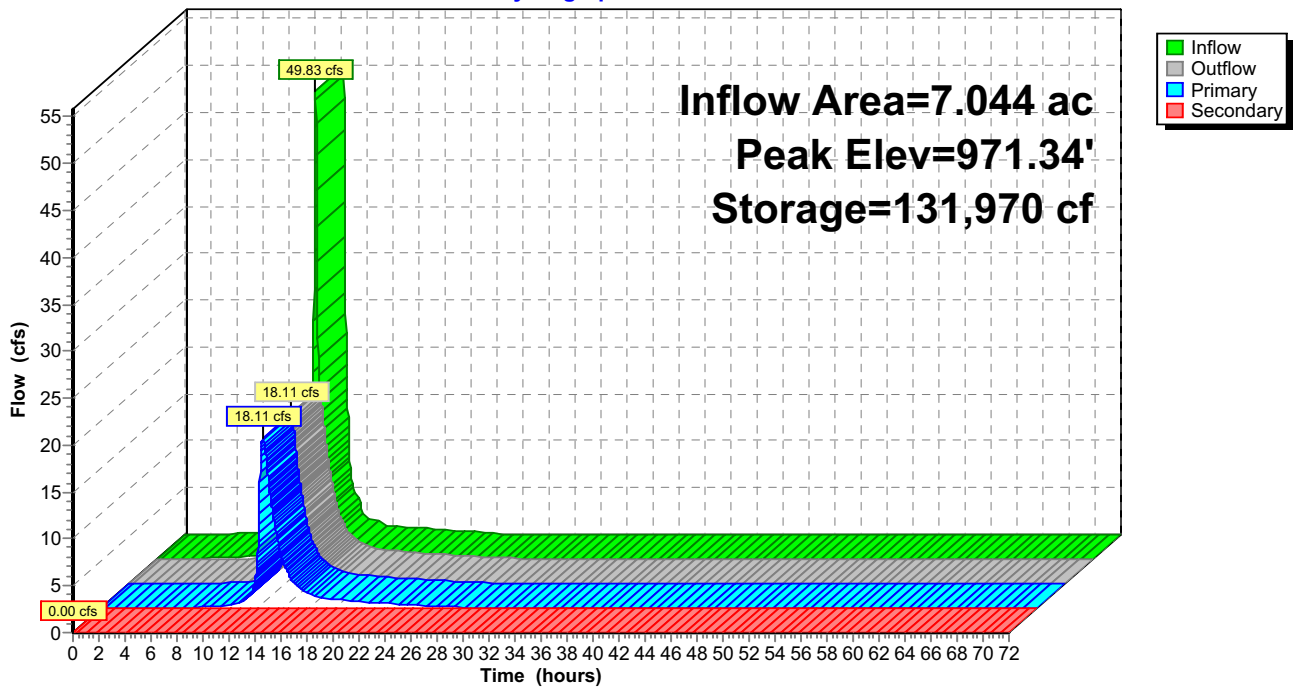
3=low flow pipe (Passes 18.11 cfs of 23.14 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=969.00' TW=0.00' (Dynamic Tailwater)

4=EOF (Controls 0.00 cfs)

Pond P2S: Pond 2S

Hydrograph



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Stage-Area-Storage for Pond P2S: Pond 2S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
962.00	6,080	0	969.65	21,982	92,120
962.15	6,268	926	969.80	22,269	95,439
962.30	6,455	1,880	969.95	22,555	98,801
962.45	6,643	2,863	970.10	22,841	102,206
962.60	6,830	3,873	970.25	23,126	105,653
962.75	7,018	4,912	970.40	23,411	109,143
962.90	7,205	5,978	970.55	23,696	112,676
963.05	7,393	7,073	970.70	23,981	116,252
963.20	7,581	8,196	970.85	24,266	119,871
963.35	7,768	9,348	971.00	24,551	123,532
963.50	7,956	10,527	971.15	24,835	127,236
963.65	8,143	11,734	971.30	25,120	130,982
963.80	8,331	12,970	971.45	25,405	134,772
963.95	8,518	14,234	971.60	25,690	138,604
964.10	8,722	15,526	971.75	25,975	142,479
964.25	8,933	16,850	971.90	26,260	146,396
964.40	9,145	18,206	972.05	26,450	150,354
964.55	9,356	19,594	972.20	26,450	154,322
964.70	9,568	21,013	972.35	26,450	158,290
964.85	9,779	22,464	972.50	26,450	162,257
965.00	9,991	23,947	972.65	26,450	166,224
965.15	10,202	25,461	972.80	26,450	170,192
965.30	10,413	27,007	972.95	26,450	174,160
965.45	10,625	28,585	973.10	26,450	178,127
965.60	10,836	30,195	973.25	26,450	182,095
965.75	11,048	31,836	973.40	26,450	186,062
965.90	11,259	33,509	973.55	26,450	190,029
966.05	11,479	35,214	973.70	26,450	193,997
966.20	11,715	36,953	973.85	26,450	197,965
966.35	11,951	38,728	974.00	26,450	201,932
966.50	12,187	40,539			
966.65	12,423	42,385			
966.80	12,660	44,266			
966.95	12,896	46,182			
967.10	13,132	48,135			
967.25	13,368	50,122			
967.40	13,604	52,145			
967.55	13,840	54,203			
967.70	14,077	56,297			
967.85	14,313	58,426			
968.00	14,549	60,591			
968.15	15,478	62,843			
968.30	16,406	65,234			
968.45	17,335	67,765			
968.60	18,264	70,435			
968.75	19,192	73,244			
968.90	20,121	76,192			
969.05	20,836	79,275			
969.20	21,122	82,422			
969.35	21,409	85,612			
969.50	21,696	88,844			

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Summary for Pond P3S: Pond 3S

Inflow Area = 12.637 ac, 40.00% Impervious, Inflow Depth = 5.43" for 100yr-24hr event
 Inflow = 89.14 cfs @ 12.20 hrs, Volume= 5.714 af
 Outflow = 16.47 cfs @ 12.63 hrs, Volume= 5.678 af, Atten= 82%, Lag= 26.0 min
 Primary = 16.47 cfs @ 12.63 hrs, Volume= 5.678 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 973.00' Surf.Area= 34,587 sf Storage= 138,303 cf
 Peak Elev= 976.12' @ 12.63 hrs Surf.Area= 46,720 sf Storage= 263,835 cf (125,532 cf above start)

Plug-Flow detention time= 461.2 min calculated for 2.503 af (44% of inflow)
 Center-of-Mass det. time= 163.3 min (937.3 - 774.0)

Volume	Invert	Avail.Storage	Storage Description
#1	966.00'	769,728 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
966.00	10,237	0	0
968.00	15,246	25,483	25,483
970.00	20,473	35,719	61,202
972.00	26,223	46,696	107,898
973.00	34,587	30,405	138,303
974.00	38,115	36,351	174,654
976.00	45,520	83,635	258,289
978.00	65,471	110,991	369,280
980.00	103,978	169,449	538,729
982.00	127,021	230,999	769,728

Device	Routing	Invert	Outlet Devices
#1	Primary	967.20'	24.0" Round H2 to H1 L= 55.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.20' / 967.00' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	967.70'	24.0" Round H2A to H1 L= 149.2' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.70' / 967.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#3	Device 2	967.90'	24.0" Round H3 to H2 L= 86.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.90' / 967.70' S= 0.0023 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Device 3	968.00'	21.0" Round H4 to H3 L= 42.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 968.00' / 967.90' S= 0.0024 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#5	Device 4	968.50'	21.0" Round H5 to H4 L= 184.0' RCP, groove end w/headwall, Ke= 0.200

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			Inlet / Outlet Invert= 968.50' / 968.00' S= 0.0027 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#6	Device 5	972.50'	21.0" Round H9 to H5 L= 146.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.50' / 968.50' S= 0.0274 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#7	Device 6	973.00'	21.0" Round H10 to H9 L= 92.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 973.00' / 972.50' S= 0.0054 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#8	Device 7	976.10'	48.0" Horiz. I13 Grate C= 0.600 Limited to weir flow at low heads
#9	Device 7	970.00'	21.0" Round low flow pipe L= 88.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 968.00' / 970.00' S= -0.0227 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#10	Secondary	978.00'	5.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=16.47 cfs @ 12.63 hrs HW=976.12' TW=970.57' (Dynamic Tailwater)

- ↑ 1=H2 to H1 (Passes 16.47 cfs of 43.26 cfs potential flow)
- ↑ 2=H2A to H1 (Passes 16.47 cfs of 33.96 cfs potential flow)
- ↑ 3=H3 to H2 (Passes 16.47 cfs of 39.41 cfs potential flow)
- ↑ 4=H4 to H3 (Passes 16.47 cfs of 33.66 cfs potential flow)
- ↑ 5=H5 to H4 (Passes 16.47 cfs of 22.91 cfs potential flow)
- ↑ 6=H9 to H5 (Passes 16.47 cfs of 23.99 cfs potential flow)
- ↑ 7=H10 to H9 (Barrel Controls 16.47 cfs @ 6.85 fps)
- ↑ 8=I13 Grate (Passes < 0.12 cfs potential flow)
- ↑ 9=low flow pipe (Passes < 20.34 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=972.00' (Dynamic Tailwater)

- ↑ 10=EOF (Controls 0.00 cfs)

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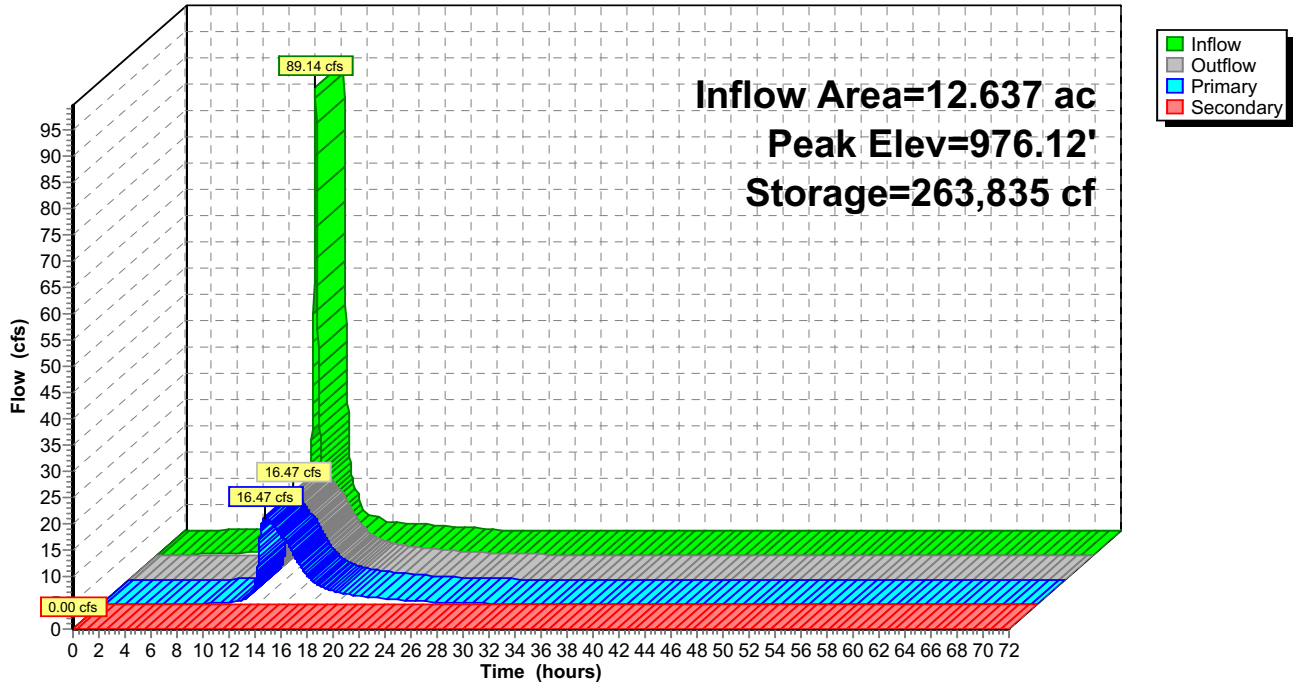
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Pond P3S: Pond 3S

Hydrograph



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Stage-Area-Storage for Pond P3S: Pond 3S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
966.00	10,237	0	976.20	47,515	267,593
966.20	10,738	2,097	976.40	49,510	277,295
966.40	11,239	4,295	976.60	51,505	287,397
966.60	11,740	6,593	976.80	53,500	297,897
966.80	12,241	8,991	977.00	55,496	308,797
967.00	12,742	11,489	977.20	57,491	320,095
967.20	13,242	14,088	977.40	59,486	331,793
967.40	13,743	16,786	977.60	61,481	343,890
967.60	14,244	19,585	977.80	63,476	356,385
967.80	14,745	22,484	978.00	65,471	369,280
968.00	15,246	25,483	978.20	69,322	382,759
968.20	15,769	28,584	978.40	73,172	397,009
968.40	16,291	31,790	978.60	77,023	412,028
968.60	16,814	35,101	978.80	80,874	427,818
968.80	17,337	38,516	979.00	84,725	444,378
969.00	17,860	42,036	979.20	88,575	461,708
969.20	18,382	45,660	979.40	92,426	479,808
969.40	18,905	49,389	979.60	96,277	498,678
969.60	19,428	53,222	979.80	100,127	518,318
969.80	19,950	57,160	980.00	103,978	538,729
970.00	20,473	61,202	980.20	106,282	559,755
970.20	21,048	65,354	980.40	108,587	581,242
970.40	21,623	69,621	980.60	110,891	603,190
970.60	22,198	74,003	980.80	113,195	625,598
970.80	22,773	78,500	981.00	115,500	648,468
971.00	23,348	83,113	981.20	117,804	671,798
971.20	23,923	87,840	981.40	120,108	695,589
971.40	24,498	92,682	981.60	122,412	719,841
971.60	25,073	97,639	981.80	124,717	744,554
971.80	25,648	102,711	982.00	127,021	769,728
972.00	26,223	107,898			
972.20	27,896	113,310			
972.40	29,569	119,056			
972.60	31,241	125,137			
972.80	32,914	131,553			
973.00	34,587	138,303			
973.20	35,293	145,291			
973.40	35,998	152,420			
973.60	36,704	159,690			
973.80	37,409	167,102			
974.00	38,115	174,654			
974.20	38,856	182,351			
974.40	39,596	190,196			
974.60	40,337	198,189			
974.80	41,077	206,331			
975.00	41,818	214,620			
975.20	42,558	223,058			
975.40	43,298	231,643			
975.60	44,039	240,377			
975.80	44,779	249,259			
976.00	45,520	258,289			

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Summary for Pond P4S: Pond 4S

Inflow Area = 76.299 ac, 31.96% Impervious, Inflow Depth > 4.92" for 100yr-24hr event
 Inflow = 143.21 cfs @ 12.21 hrs, Volume= 31.307 af
 Outflow = 70.12 cfs @ 12.48 hrs, Volume= 31.173 af, Atten= 51%, Lag= 15.8 min
 Primary = 69.92 cfs @ 12.48 hrs, Volume= 31.171 af
 Secondary = 0.20 cfs @ 12.48 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.50' Surf.Area= 25,439 sf Storage= 76,590 cf
 Peak Elev= 971.54' @ 12.48 hrs Surf.Area= 54,247 sf Storage= 221,073 cf (144,483 cf above start)

Plug-Flow detention time= 213.6 min calculated for 29.406 af (94% of inflow)
 Center-of-Mass det. time= 75.2 min (1,270.3 - 1,195.0)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	647,869 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	2,396	0	0
962.00	4,400	6,796	6,796
964.00	9,322	13,722	20,518
966.00	15,812	25,134	45,652
967.50	25,439	30,938	76,590
968.00	27,312	13,188	89,778
970.00	35,109	62,421	152,199
972.00	59,939	95,048	247,247
974.00	113,561	173,500	420,747
976.00	113,561	227,122	647,869

Device	Routing	Invert	Outlet Devices
#1	Primary	967.20'	48.0" Round Culvert L= 121.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.20' / 967.00' S= 0.0016 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#2	Device 1	967.30'	48.0" Round Culvert L= 27.5' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.30' / 967.20' S= 0.0036 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#3	Device 2	967.50'	48.0" Round Culvert L= 120.9' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.30' S= 0.0017 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf
#4	Device 3	971.50'	72.0" Horiz. Structure 254 Grate C= 0.600 Limited to weir flow at low heads
#5	Device 3	964.00'	48.0" Round Culvert L= 33.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.00' / 964.00' S= -0.0303 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 12.57 sf

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#6	Secondary	969.00'	72.0" W x 36.0" H Box Box Culvert L= 150.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 969.00' / 968.00' S= 0.0067 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 18.00 sf
#7	Device 6	971.50'	10.0' long x 4.0' breadth Berm to Secondary EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=69.91 cfs @ 12.48 hrs HW=971.54' TW=970.20' (Dynamic Tailwater)

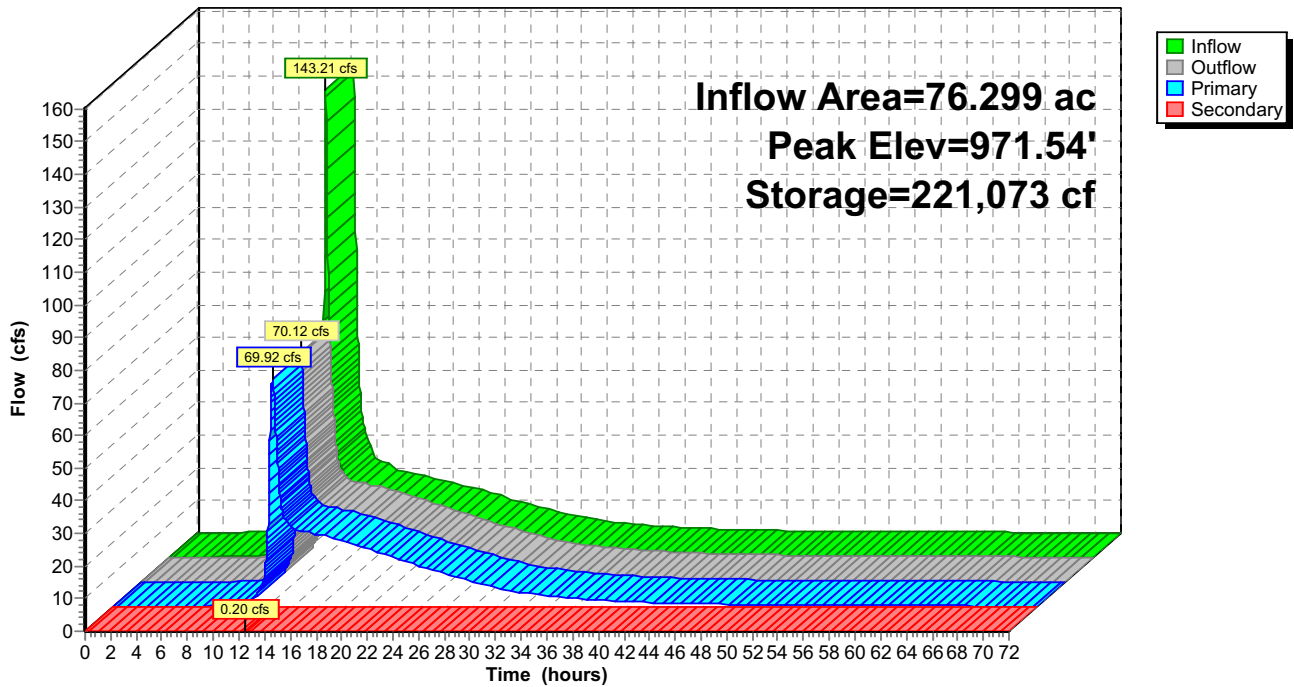
- ↑ 1=Culvert (Passes 69.91 cfs of 77.29 cfs potential flow)
- ↑ 2=Culvert (Passes 69.91 cfs of 81.09 cfs potential flow)
- ↑ 3=Culvert (Barrel Controls 69.91 cfs @ 6.84 fps)
- ↑ 4=Structure 254 Grate (Passes < 0.52 cfs potential flow)
- ↑ 5=Culvert (Passes < 70.07 cfs potential flow)

Secondary OutFlow Max=0.20 cfs @ 12.48 hrs HW=971.54' TW=970.20' (Dynamic Tailwater)

- ↑ 6=Box Culvert (Passes 0.20 cfs of 70.06 cfs potential flow)
- ↑ 7=Berm to Secondary EOF (Weir Controls 0.20 cfs @ 0.48 fps)

Pond P4S: Pond 4S

Hydrograph



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Stage-Area-Storage for Pond P4S: Pond 4S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
960.00	2,396	0	970.20	37,592	159,469
960.20	2,596	499	970.40	40,075	167,236
960.40	2,797	1,039	970.60	42,558	175,499
960.60	2,997	1,618	970.80	45,041	184,259
960.80	3,198	2,237	971.00	47,524	193,516
961.00	3,398	2,897	971.20	50,007	203,269
961.20	3,598	3,597	971.40	52,490	213,518
961.40	3,799	4,336	971.60	54,973	224,265
961.60	3,999	5,116	971.80	57,456	235,507
961.80	4,200	5,936	972.00	59,939	247,247
962.00	4,400	6,796	972.20	65,301	259,771
962.20	4,892	7,725	972.40	70,663	273,367
962.40	5,384	8,753	972.60	76,026	288,036
962.60	5,877	9,879	972.80	81,388	303,778
962.80	6,369	11,104	973.00	86,750	320,592
963.00	6,861	12,427	973.20	92,112	338,478
963.20	7,353	13,848	973.40	97,474	357,436
963.40	7,845	15,368	973.60	102,837	377,467
963.60	8,338	16,986	973.80	108,199	398,571
963.80	8,830	18,703	974.00	113,561	420,747
964.00	9,322	20,518	974.20	113,561	443,459
964.20	9,971	22,447	974.40	113,561	466,171
964.40	10,620	24,506	974.60	113,561	488,884
964.60	11,269	26,695	974.80	113,561	511,596
964.80	11,918	29,014	975.00	113,561	534,308
965.00	12,567	31,463	975.20	113,561	557,020
965.20	13,216	34,041	975.40	113,561	579,732
965.40	13,865	36,749	975.60	113,561	602,445
965.60	14,514	39,587	975.80	113,561	625,157
965.80	15,163	42,554	976.00	113,561	647,869
966.00	15,812	45,652			
966.20	17,096	48,943			
966.40	18,379	52,490			
966.60	19,663	56,294			
966.80	20,946	60,355			
967.00	22,230	64,673			
967.20	23,514	69,247			
967.40	24,797	74,078			
967.60	25,814	79,153			
967.80	26,563	84,391			
968.00	27,312	89,778			
968.20	28,092	95,318			
968.40	28,871	101,015			
968.60	29,651	106,867			
968.80	30,431	112,875			
969.00	31,211	119,039			
969.20	31,990	125,359			
969.40	32,770	131,835			
969.60	33,550	138,467			
969.80	34,329	145,255			
970.00	35,109	152,199			

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Summary for Pond P5S: Pond 5S

Inflow Area = 53.598 ac, 34.53% Impervious, Inflow Depth = 5.11" for 100yr-24hr event
 Inflow = 349.81 cfs @ 12.20 hrs, Volume= 22.821 af
 Outflow = 16.95 cfs @ 13.68 hrs, Volume= 22.107 af, Atten= 95%, Lag= 88.7 min
 Primary = 16.95 cfs @ 13.68 hrs, Volume= 22.107 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Starting Elev= 978.00' Surf.Area= 188,571 sf Storage= 1,154,774 cf

Peak Elev= 981.29' @ 13.68 hrs Surf.Area= 240,741 sf Storage= 1,845,057 cf (690,283 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= 587.8 min (1,365.3 - 777.5)

Volume	Invert	Avail.Storage	Storage Description
#1	970.00'	4,080,390 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
970.00	109,989	0	0
972.00	126,585	236,574	236,574
974.00	142,572	269,157	505,731
976.00	158,950	301,522	807,253
978.00	188,571	347,521	1,154,774
980.00	210,830	399,401	1,554,175
982.00	257,265	468,095	2,022,270
984.00	257,265	514,530	2,536,800
990.00	257,265	1,543,590	4,080,390

Device	Routing	Invert	Outlet Devices
#1	Primary	970.00'	18.0" Round Structure 273 to 246 L= 190.9' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 970.00' / 967.50' S= 0.0131 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	972.00'	18.0" Round Structure 272 to 273 L= 70.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 970.00' S= 0.0286 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Device 2	974.00'	18.0" Round Structure 271 to 272 L= 50.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 974.00' / 973.00' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#4	Device 3	978.00'	18.0" Round Structure 245 to 271 L= 78.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 978.00' / 974.00' S= 0.0513 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#5	Device 4	975.50'	21.0" Round low flow pipe L= 52.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 975.00' / 975.50' S= -0.0096 '/' Cc= 0.900

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#6	Device 4	981.50'	n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf 48.0" Horiz. Structure 245 grate C= 0.600
#7	Secondary	981.50'	Limited to weir flow at low heads 10.0' long x 2.0' breadth EOF
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00			
2.50 3.00 3.50			
Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88			
2.85 3.07 3.20 3.32			

Primary OutFlow Max=16.95 cfs @ 13.68 hrs HW=981.29' TW=971.35' (Dynamic Tailwater)

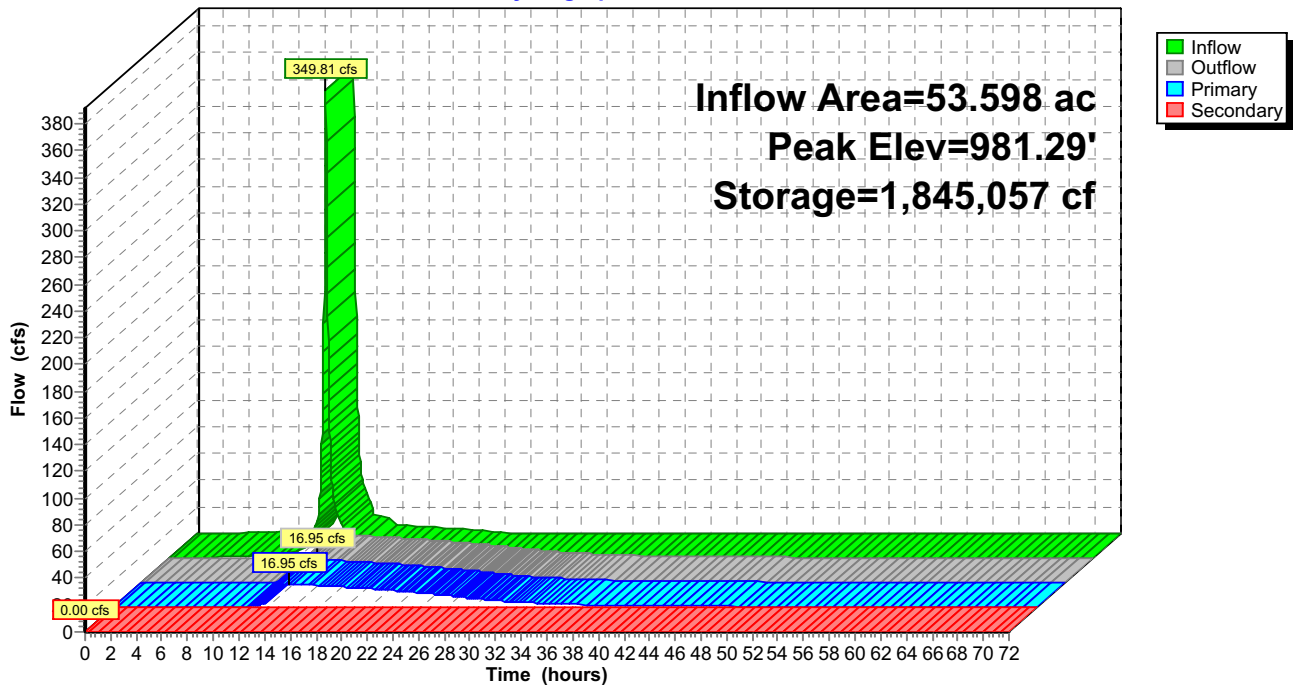
- 1=Structure 273 to 246 (Passes 16.95 cfs of 20.64 cfs potential flow)
- 2=Structure 272 to 273 (Passes 16.95 cfs of 28.17 cfs potential flow)
- 3=Structure 271 to 272 (Passes 16.95 cfs of 25.41 cfs potential flow)
- 4=Structure 245 to 271 (Inlet Controls 16.95 cfs @ 9.59 fps)
- 5=low flow pipe (Passes 16.95 cfs of 21.00 cfs potential flow)
- 6=Structure 245 grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)

- 7=EOF (Controls 0.00 cfs)

Pond P5S: Pond 5S

Hydrograph



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Stage-Area-Storage for Pond P5S: Pond 5S

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
970.00	109,989	0	980.20	215,474	1,596,805
970.20	111,649	22,164	980.40	220,117	1,640,364
970.40	113,308	44,659	980.60	224,761	1,684,852
970.60	114,968	67,487	980.80	229,404	1,730,269
970.80	116,627	90,647	981.00	234,048	1,776,614
971.00	118,287	114,138	981.20	238,691	1,823,888
971.20	119,947	137,961	981.40	243,334	1,872,090
971.40	121,606	162,117	981.60	247,978	1,921,221
971.60	123,266	186,604	981.80	252,621	1,971,281
971.80	124,925	211,423	982.00	257,265	2,022,270
972.00	126,585	236,574	982.20	257,265	2,073,723
972.20	128,184	262,051	982.40	257,265	2,125,176
972.40	129,782	287,847	982.60	257,265	2,176,629
972.60	131,381	313,964	982.80	257,265	2,228,082
972.80	132,980	340,400	983.00	257,265	2,279,535
973.00	134,579	367,156	983.20	257,265	2,330,988
973.20	136,177	394,231	983.40	257,265	2,382,441
973.40	137,776	421,627	983.60	257,265	2,433,894
973.60	139,375	449,342	983.80	257,265	2,485,347
973.80	140,973	477,376	984.00	257,265	2,536,800
974.00	142,572	505,731	984.20	257,265	2,588,253
974.20	144,210	534,409	984.40	257,265	2,639,706
974.40	145,848	563,415	984.60	257,265	2,691,159
974.60	147,485	592,748	984.80	257,265	2,742,612
974.80	149,123	622,409	985.00	257,265	2,794,065
975.00	150,761	652,398	985.20	257,265	2,845,518
975.20	152,399	682,713	985.40	257,265	2,896,971
975.40	154,037	713,357	985.60	257,265	2,948,424
975.60	155,674	744,328	985.80	257,265	2,999,877
975.80	157,312	775,627	986.00	257,265	3,051,330
976.00	158,950	807,253	986.20	257,265	3,102,783
976.20	161,912	839,339	986.40	257,265	3,154,236
976.40	164,874	872,018	986.60	257,265	3,205,689
976.60	167,836	905,289	986.80	257,265	3,257,142
976.80	170,798	939,152	987.00	257,265	3,308,595
977.00	173,761	973,608	987.20	257,265	3,360,048
977.20	176,723	1,008,657	987.40	257,265	3,411,501
977.40	179,685	1,044,297	987.60	257,265	3,462,954
977.60	182,647	1,080,530	987.80	257,265	3,514,407
977.80	185,609	1,117,356	988.00	257,265	3,565,860
978.00	188,571	1,154,774	988.20	257,265	3,617,313
978.20	190,797	1,192,711	988.40	257,265	3,668,766
978.40	193,023	1,231,093	988.60	257,265	3,720,219
978.60	195,249	1,269,920	988.80	257,265	3,771,672
978.80	197,475	1,309,192	989.00	257,265	3,823,125
979.00	199,701	1,348,910	989.20	257,265	3,874,578
979.20	201,926	1,389,072	989.40	257,265	3,926,031
979.40	204,152	1,429,680	989.60	257,265	3,977,484
979.60	206,378	1,470,733	989.80	257,265	4,028,937
979.80	208,604	1,512,232	990.00	257,265	4,080,390
980.00	210,830	1,554,175			

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Summary for Pond Wetland 9: Wetland 9

[80] Warning: Exceeded Pond P1N by 0.10' @ 12.08 hrs (0.84 cfs 0.024 af)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 4.44" for 100yr-24hr event
 Inflow = 20.70 cfs @ 12.25 hrs, Volume= 3.781 af
 Outflow = 19.03 cfs @ 12.39 hrs, Volume= 3.480 af, Atten= 8%, Lag= 8.5 min
 Primary = 19.03 cfs @ 12.39 hrs, Volume= 3.480 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 0.217 ac Storage= 0.150 af
 Peak Elev= 1,010.51' @ 12.39 hrs Surf.Area= 0.384 ac Storage= 0.646 af (0.496 af above start)

Plug-Flow detention time= 107.3 min calculated for 3.330 af (88% of inflow)
 Center-of-Mass det. time= 35.8 min (924.7 - 888.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	1.218 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
1,008.00	0.082	0.000	0.000
1,009.00	0.217	0.150	0.150
1,010.00	0.384	0.301	0.450
1,012.00	0.384	0.768	1.218

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=19.02 cfs @ 12.39 hrs HW=1,010.51' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 19.02 cfs @ 1.87 fps)

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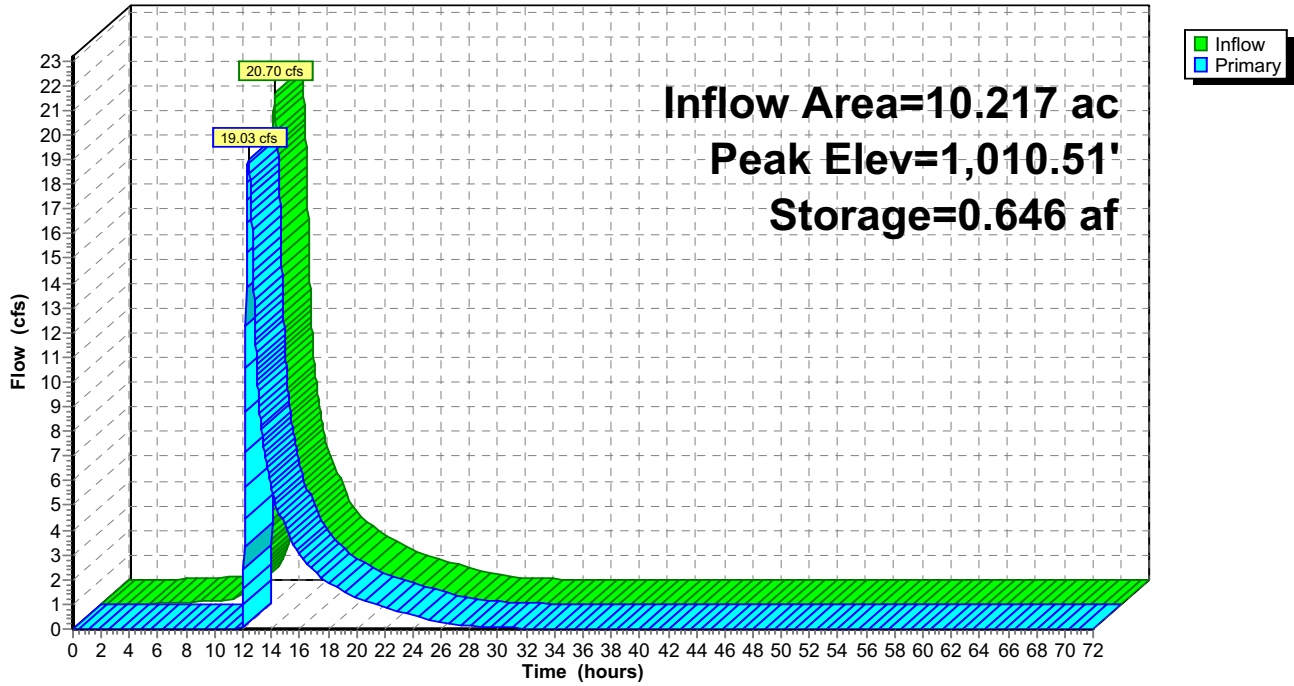
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Pond Wetland 9: Wetland 9

Hydrograph



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Stage-Area-Storage for Pond Wetland 9: Wetland 9

Elevation (feet)	Surface (acres)	Storage (acre-feet)	Elevation (feet)	Surface (acres)	Storage (acre-feet)
1,008.00	0.082	0.000	1,010.55	0.384	0.661
1,008.05	0.089	0.004	1,010.60	0.384	0.680
1,008.10	0.096	0.009	1,010.65	0.384	0.700
1,008.15	0.102	0.014	1,010.70	0.384	0.719
1,008.20	0.109	0.019	1,010.75	0.384	0.738
1,008.25	0.116	0.025	1,010.80	0.384	0.757
1,008.30	0.122	0.031	1,010.85	0.384	0.776
1,008.35	0.129	0.037	1,010.90	0.384	0.796
1,008.40	0.136	0.044	1,010.95	0.384	0.815
1,008.45	0.143	0.051	1,011.00	0.384	0.834
1,008.50	0.150	0.058	1,011.05	0.384	0.853
1,008.55	0.156	0.066	1,011.10	0.384	0.872
1,008.60	0.163	0.074	1,011.15	0.384	0.892
1,008.65	0.170	0.082	1,011.20	0.384	0.911
1,008.70	0.177	0.090	1,011.25	0.384	0.930
1,008.75	0.183	0.099	1,011.30	0.384	0.949
1,008.80	0.190	0.109	1,011.35	0.384	0.968
1,008.85	0.197	0.118	1,011.40	0.384	0.988
1,008.90	0.203	0.128	1,011.45	0.384	1.007
1,008.95	0.210	0.139	1,011.50	0.384	1.026
1,009.00	0.217	0.150	1,011.55	0.384	1.045
1,009.05	0.225	0.161	1,011.60	0.384	1.064
1,009.10	0.234	0.172	1,011.65	0.384	1.084
1,009.15	0.242	0.184	1,011.70	0.384	1.103
1,009.20	0.250	0.196	1,011.75	0.384	1.122
1,009.25	0.259	0.209	1,011.80	0.384	1.141
1,009.30	0.267	0.222	1,011.85	0.384	1.160
1,009.35	0.275	0.236	1,011.90	0.384	1.180
1,009.40	0.284	0.250	1,011.95	0.384	1.199
1,009.45	0.292	0.264	1,012.00	0.384	1.218
1,009.50	0.301	0.279			
1,009.55	0.309	0.294			
1,009.60	0.317	0.310			
1,009.65	0.326	0.326			
1,009.70	0.334	0.342			
1,009.75	0.342	0.359			
1,009.80	0.351	0.377			
1,009.85	0.359	0.394			
1,009.90	0.367	0.412			
1,009.95	0.376	0.431			
1,010.00	0.384	0.450			
1,010.05	0.384	0.469			
1,010.10	0.384	0.488			
1,010.15	0.384	0.508			
1,010.20	0.384	0.527			
1,010.25	0.384	0.546			
1,010.30	0.384	0.565			
1,010.35	0.384	0.584			
1,010.40	0.384	0.604			
1,010.45	0.384	0.623			
1,010.50	0.384	0.642			

APPENDIX D – RWMWD STORMWATER REUSE SPREADSHEET

Reuse Scenario Name		Hollydale
Watershed Input Parameters		
Watershed Area Tributary to Stormwater Reuse System	(acre)	53.6
Watershed Imperviousness* Tributary to Stormwater Reuse System *assumed to be directly-connected	(%)	35
Watershed Hydrologic Soil Group (HSG)		C
Stormwater Reuse System Input Parameters		
Estimated Reuse Storage Volume	(ac-ft)	7.970
	(cu-ft)	347173
	(gal)	2,597,036
Irrigation Application Area (ac)	(acre)	18.30
Irrigation Application Rate	(in/week)	1.0
	(ac-ft/day)	0.2179
Irrigation Season Start (month #)		5
Irrigation Season End (month #)		9
Does the system go offline and drain down at the end of the season?	(1=Yes / 0=No)	0
Stormwater Reuse Summary of Results - Stormwater Management		
Average Annual Precipitation	(in/yr)	27.7
Average Annual Watershed Runoff Volume	(ac-ft/yr)	44.47
Average Annual Runoff Coefficient		0.36
Average Annual Runoff Volume Reduction due to Stormwater Reuse for Irrigation	(ac-ft/yr)	23.4
	(%)	52.5
Average Annual Runoff Volume Bypassing the Reuse System (including Winterization Drawdown, if applicable)	(ac-ft/yr)	21.1
	(%)	47.5
Stormwater Reuse Summary of Results - Irrigation Demand		
Average Annual Irrigation Demand	(ac-ft/yr)	24.3
Average Annual Irrigation Demand met by Stormwater Reuse	(ac-ft/yr)	23.4
	(%)	96.2
Average Annual Irrigation Augmentation (from Potable Water Supply)	(ac-ft/yr)	0.9
	(%)	3.8
RWMWD Credit Factor For Stormwater Reuse		
Required Water Quality Volume for Watershed Based on RWMWD Rules (1.1 inch)	(ac-ft)	1.695
Average Annual Volume Reduction for an Infiltration System Sized to Meet the RWMWD Rules (Estimated by MIDS Calculator)	(%)	81.8
Average Annual Runoff Volume Reduction due to Stormwater Reuse for Irrigation	(%)	52.5
RWMWD Credit Factor For Stormwater Reuse		0.64
Reuse Storage Volume Provided	(ac-ft)	7.970
	(gal)	2597036
	(cu-ft)	347173
Reuse Storage Volume that can be applied towards achieving the RWMWD Rules	(ac-ft)	5.117
	(gal)	1,667,398
	(cu-ft)	222899

APPENDIX E – OUTLET STRUCTURE DETAILS

OUTLET STRUCTURE - Pond 1N

0.75'

TOP FRONT

1010.8'

NO WEIR

NWL- 1009.5'

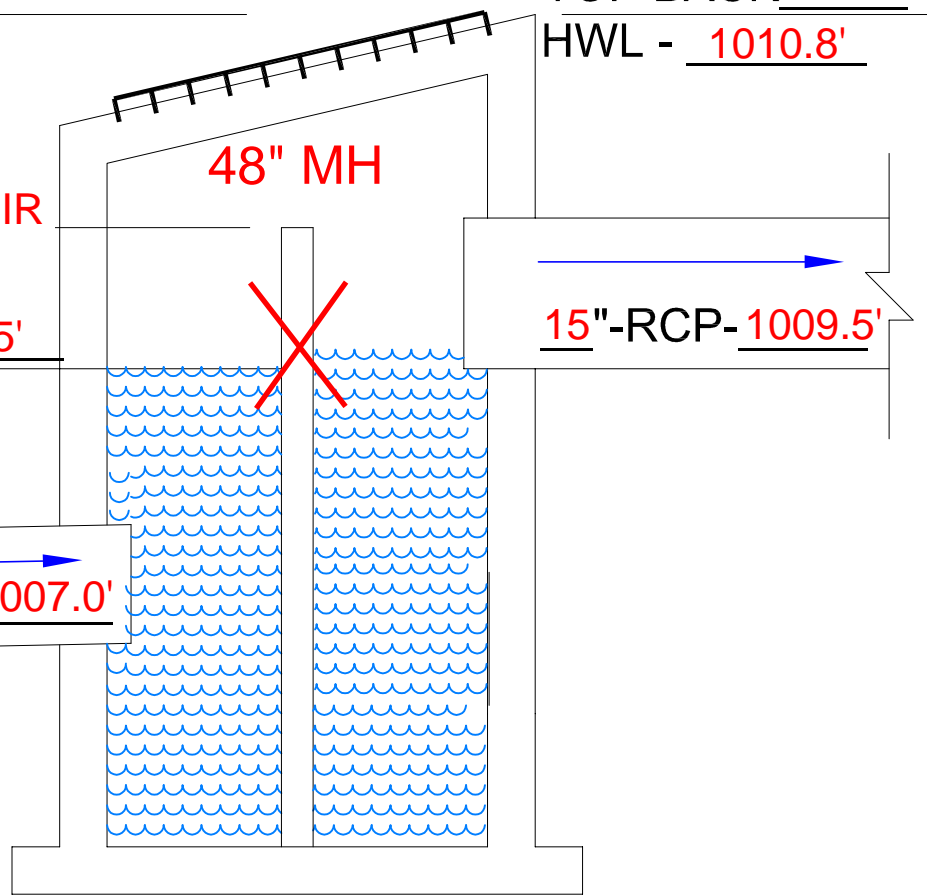
15" RCP 1007.0'

TOP BACK 1011.55'

HWL - 1010.8'

48" MH

15"-RCP- 1009.5'

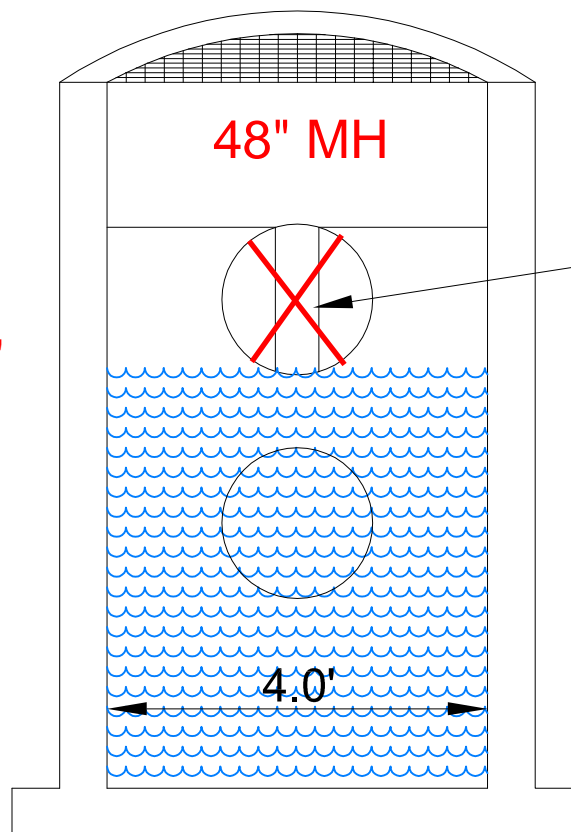


48" MH

NO WEIR

NWL- 1009.5'

4.0'



OUTLET STRUCTURE - Pond 1S

0.75'

TOP FRONT

971.0'

NO WEIR

NWL- 967.0'

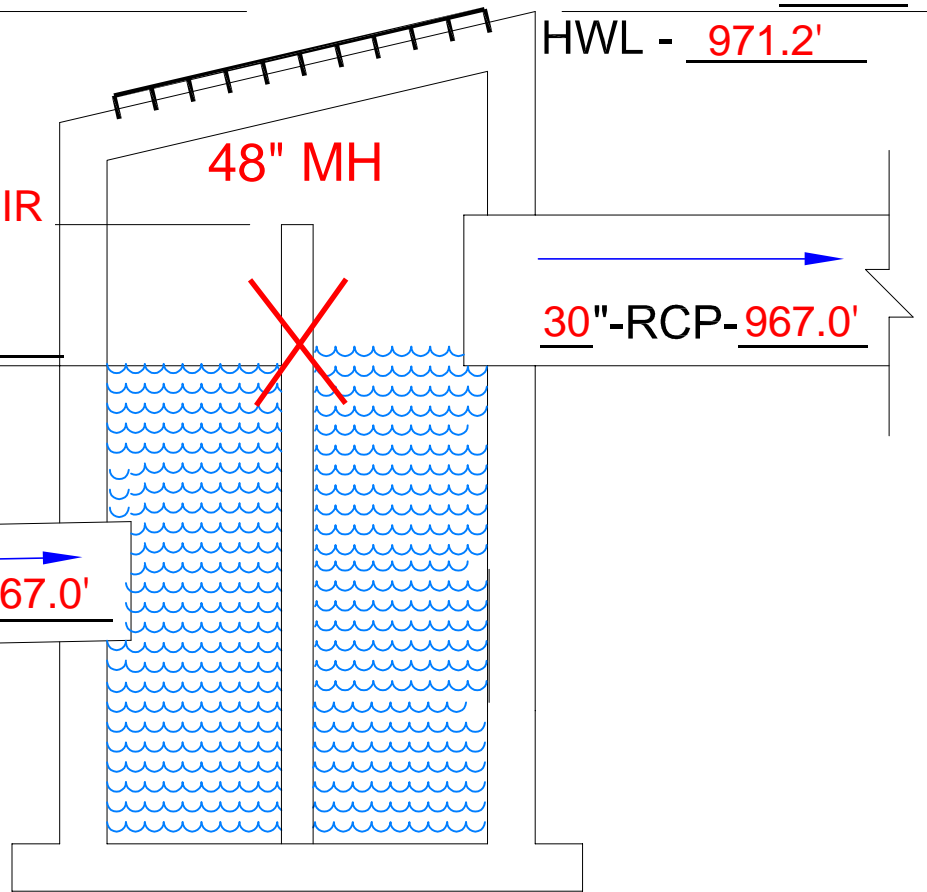
30" RCP 967.0'

TOP BACK 971.75'

HWL - 971.2'

48" MH

30"-RCP-967.0'

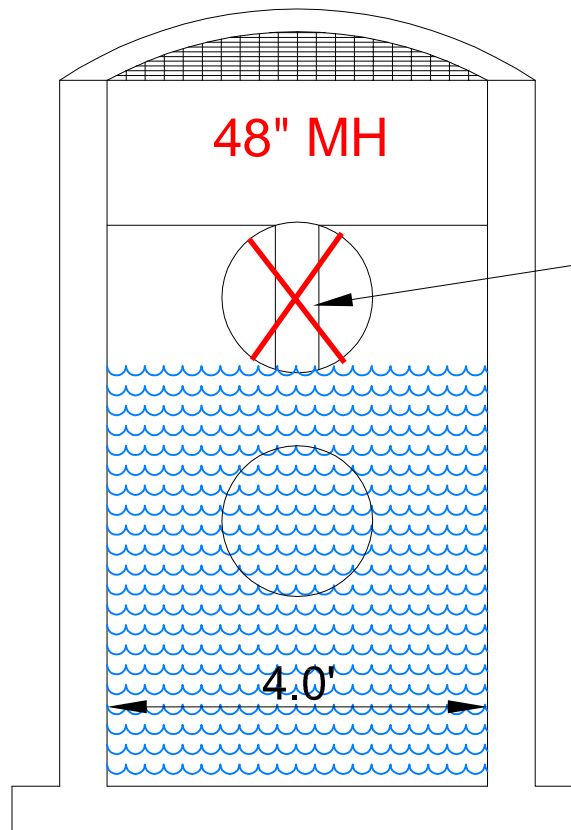


48" MH

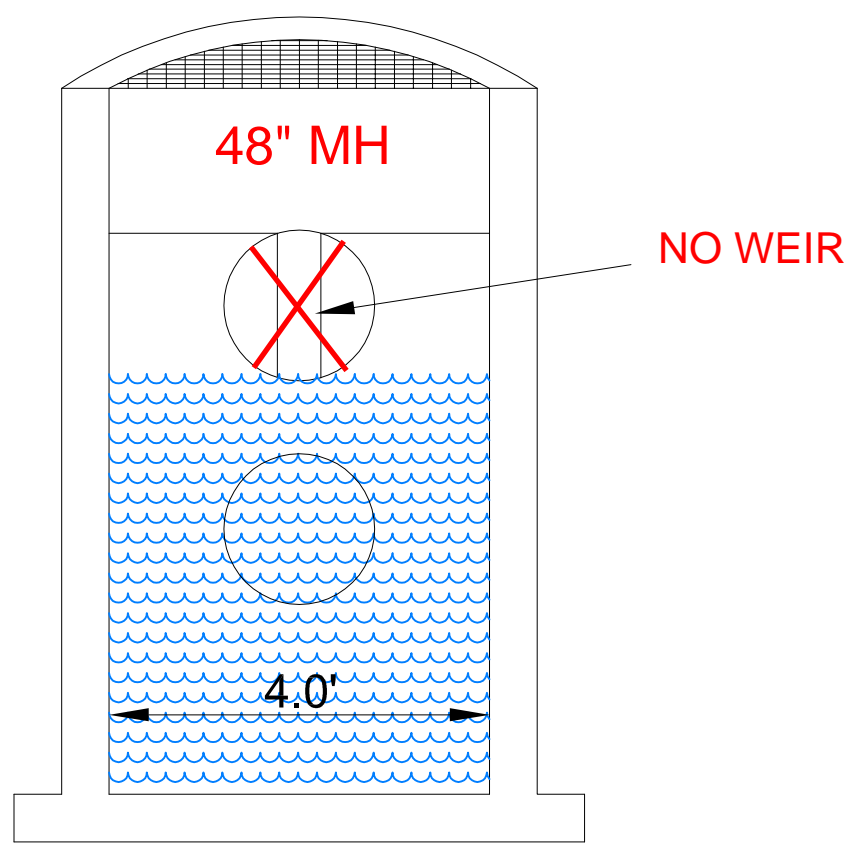
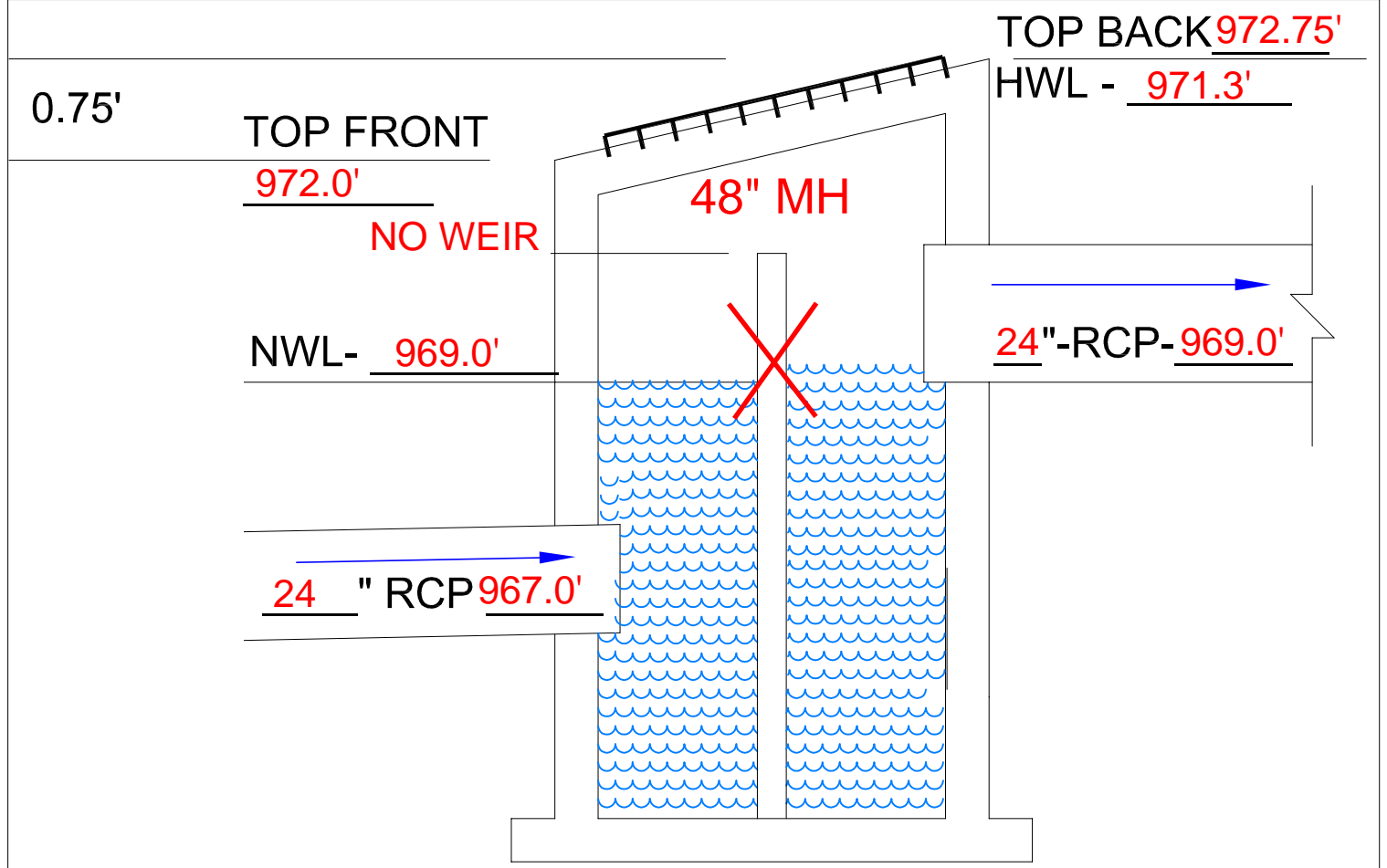
NO WEIR

NWL- 967.0'

4.0'



OUTLET STRUCTURE - Pond 2S



OUTLET STRUCTURE - Pond 3S

0.75'

TOP FRONT

976.1'

NO WEIR

NWL- 973.0'

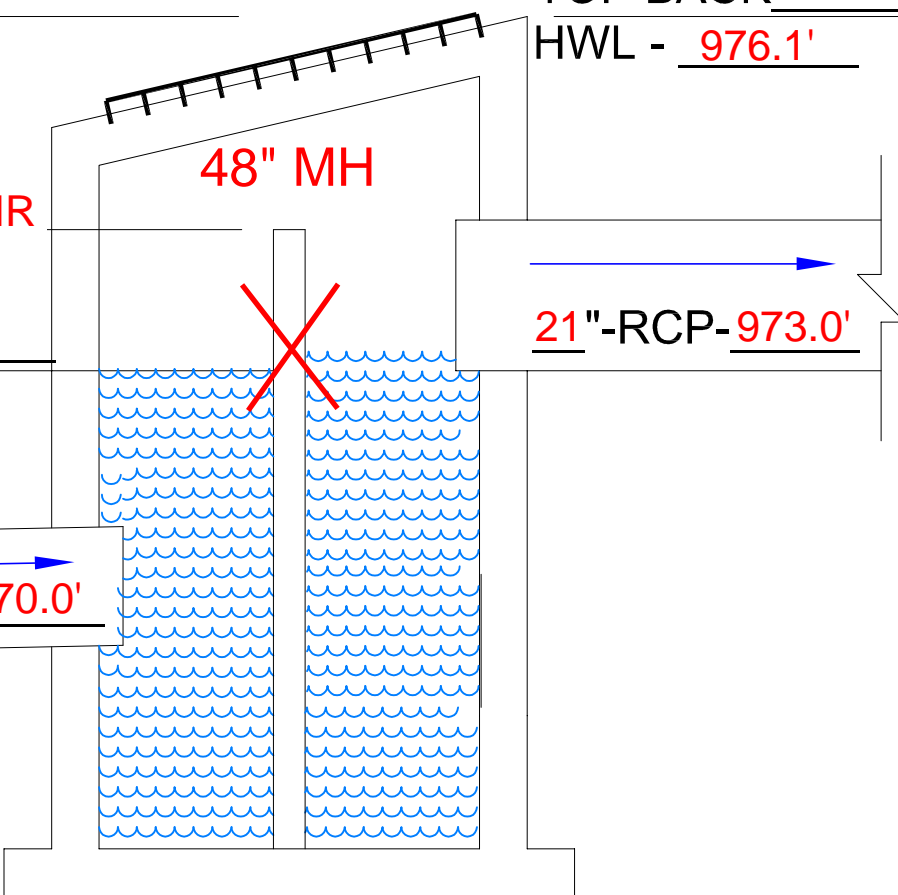
21" RCP 970.0'

TOP BACK 976.85'

HWL - 976.1'

48" MH

21"-RCP-973.0'

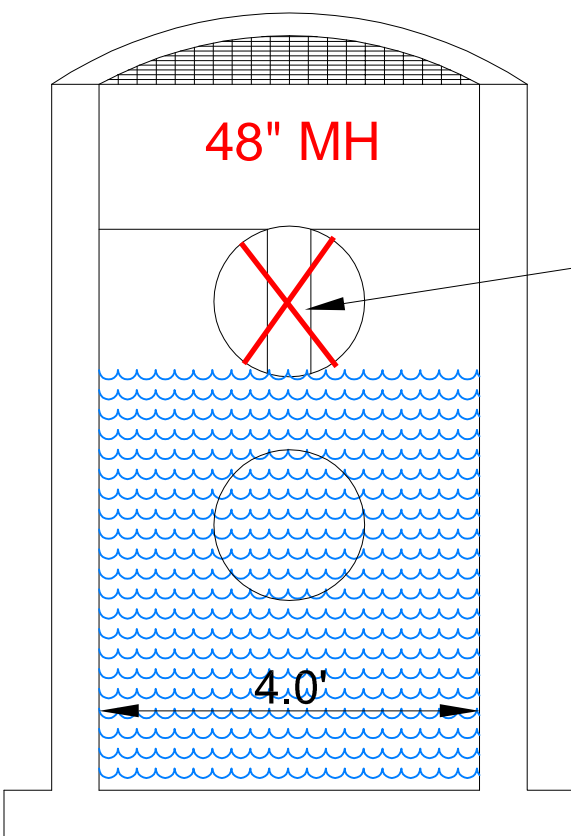


48" MH

NO WEIR

NWL- 973.0'

4.0'



OUTLET STRUCTURE - Pond 4S

0.75'

TOP FRONT

971.5'

NO WEIR

NWL- 967.5'

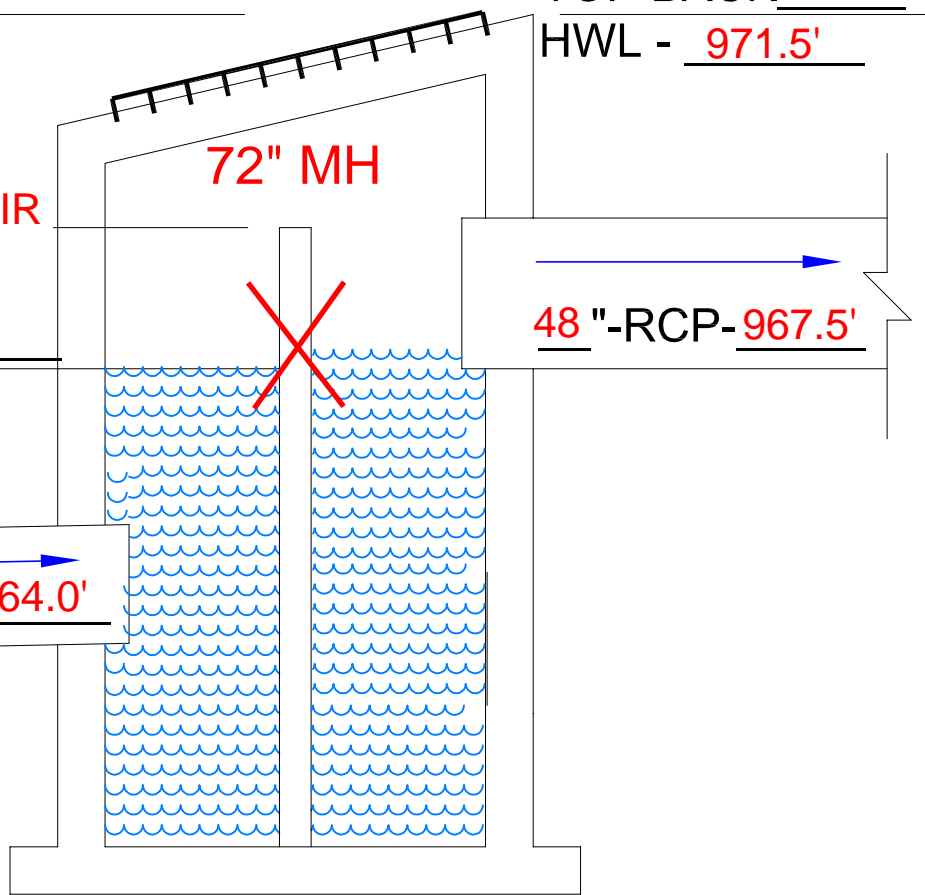
48" RCP 964.0'

TOP BACK 972.25'

HWL - 971.5'

72" MH

48" RCP 967.5'

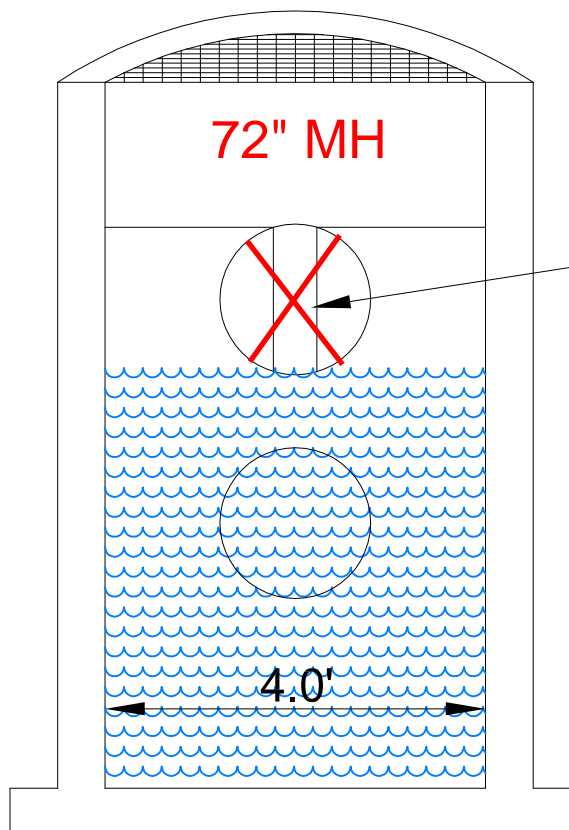


72" MH

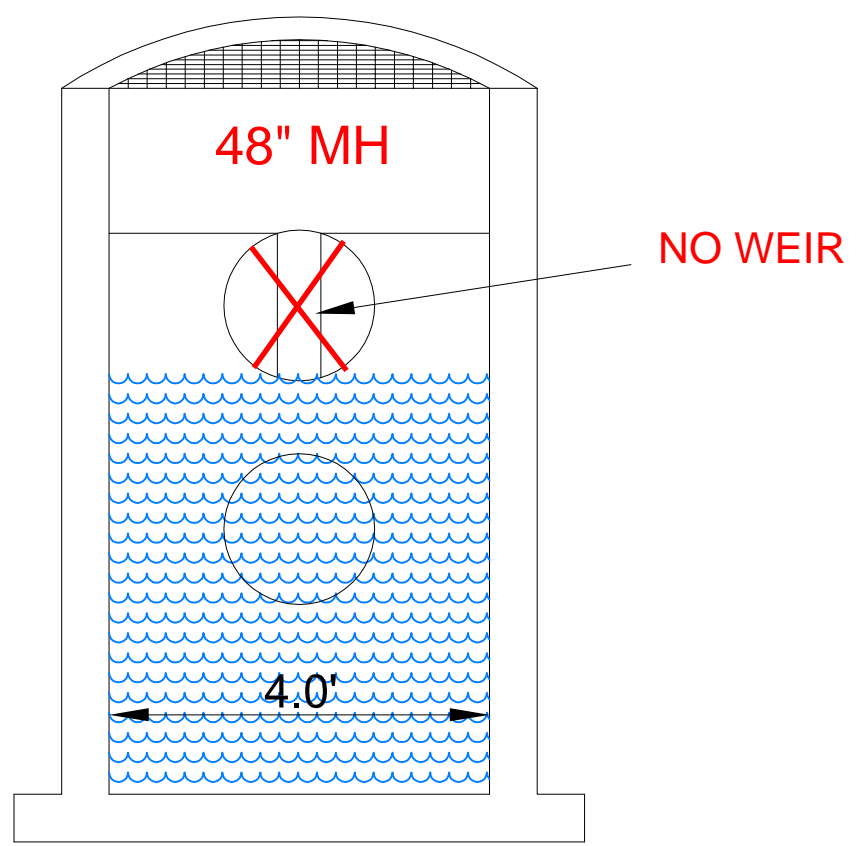
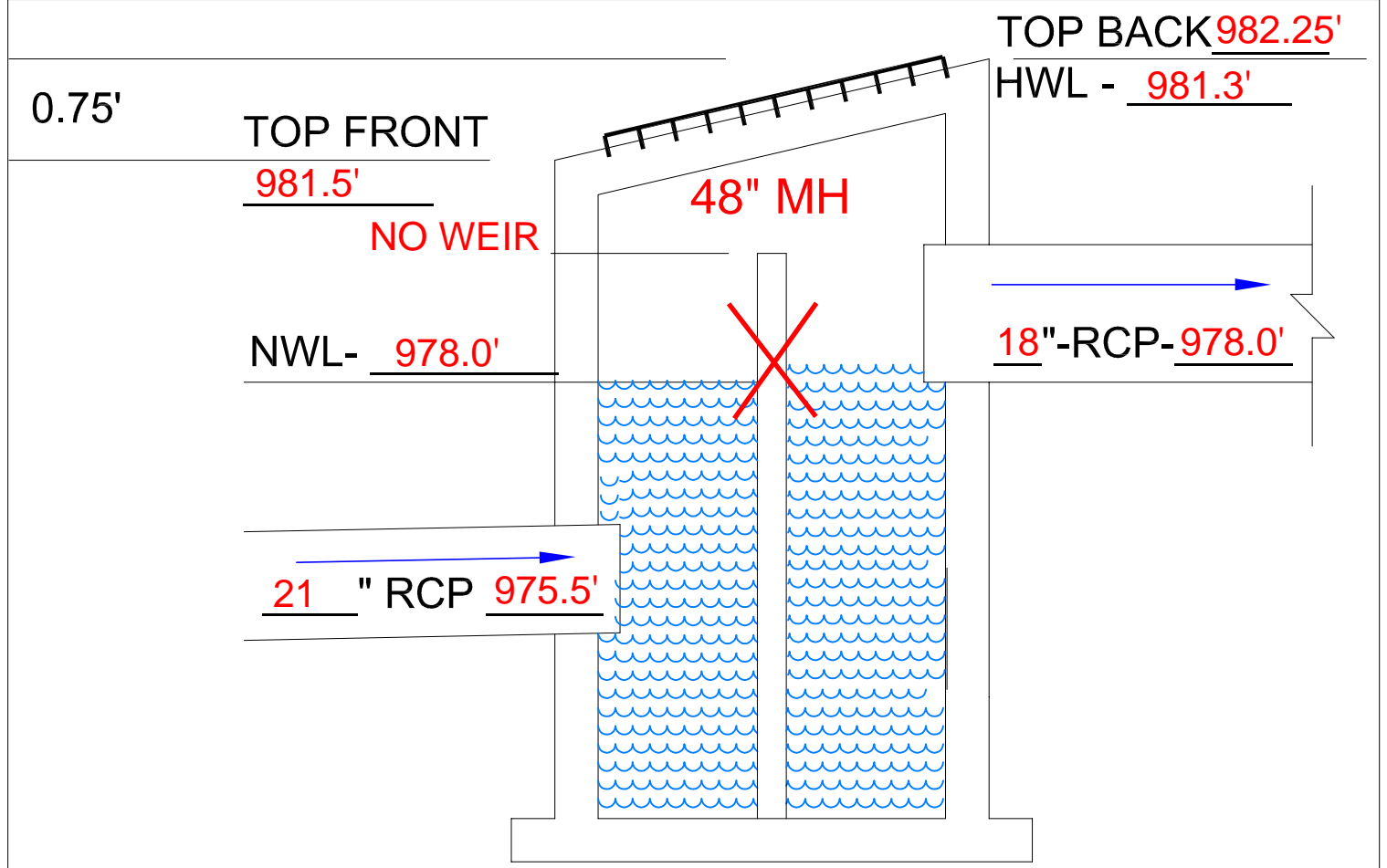
NO WEIR

NWL- 967.5'

4.0'



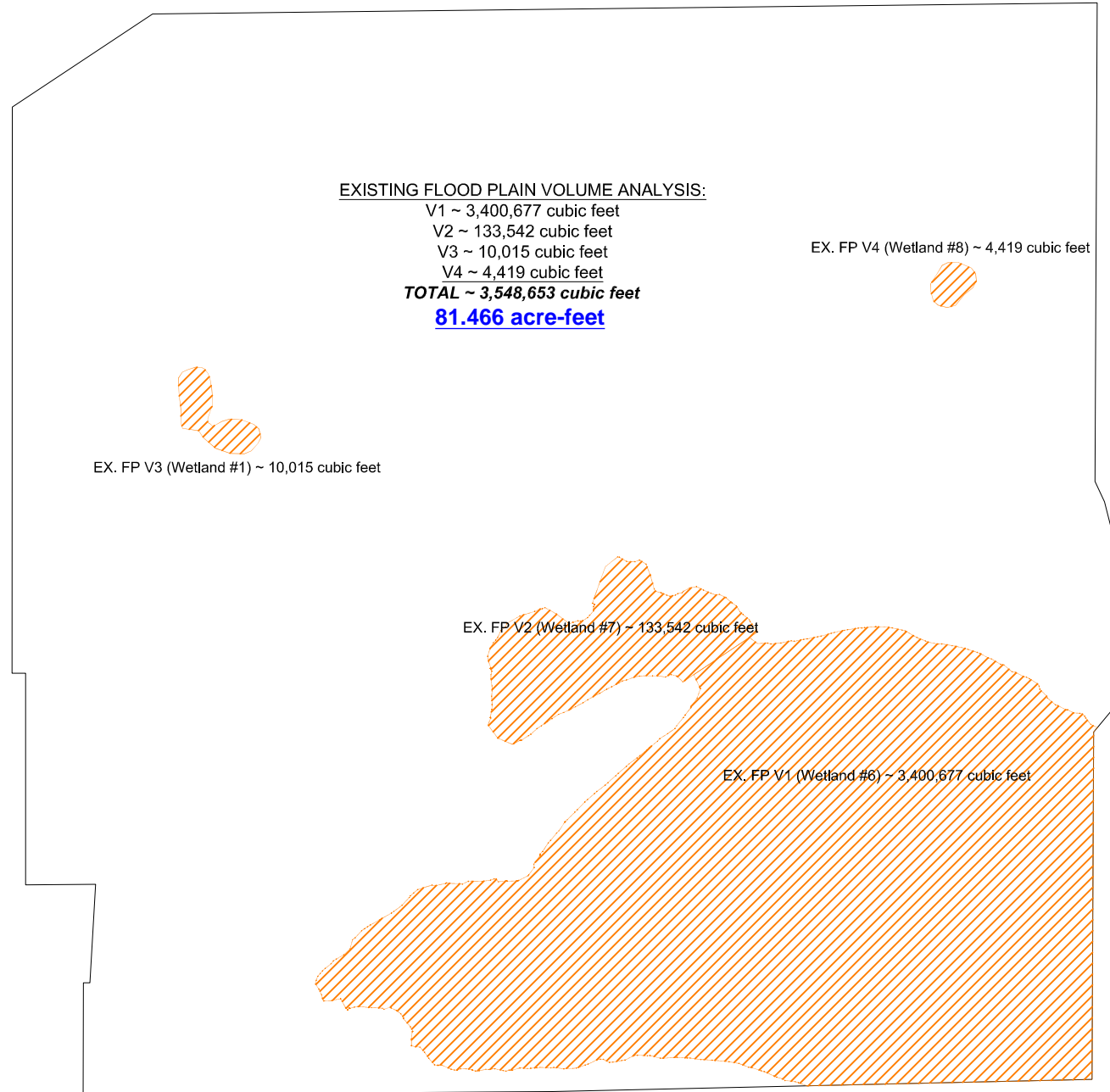
OUTLET STRUCTURE - Pond 5S



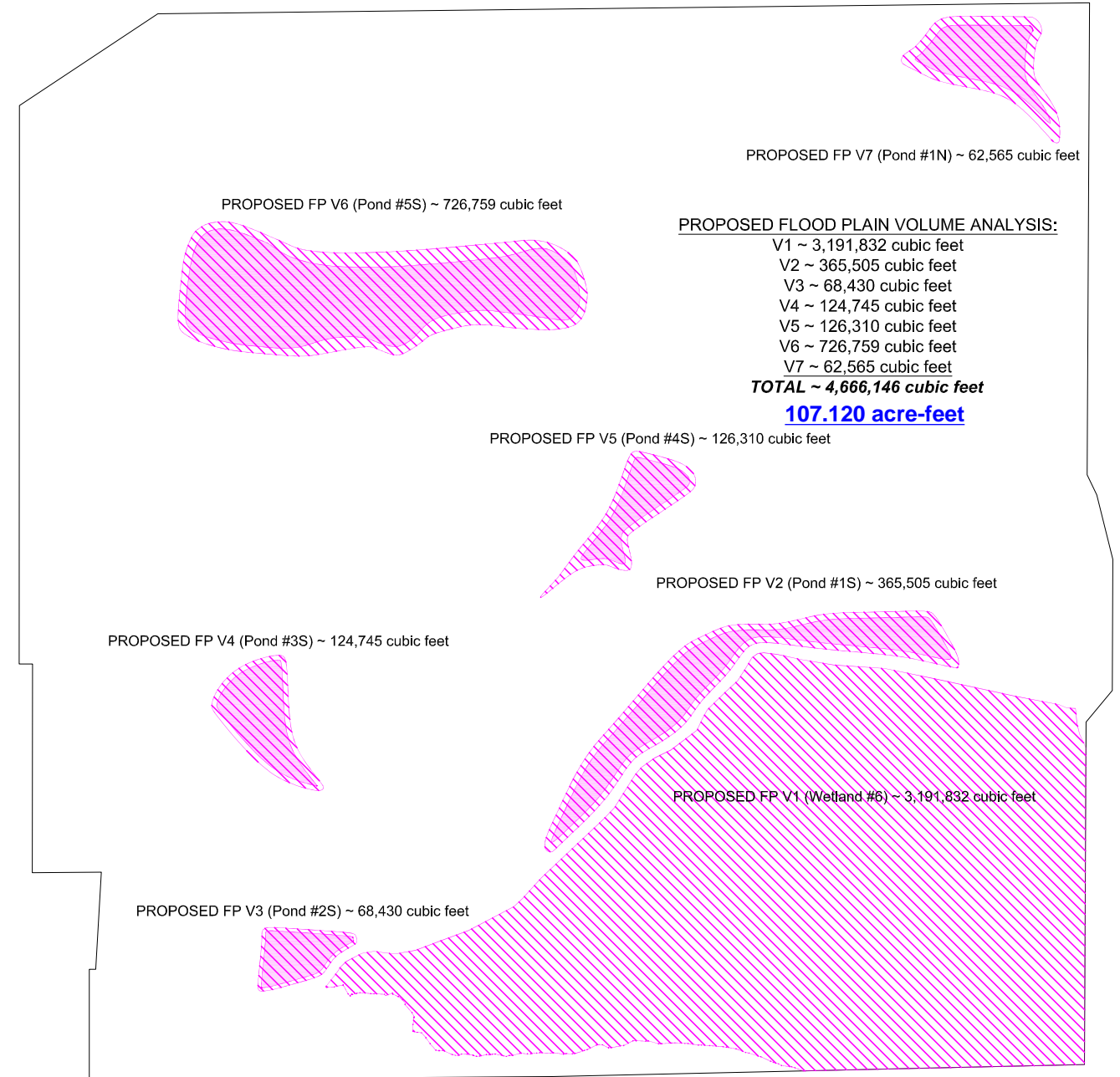
**APPENDIX F – HOLLYDALE GOLF COURSE FLOODPLAIN VOLUME
ANALYSIS**

HOLLYDALE GOLF COURSE - SBI FLOOD PLAIN VOLUME ANALYSIS - 06/24/2020

EXISTING CONDITIONS



PROPOSED CONDITIONS



APPENDIX G – P8 ANALYSIS

Case	Proposed Conditions_2021.07.07.p8c	FirstDate	10/01/06	Precip(in)	278.1
Title	Proposed Conditions	LastDate	10/01/16	Rain(in)	243.65
PrecFile	Msp4916.pcp	Events	734	Snow(in)	34.43
PartFile	nurp50.p8p	TotalHrs	87686	TotalYrs	10.00

Case Title	Proposed Conditions
Case Data File	Proposed Conditions_2021.07.07.p8c
Path	C:\Users\JKlabo\AE2S\Sathre - Documents\Hollydale Golf Course\to_BCWMC\2021.07.07 - Updated Infol
Case Notes:	Proposed conditions model for Hollydale golf course
Storm Data File	Msp4916.pcp
Particle File	nurp50.p8p
Air Temp File File	Msp4916.tem

Time Steps Per Hour	4
Minimum Inter-Event Time (hrs)	10
Maximum Continuity Error %	2
Rainfall Breakpoint (inches)	0.8
Precipitation Scale Factor	1
Air Temp Offset (deg-F)	0
Loops Thru Storm File	1
Simulation Dates	
Start	1/1/2004
Keep	10/1/2006
Stop	10/1/2016

Max Snowfall Temperature (deg-f)	32.0
SnowMelt Temperature (deg-f)	32.0
Snowmelt Coef (in/degF-Day)	0.06
Soil Freeze Temp (deg-F)	32.0
Snowmelt Abstraction Factor	1.00
Evapo-Trans. Calibration Factor	1.00
Growing Season Start Month	5
Growing Season End Month	10

5-Day Antecedent Rainfall + Runoff (inches)		
CN Antecedent Moisture Condition	AMC-II	AMC-III
Growing Season	1.40	2.10
NonGrowing Season	0.50	1.10

Watershed Data									
Watershed Name	PR_1S	PR_2S	PR_3S	PR_4S	PR_5S	PR_1N	PR_wetland-9		
Runoff to Device	Pond 1S	Pond 2S	Pond 3S	Pond 4S	Pond 5S	Pond 1N	Offsite_northeast		
Infiltration to Device									
Watershed Area	16.024	6.568	11.843	22.117	49.269	4.566	4.606		
SCS Curve Number (Pervious)	69	73	74	72	71	74	74		
Scale Factor for Pervious Runoff Load	1	1	1	1	1	1	1		
Indirectly Connected Imperv Fraction	0.085	0.0731	0.0777	0.0506	0.0471	0.035	0.178		
UnSwept Impervious Fraction	0.28	0.264	0.282	0.1834	0.2455	0.1345	0		
UnSwept Depression Storage (inches)	0.02	0.02	0.02	0.02	0.02	0.02	0.02		
UnSwept Imperv. Runoff Coefficient	1	1	1	1	1	1	1		
UnSwept Scale Factor for Particle Loads	1	1	1	1	1	1	1		
Swept Impervious Fraction	0	0	0	0	0	0	0		
Swept Depression Storage (inches)	0.02	0.02	0.02	0.02	0.02	0.02	0.02		
Swept Imperv. Runoff Coefficient	1	1	1	1	1	1	1		
Swept Scale Factor for Particle Loads	1	1	1	1	1	1	1		
Sweeping Frequency	0	0	0	0	0	0	0		
Sweeping Efficiency	1	1	1	1	1	1	1		
Sweeping Start Date (MMDD)	101	101	101	101	101	101	101		
Sweeping Stop Date (MMDD)	1231	1231	1231	1231	1231	1231	1231		

Device Data									
Device Name	Offsite	Pond 1S	Pond 2S	Pond 3S	Pond 4S	Pond 5S	Pond 1N	Wetland 9	Offsite_northeast
Device Type	PIPE	POND	POND	POND	POND	POND	POND	POND	PIPE
Infiltration Outlet									
Normal Outlet	Offsite	Offsite	Pond 1S	Pond 1S	Pond 4S	Offsite_northeast	Offsite_northeast		
Spillway Outlet	Offsite	Offsite	Pond 1S	Pond 1S	Pond 4S	Offsite_northeast	Offsite_northeast		
Particle Removal Scale Factor	1	1	1	1	1	1	1		
Bottom Elevation (ft)	960	962	966	960	970	1000	1008		
Bottom Area (acres)	0.217	0.14	0.235	0.055	2.525	0.243	0.082		
Permanent Pool Area (acres)	1.85	0.475	0.794	0.581	4.329	0.941	0.217		
Permanent Pool Volume (ac-ft)	5.658	1.791	3.175	1.747	26.51	4.334	0.15		
Perm Pool Infiltr Rate (in/hr)	0	0	0	0	0.01	0	0		

Flood Pool Area (acres)		2.915	0.578	1.072	1.228	5.522	1.329	0.384		
Flood Pool Volume (ac-ft)		9.967	1.233	2.882	3.253	15.801	1.48	0.49		
Flood Pool Infiltr Rate (in/hr)		0	0	0	0	0	0	0		
Infiltr Basin Void Fraction (%)										
Detention Pond Outlet Parameters										
Outlet Type		ORIFICE	ORIFICE	ORIFICE	ORIFICE	ORIFICE	ORIFICE	WEIR		
Outlet Orifice Diameter (in)		30	24	24	48	18	15			
Orifice Discharge Coef		0.6	0.6	0.6	0.6	0.6	0.6			
Outlet Weir Length (ft)								20		
Weir Discharge Coef								2.65		
Perforated Riser Height (ft)										
Number of Holes in Riser										
Holes Diameter										
Flood Pool Drain Time (hrs)										
Swale Parameters										
Length of Flow Path (ft)										
Slope of Flow Path %										
Bottom Width (ft)										
Side Slope (ft-v/ft-h)										
Maximum Depth of Flow (ft)										
Mannings n Constant										
Hydraulic Model										
Pipe, Splitter, Aquifer Parameter										
Hydraulic Res. Time (hrs)		0							0	

Particle Data					
Particle File	nurp50.p8p				
Particle Class	P0%	P10%	P30%	P50%	P80%
Filtration Efficiency (%)	100	100	100	100	100
Settling Velocity (ft/hr)	0	0.03	0.3	1.5	15
First Order Decay Rate (1/day)	0	0	0	0	0
2nd Order Decay (1/day-ppm)	0	0	0	0	0
Impervious Runoff Conc (ppm)	1	0	0	0	0
Pervious Runoff Conc (ppm)	1	100	100	100	200
Pervious Conc Exponent	0	1	1	1	1
Accum. Rate (lbs-ac-day)	0	1.75	1.75	1.75	3.5
Particle Removal Rate (1/day)	0	0.25	0.25	0.25	0.25
Washoff Coefficient	0	20	20	20	20
Washoff Exponent	0	2	2	2	2
Sweeper Efficiency	0	0	0	5	15

Water Quality Component Data										
Component Name	TSS	TP	TKN	CU	PB	ZN	HC			

Water Quality Criteria (ppm)									
Level 1	5	0.025	2	2	0.02	5	0.1		
Level 2	10	0.05	1	0.0048	0.014	0.0362	0.5		
Level 3	20	0.1	0.5	0.02	0.15	0.38	1		

Content Scale Factor	1	1	1	1	1	1	1		
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Particle Composition (mg/kg)									
P0%	0	99000	600000	13600	2000	64000	250000		
P10%	1000000	3850	15000	340	180	1600	22500		
P30%	1000000	3850	15000	340	180	1600	22500		
P50%	1000000	3850	15000	340	180	1600	22500		
P80%	1000000	0	0	340	180	0	22500		

Device: OVERALL Type: NONE Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	758.23	0.10	223278.8	22321.3	108.34
03 infiltrate	274.45	0.04	570.6	57.0	0.76
04 exfiltrate	274.45	0.04	0.0	0.0	0.00
05 filtered	0.00	0.00	570.6	57.0	
06 normal outlet	483.42	0.07	12510.2	1250.6	9.52
08 sedimen + deca	0.00	0.00	210149.8	21008.7	
09 total inflow	758.23	0.10	223278.8	22321.3	108.34
10 surface outflow	483.42	0.07	12510.2	1250.6	9.52
11 groundw outflow	274.45	0.04	0.0	0.0	0.00
12 total outflow	757.86	0.10	12510.2	1250.6	6.07
13 total trapped	0.00	0.00	210720.3	21065.8	
14 storage increase	0.37	0.00	48.2	4.8	

15 mass balance cf	0.00	0.00	0.0	0.0
Reduction (%)	0.00	0.00	94.4	94.4

Device: OVERALL Type: NONE Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	758.23	0.10	719.8	72.0	0.35
03 infiltrate	274.45	0.04	75.9	7.6	0.10
04 exfiltrate	274.45	0.04	0.0	0.0	0.00
05 filtered	0.00	0.00	75.9	7.6	
06 normal outlet	483.42	0.07	171.8	17.2	0.13
08 sedimen + deca	0.00	0.00	471.2	47.1	
09 total inflow	758.23	0.10	719.8	72.0	0.35
10 surface outflow	483.42	0.07	171.8	17.2	0.13
11 groundw outflow	274.45	0.04	0.0	0.0	0.00
12 total outflow	757.86	0.10	171.8	17.2	0.08
13 total trapped	0.00	0.00	547.1	54.7	
14 storage increase	0.37	0.00	0.8	0.1	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	76.0	76.0	

Device: Pond 2S Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	48.83	0.01	14388.7	1438.4	108.42
06 normal outlet	48.83	0.01	915.7	91.5	6.90
08 sedimen + deca	0.00	0.00	13470.5	1346.6	
09 total inflow	48.83	0.01	14388.7	1438.4	108.42
10 surface outflow	48.83	0.01	915.7	91.5	6.90
12 total outflow	48.83	0.01	915.7	91.5	6.90
13 total trapped	0.00	0.00	13470.5	1346.6	
14 storage increase	0.00	0.00	2.6	0.3	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	93.6	93.6	

Device: Pond 2S Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	48.83	0.01	46.4	4.6	0.35
06 normal outlet	48.83	0.01	16.4	1.6	0.12
08 sedimen + deca	0.00	0.00	29.9	3.0	
09 total inflow	48.83	0.01	46.4	4.6	0.35
10 surface outflow	48.83	0.01	16.4	1.6	0.12
12 total outflow	48.83	0.01	16.4	1.6	0.12
13 total trapped	0.00	0.00	29.9	3.0	
14 storage increase	0.00	0.00	0.0	0.0	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	64.6	64.6	

Device: Pond 3S Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	93.48	0.01	27558.6	2755.0	108.46
06 normal outlet	93.48	0.01	1793.7	179.3	7.06
08 sedimen + deca	0.00	0.00	25759.8	2575.2	
09 total inflow	93.48	0.01	27558.6	2755.0	108.46
10 surface outflow	93.48	0.01	1793.7	179.3	7.06
12 total outflow	93.48	0.01	1793.7	179.3	7.06
13 total trapped	0.00	0.00	25759.8	2575.2	
14 storage increase	0.00	0.00	5.1	0.5	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	93.5	93.5	

Device: Pond 3S Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	93.48	0.01	88.8	8.9	0.35
06 normal outlet	93.48	0.01	31.7	3.2	0.12
08 sedimen + deca	0.00	0.00	57.1	5.7	
09 total inflow	93.48	0.01	88.8	8.9	0.35
10 surface outflow	93.48	0.01	31.7	3.2	0.12
12 total outflow	93.48	0.01	31.7	3.2	0.12
13 total trapped	0.00	0.00	57.1	5.7	
14 storage increase	0.00	0.00	0.0	0.0	

15 mass balance cf 0.00 0.00 0.0 0.0
 Reduction (%) 0.00 0.00 64.3 64.3

Device: Pond 5S Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	336.55	0.05	99212.8	9918.3	108.46
03 infiltrate	274.45	0.04	570.6	57.0	0.76
04 exfiltrate	274.45	0.04	0.0	0.0	0.00
05 filtered	0.00	0.00	570.6	57.0	
06 normal outlet	61.74	0.01	1977.9	197.7	11.79
08 sedimen + deca	0.00	0.00	96635.2	9660.7	
09 total inflow	336.55	0.05	99212.8	9918.3	108.46
10 surface outflow	61.74	0.01	1977.9	197.7	11.79
11 groundw outflow	274.45	0.04	0.0	0.0	0.00
12 total outflow	336.18	0.05	1977.9	197.7	2.16
13 total trapped	0.00	0.00	97205.8	9717.7	
14 storage increase	0.37	0.00	29.1	2.9	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	98.0	98.0	

Device: Pond 5S Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	336.55	0.05	319.7	32.0	0.35
03 infiltrate	274.45	0.04	75.9	7.6	0.10
04 exfiltrate	274.45	0.04	0.0	0.0	0.00
05 filtered	0.00	0.00	75.9	7.6	
06 normal outlet	61.74	0.01	24.0	2.4	0.14
08 sedimen + deca	0.00	0.00	219.4	21.9	
09 total inflow	336.55	0.05	319.7	32.0	0.35
10 surface outflow	61.74	0.01	24.0	2.4	0.14
11 groundw outflow	274.45	0.04	0.0	0.0	0.00
12 total outflow	336.18	0.05	24.0	2.4	0.03
13 total trapped	0.00	0.00	295.3	29.5	
14 storage increase	0.37	0.00	0.4	0.0	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	92.4	92.4	

Device: Pond 4S Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	125.20	0.02	36780.1	3676.9	108.09
02 upstream device	61.74	0.01	1977.9	197.7	11.79
06 normal outlet	186.93	0.03	8092.3	809.0	15.93
08 sedimen + deca	0.00	0.00	30662.4	3065.3	
09 total inflow	186.93	0.03	38757.9	3874.6	76.28
10 surface outflow	186.93	0.03	8092.3	809.0	15.93
12 total outflow	186.93	0.03	8092.3	809.0	15.93
13 total trapped	0.00	0.00	30662.4	3065.3	
14 storage increase	0.00	0.00	3.2	0.3	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	79.1	79.1	

Device: Pond 4S Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	125.20	0.02	118.6	11.9	0.35
02 upstream device	61.74	0.01	24.0	2.4	0.14
06 normal outlet	186.93	0.03	79.2	7.9	0.16
08 sedimen + deca	0.00	0.00	63.5	6.3	
09 total inflow	186.93	0.03	142.7	14.3	0.28
10 surface outflow	186.93	0.03	79.2	7.9	0.16
12 total outflow	186.93	0.03	79.2	7.9	0.16
13 total trapped	0.00	0.00	63.5	6.3	
14 storage increase	0.00	0.00	0.0	0.0	
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	44.5	44.5	

Device: Pond 1S Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	120.28	0.02	35503.8	3549.3	108.60
02 upstream device	280.42	0.04	9886.0	988.3	12.97

06 normal outlet	400.69	0.06	8021.7	801.9	7.37
08 sedimen + deca	0.00	0.00	37361.1	3735.0	
09 total inflow	400.69	0.06	45389.8	4537.6	41.68
10 surface outflow	400.69	0.06	8021.7	801.9	7.37
12 total outflow	400.69	0.06	8021.7	801.9	7.37
13 total trapped	0.00	0.00	37361.1	3735.0	
14 storage increase	0.00	0.00	7.0	0.7	
15 mass balance ct	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	82.3	82.3	

Device: Pond 1S Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	120.28	0.02	114.4	11.4	0.35
02 upstream device	280.42	0.04	110.9	11.1	0.15
06 normal outlet	400.69	0.06	138.2	13.8	0.13
08 sedimen + deca	0.00	0.00	87.1	8.7	
09 total inflow	400.69	0.06	225.3	22.5	0.21
10 surface outflow	400.69	0.06	138.2	13.8	0.13
12 total outflow	400.69	0.06	138.2	13.8	0.13
13 total trapped	0.00	0.00	87.1	8.7	
14 storage increase	0.00	0.00	0.0	0.0	
15 mass balance ct	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	38.7	38.7	

Device: Offsite Type: PIPE Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
02 upstream device	449.52	0.06	8937.4	893.5	7.31
06 normal outlet	449.52	0.06	8937.4	893.5	7.31
09 total inflow	449.52	0.06	8937.4	893.5	7.31
10 surface outflow	449.52	0.06	8937.4	893.5	7.31
12 total outflow	449.52	0.06	8937.4	893.5	7.31
Reduction (%)	0.00	0.00	0.0	0.0	

Device: Offsite Type: PIPE Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
02 upstream device	449.52	0.06	154.6	15.5	0.13
06 normal outlet	449.52	0.06	154.6	15.5	0.13
09 total inflow	449.52	0.06	154.6	15.5	0.13
10 surface outflow	449.52	0.06	154.6	15.5	0.13
12 total outflow	449.52	0.06	154.6	15.5	0.13
Reduction (%)	0.00	0.00	0.0	0.0	

Device: Pond 1N Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	21.98	0.00	6431.4	642.9	107.63
06 normal outlet	21.98	0.00	169.4	16.9	2.83
08 sedimen + deca	0.00	0.00	6260.8	625.9	
09 total inflow	21.98	0.00	6431.4	642.9	107.63
10 surface outflow	21.98	0.00	169.4	16.9	2.83
12 total outflow	21.98	0.00	169.4	16.9	2.83
13 total trapped	0.00	0.00	6260.8	625.9	
14 storage increase	0.00	0.00	1.2	0.1	
15 mass balance ct	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	97.3	97.3	

Device: Pond 1N Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	21.98	0.00	20.8	2.1	0.35
06 normal outlet	21.98	0.00	6.2	0.6	0.10
08 sedimen + deca	0.00	0.00	14.2	1.4	
09 total inflow	21.98	0.00	20.8	2.1	0.35
10 surface outflow	21.98	0.00	6.2	0.6	0.10
12 total outflow	21.98	0.00	6.2	0.6	0.10
13 total trapped	0.00	0.00	14.2	1.4	
14 storage increase	0.00	0.00	0.4	0.0	
15 mass balance ct	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	68.5	68.5	

Device: Wetland 9 Type: POND Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
Reduction (%)	0.00	0.00	0.0	0.0	

Device: Wetland 9 Type: POND Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
Reduction (%)	0.00	0.00	0.0	0.0	

Device: Offsite_northeast Type: PIPE Variable: TSS

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	11.91	0.00	3403.5	340.2	105.15
02 upstream device	21.98	0.00	169.4	16.9	2.83
06 normal outlet	33.89	0.00	3572.8	357.2	38.78
09 total inflow	33.89	0.00	3572.8	357.2	38.78
10 surface outflow	33.89	0.00	3572.8	357.2	38.78
12 total outflow	33.89	0.00	3572.8	357.2	38.78
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	0.0	0.0	

Device: Offsite_northeast Type: PIPE Variable: TP

Mass Balance Term	Flow_acft	Flow_cfs	Load_lbs	Load_lbs/yr	Conc_ppm
01 watershed inflow	11.91	0.00	11.1	1.1	0.34
02 upstream device	21.98	0.00	6.2	0.6	0.10
06 normal outlet	33.89	0.00	17.2	1.7	0.19
09 total inflow	33.89	0.00	17.2	1.7	0.19
10 surface outflow	33.89	0.00	17.2	1.7	0.19
12 total outflow	33.89	0.00	17.2	1.7	0.19
15 mass balance cf	0.00	0.00	0.0	0.0	
Reduction (%)	0.00	0.00	0.0	0.0	