M. GILLESPIE & ASSOCIATES
CONSULTING ENGINEERING, P.L.L.C.
CIVIL, SANITARY, ENVIRONMENTAL, ARCHITECTURAL AND SITE
847 ROUTE 376 - WAPPINGERS FALLS, NY 12590 - P. (845) 227-6227 F. (845) 226-1430 - MGILLESPIEASSOCIATES.COM

Michael E. Gillespie, P.E. - Brian J. Stokosa, P.E.

Engineer's Report - Stormwater Pollution Prevention Plan (SWPPP)

for the proposed Subdivision to be known as

Hilltop Manor Subdivision

Creek Bend Road
Town of East Fishkill
Dutchess County, New York

Prepared For:
EFCM, Inc.
10 Carpenter Road,
Hopewell Jct. New York 12533

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I. Introduction

Project Site Description

The Hilltop Manor Subdivision Proposal involves the development of a ±40.9-acre parcel into twenty one (21) individual residential building lots. The parcel is located along Creek Bend Road, in the Town of East Fishkill, Dutchess County, New York. The parcel is identified as tax parcel 132800-6457-02-885725 on the Town of East Fishkill Tax Map. The disturbance area related to the Hilltop Manor subdivision planned construction exceeds the threshold defined by New York State Department of Environmental Conservation's State Pollutant Discharge Elimination System (NYSDEC SPDES) General Permit for construction related activities, as the disturbance is greater than one (1) acre. The total anticipated disturbance has been estimated to be 28.75 acres. The construction of the proposed roadway, houses and associated driveways will add impervious surfaces that contribute to the increase in surface water runoff due to the site development. These additional impervious surfaces, along with other modifications to ground cover (eg. wooded to open space) will increase the quantity of runoff produced at the site as well as inhibit the quality when compared to the runoff which exists today. This is classified as a class C condition where disturbance has been limited to 5 ac. or less during an identified construction phase. Adequate and proper stormwater management is important within the scope of the project. This report is prepared to meet the requirements to obtain the SPDES permit, which includes remediative measures (quality, quantity, and erosion & sediment control) in accordance with standard engineering practice, the New York State Stormwater Management Design Manual and the New York Guidelines for Urban Erosion and Sediment Control.

Method of Analysis

This office implemented TR-55 methodology to determine peak flow (Q) values to the proposed design point locations. Weighted runoff curve numbers (CN's) and Times of Concentration (Tc's) were determined for each subject drainage area. Hydrographs were generated for each specific design storm and values compared in the pre and post development cases. Design of stormwater management facilities follows which shall handle both the quantitative and qualitative impacts.

- United States Geological Survey mapping in conjunction with offsite survey data was used to delineate the overall contributing drainage areas and to select project design points.
- Dutchess County Soil Survey mapping was to identify soils conditions for all contributing drainage areas, dated September 1991.

- The New York State Stormwater Management Design Manual was used to determine unified Stormwater sizing criteria and performance criteria in the selection of stormwater management practices, last revised April 2008.

- Sediment and Erosion Control practices have been selected using the New York State Guidelines for Urban Erosion and Sediment Control, last revised August 2005.

- Dutchess County requires a type III rainfall distribution generate tabular hydrographs for all design storms.

- This office calculated the 1, 2, 10, 25 and 100-year design storm events. 24 hour rainfall depths of 2.8, 3.5, 5.0, 6.0, and 8.0 inches respectfully as per NYSDEC Stormwater Management Design Manual.

Tabular hydrographs were routed using HydroCad 9.1 to model all site drainage characteristics and proposed stormwater management practices. Hydraulic capacity of storm sewers and pond attenuation was determined using Hydrocad 9.10 dynamic storage indication method to determine effective hydraulic grades with consideration for tailwater influences

SWPPP Component Overview

The 1972 amendments to the Federal Water Pollution Control Act, referred to as the Clean Water Act (CWA), prohibit the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Efforts to improve water quality under the NPDES program have traditionally focused on reducing pollutants in discharges of industrial process wastewater and municipal sewage.

In 1987, amendments to the CWA, specifically identified the types of stormwater discharges which required permit authorization and established guidelines for their achievement. In 1990, the United States Environmental Protection Agency (EPA) established Phase I of the NPDES stormwater program, which established stormwater permit application process requirements. New York State administers its SPDES program (through the NYS Department of Environmental Conservation), which serves as the authorizing mechanism for activities in New York State in accordance with the NPDES program. In December 1999, Phase II of the EPA's stormwater control program was put into place. Phase II expanded the scope of regulated activities and increased the number of permits required by municipalities and businesses. All projects falling under the requirements of the Phase II regulations that commence construction after March 10, 2003 are required to obtain general SPDES permit #GP-02-01 coverage by creating a stormwater pollution prevention plan (SWPPP), which includes an erosion and sediment control plan and may include a water quality and quantity control plan. SWPPP required components are determined by completing the SWPPP flow chart. The applicant shall file a Notice of Intent (NOI) with the NYSDEC to obtain the permit. A copy of the flow chart and of the NOI can be found in the rear of this report.

Based on the SWPPP flow chart, the discharge associated with this project (class of activity) falls under the General SPDES Permit #GP-0-10-001. This class of activity is defined as a site greater than 5 acres. Being defined as such, the following minimal SWPPP requirements are to be provided:

Water Quality and Water Quantity Control Plan:
The plan shall include a hydrologic and hydraulic analysis for all structural components of the stormwater system (storm drains, management practices, etc) for applicable design storms. The analysis should include hydrologic calculations for pre-development conditions and for post-development conditions. The hydrologic calculations include time of concentrations, runoff rates, volumes, velocities, water surface elevations and pond routing.
The plan shall include hydraulic calculations used for final sizing of structural stormwater management practices including contributing drainage area, storage, and outlet configuration. Stormwater management practices shall be sized for water quality and water quantity. The selected practice for water quality control (WQ_V) shall be based on "90% rule" methodology as defined in the New York State Stormwater Management Design Manual. WQ_V requirements are designed to treat stormwater

run-off by providing 24-hour extended detention of the 90% storm event (12-hour detention if discharging to a trout stream). The selected practice for water quantity shall be designed based on channel protection volume (Cp_V), overbank flood control (Q_p) and extreme flood control (Q_f). Q_p requires storage to attenuate the post-development 10-year storm event to pre-development rates. Q_f requires storage to attenuate the post-development 100-year storm event to pre-development rates and to safely pass the discharge.
The plan shall include stage-discharge or outlet rating curves and inflow/outflow hydrographs for storage facilities.
Where necessary, the plan shall include potential downstream impacts/effects of the project.
Where necessary, the plan shall include a dam breach analysis.

Erosion and Sediment Control Plan: An integrated erosion and sediment control plan which details temporary and permanent erosion and sediment control measures before, during and after the course of construction shall be created. A maintenance schedule with attributable responsibilities is to be provided for all phases of construction (road and individual lot) for the selected measures. The management practices used in each phase of the plan are identified in the construction sequence schedule, which can be found in the rear of this report.

Waiver of Quality Control Components

Certain components of the water quantity control plan can be waived if any of the conditions as listed in the NYS Stormwater Design Manual are applicable. The conditions are as follows:

For Cp_V:
-Recharge of the entire Cp_V is achieved at the site
-The site discharges directly to a fourth order or larger stream
-A downstream analysis reveals that channel protection is not required

For Q_p:
-The site discharges directly to a fourth order or larger stream
-A downstream analysis reveals that overbank flood control is not required

For Q_f:
-The site discharges directly to a fourth order or larger stream
-Development is prohibited within the ultimate 100-year floodplain
-A downstream analysis reveals that extreme flood control is not required

This office has provided attenuation for Wqv, Cpv, Qp and Qf. Refer to the appendix for supporting calculations.

II. Existing Conditions

General Site Characteristics

As per USGS mapping and project overlay, the site is within the Fishkill Creek watershed. The proposed routing of stormwater generated from site development will discharge into the existing Fishkill Creek via existing Town of East Fishkill drainage system components, ultimately to the receiving waters of the Hudson River.

Contributing Drainage Area Soils

In a review of the Dutchess County Soils Maps, the following underlying soil types reside on the subject site (and its off-site contributing area):

Soil Type	Hydrologic Soil Group (HSG)
FcB – Farmington-Galway Complex	C
FcC - Farmington-Galway Complex	C
FcD – Farmington-Galway Complex	C
FeE - Farmington Rock Outcrop	C

A review of the map detailing the specific locations of the soil types along with soil definitions and classification of the hydrologic soil group can be found in Appendix A of this report.

The parcel and associated drainage boundary currently has wooded, grassed, and brush ground cover conditions.

Pre-Development Analysis

CN – Weighted Runoff Curve Number

A summary of underlying soils found on site can be found in the rear of this report.

Drainage area #1 design point assumes the runoff from the north westerly section of the parcel drains toward the Fishkill Creek (H-95 Class B(t)) directly adjacent to the parcel. At the request of the town engineer design point #1 has been broken down into four subareas identified as #1a though #1d. The design point assumed a discharge convergence point as shown on the pre development plan based on a field visit by this office.

Drainage area #2 design point is located on the easterly side of the project site. Three subareas #2a and #2b, 2c drain each drain into an existing low points, fill, then over top into each other, and then empty to design point #2. As requested by the town engineer, two additional sub areas were added to drainage area #2 identified as area #2d and #2c. The low points have been modeled as ponds with no infiltration assumed for conservative measures, ultimately discharging into the Fishkill Creek (H-95 Class B(t)). Refer to the predevelopment drainage analysis for a graphical representation.

A review of the map detailing the specific locations of the soil types along with soil definitions and interpretation records (detailing the hydrologic soil group) can be found in the rear of this report.

The subject parcel is currently wooded. Adjacent properties within the contributory drainage area are mostly wooded with brush, impervious, and grassed areas (per USGS map and based on site visit). Corresponding area calculations of each land use along with a summary of CN has been provided in the rear of this report.

A review of the map detailing the specific locations of the soil types along with soil definitions and classification of the hydrologic soil group can be found in (Appendix A).

Tc – Times of Concentration

The flow path associated with each drainage area has been detailed on the aforementioned map as well as a summary provided in the rear of this report. Refer to the pre-development HydroCad calculations for individual time of concentration calculations.

Q - Peak Flow Values

Based upon the above, peak flow values were determined for the 1, 2, 10 (Q_p), 25, & 100 (Q_f) year design storms. The corresponding 24-hour rainfall values for each of the design storms are 2.5 3.5, 5.0, 6.0 & 8.0 inches accordingly. Peak values are provided as follows (note all peak values are expressed in cfs (cubic feet per second):

			Design Storm		
Design Point	**1yr**	**2 yr**	**10 yr**	**25 yr**	**100 yr**
DP 1	10.55	23.66	46.76	63.36	97.90
DP 2	4.17	9.88	20.11	27.53	43.07

II. Proposed Conditions

Post-Development Analysis

CN – Weighted Runoff Curve Number

A summary of underlying soils found on site can be found in the rear of this report.

Drainage area #1 design point assumes the runoff from the north westerly section of the parcel drains toward the Fishkill Creek H-95 Class B(t)). directly adjacent to the parcel. The design point assumed a discharge convergence point as shown on the post development plan based on a field visit by this office.

Drainage area #2 design point is located on the easterly side of the project site. The low points modeled in the predevelopment condition have been filled in the post development condition. Design point #2 has a decrease in total drainage area as a result of proposed development. The area ultimately discharging into the Fishkill Creek (H-95 Class B(t)).

A review of the map detailing the specific locations of the soil types along with soil definitions and classification of the hydrologic soil group can be found in (Appendix A).

Tc – Times of Concentration

The flow path associated with each drainage area has been detailed on the aforementioned map as well as a summary provided in the rear of this report. Refer to the pre-development HydroCad calculations for individual time of concentration calculations.

Q - Peak Flow Values (with pond routing)

Based upon the above, peak flow values were determined for the 2, 10 (Q_p), 25, & 100 (Q_f) year design storms. The corresponding 24-hour rainfall values for each of the design storms are 3.5, 5.0, 6.0 & 8.0 inches accordingly. Peak values (without the benefit of pond routing) are provided as follows (note all peak values are expressed in cfs):

		Design Storm			
Design Point	**1yr**	**2 yr**	**10 yr**	**25 yr**	**100 yr**
DP 1	5.83	13.17	29.10	49.49	90.60
DP 2	3.33	7.87	16.01	21.91	34.27

Proposed conditions hydrographs can be found in Appendix B of this report.

Pre-Post Development Peak Flow Comparison

		Design Storm (CFS)			
Design Point	**1yr**	**2 yr**	**10 yr**	**25 yr**	**100 yr**
DP1	-4.72	-10.49	-17.66	-13.87	-7.30
DP2	-0.84	-2.01	-4.10	-5.62	-8.80

As a result of the stormwater management facilities proposed for the project site, a decrease in post development discharge is proposed at the identified design points. The stromwater practices implemented for the project site significantly reduce the post development discharge at the design point.

IV. Water Quality Conditions

Water Quality Volume - Wqv

As a direct result of new development, there is an increase in impervious area. These impervious surfaces accumulate depositions of pollutants. These pollutants include sediment (suspended solids), nutrients (nitrogen and phosphorous), organic carbon, bacteria, hydrocarbons, trace metals, pesticides, chlorides, and trash/debris. All of these pollutants can adversely affect the entire ecology of streams, lake and estuaries.

It is proposed to install three (3) NYSDEC stormwater treatment facilities on the site that will capture the post development flow discharging from the developed area. This office is proposing that three storm water ponds be built to attenuate and treat the stormwater run off associated with the development. The subdivision entrance impervious surface from station 0+00 to 2+50 will be treated via a water quality basin prior to discharging to the Fishkill Creek.

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All water quality structures are designed to capture and treat the water quality volume and are designed in accordance with the Design Manual. All water quality volume calculations can be found in Appendix C.

Stormwater Sizing Criteria as per NYSDEC Stormwater Management Design Manuel

Water quality volume requirements (90% rule)

Wqv = [(P)(Rv)(A)]/12 – Ac.- Ft.
Rv = 0.05+0.09(I)
I = Impervious Cover (%)
Minimum Rv = 0.2
P = 90% Rainfall Event Number (1.1’’)
A = Site Area in Acre

Pond Area	**Drainage Area**	**Imp. Area**	**Wqv Req. Ac –Ft.**	**Wqv Prov. C –Ft.**
P-1	5.78 ac.	0.50 ac.	0.10	0.18
P-2	20.98 ac.	3.38 ac.	0.38	0.57
P-3	3.47 ac.	0.42 ac.	0.06	0.085
WQV-P	0.69 ac.	0.14 ac.	0.01	0.04
Wqv Total Site		***Required -***	***0.55 cfs***	***Provided – 0..875 cfs***

Stream Channel Protection - Cpv

As per NYSDEC Stormwater Management Design Manual, stream channel protection volume requirements (Cpv) are designed to protect stream channels from erosion as a results of developed areas. The 24-hour extended detention of the one-year, 24-hour storm event is required.

Basis for Determining Channel Protection Storage Volume as per NYSDEC Design Manual

The following represent the minimum basis for design:

- HydroCad 9.1 used to determine peak discharge rate for each stormwater management facility based upon the default criteria listed on table 4.1, of the NYSDEC Design Manual.
- Rainfall depths for the one-year, 24 hour storm event used = 2.8’’ as per NYSDEC Figure 4.4.
- Off-site areas modeled as "present condition" for the one-year, 24 hour storm event.
- The length of overland flow used in time of concentration (tc) calculations is limited to no more than 100 feet for post development conditions.
- A trash rack has been provided to protect Cpv orifice as per NYSDEC Manual Appendix K
- Cpv protection has been provided above the extended detention volume within the SMP.

Pond Area	**Cpv Req. Ac –Ft.**	**Cpv Prov. Ac –Ft.**
P-1	0.19	0.19
P-2	0.79	0.94
P-3	0.13	0.16
Wqv-P	- Serves as a water quality facility only.	
Cpv Total Site	***1.11 Ac.-Ft.***	***1.29 Ac.-Ft.***

Overbank Flood Protection - Qp

As per the NYSDEC Stormwater Management Design Manual, the primary purpose of the overbank flood control sizing criterion is to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by urban development (i.e., flow events that exceed the bankfull capacity of the channel, and therefore must spill over into the floodplain). Overbank control requires storage to attenuate the post development 10-year, 24-hour peak discharge rate (Qp) to predevelopment rates.

Basis for Design of Overbank Flood protection as per NYSDEC Design Manual

The following represent the minimum basis for design:

- HydroCad 9.1 used to determine peak discharge rate for each stormwater management facility based upon the default listed on table 4.1, of the NYSDEC Design Manual.
- Predevelopment land use is not considered agriculture, observed ground cover modeled.
- Off-site areas modeled as "present condition" for the 10-year, 24 hour storm event.
- Rainfall depths for the 10-year, 24 hour storm event used = 5.0’’ as per NYSDEC Figure 4.5.
- The length of overland flow used in time of concentration (tc) calculations is limited to no more than 100 feet for post development conditions.

Design Point	**Existing Overbank Peak Flow**	**Provided Overbank Peak Flow**
DP 1	46.76 cfs	29.10 cfs
DP 2	20.11 cfs	16.01 cfs

Extreme Flood Protection - Qf

As per the NYSDEC Stormwater Management Design Manual, the intent of the extreme flood criteria is to (a) prevent the increased risk of flood damage from large storm events, (b) maintain the boundaries of the predevelopment 100-year floodplain, and (c) protect the physical integrity of stormwater management practices. Extreme flood protection requires storage to attenuate the post development 100-year, 24-hour peak discharge rate (Qf) to predevelopment rates.

Basis for Design of Extreme Flood protection as per NYSDEC Design Manual

The following represent the minimum basis for design:

- HydroCad 9.1 used to determine peak discharge rate for each stormwater management facility based upon the criteria listed on table 4.1, of the NYSDEC Design Manual.
- Predevelopment land use is not considered agriculture, observed ground cover modeled.
- Off-site areas modeled as "present condition" for the 100-year, 24 hour storm event.
- Rainfall depths for the 100-year, 24 hour storm event used = 8.0’’ as per NYSDEC Figure 4.6.

The length of overland flow used in time of concentration (tc) calculations is limited to no more than 100 feet for post development conditions

Design Point	**Existing Extreme Flood Peak Flow**	**Provided Extreme Flood Peak Flow**
DP 1	97.90 cfs	90.60 cfs
DP 2	43.07 cfs	34.27 cfs

The site is located directly adjacent to the Fishkill Creek. FEMA mapping indicates the 100 yr flood elevation at 252.5. The proposed entrance to the subdivision is located at elevation 258.58 or 6.08’ higher in elevation. The post development drainage analysis has sized all proposed culverts to safely convey the 100yr design storm. The flood elevation of 252.5 was assumed for computation of the 100yr post development drainage analysis.

Stormwater Management Practices

Pond P-1 – Micro Pool Ext. Det. ~ P-1 NYSDEC Stormwater Manual Design

This office proposes a Micro Pool Extended Detention Pond located near the subdivision entrance of the project site. The functional intent of the pond is to treat the quality of the stormwater run-off and to provide quantitative attenuation.

As per the NYSDEC Stormwater Management Design Manual Chapter 6

Feasibility & Design Guidance

- Stormwater pond is not located within jurisdictional waters, including wetlands.
- The stormwater pond does not require a dam permit.
- A 2' minimum separation between the pond bottom and groundwater.
- The pond is not located within a sole source aquifer recharge area.
- P-1 pond design has a minimum contributing drainage area of 5.78 acres
- The site does not discharge to a trout stream.
- The pond is not located within the stream channel.

Conveyance - Inlet Protection & Design Guidance,

- The forebay has been provided at each pond inflow point.
- Inlet areas have been stabilized to ensure that non-erosive conditions exist for at least the 2-year frequency storm event.
- Outlet protection has been shown to reduce flow velocities the non-erosive velocities.
- Outfalls have been constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream.
- Flared pipe sections that discharge at or near the stream invert or into a step-pool arrangement have been used at the spillway outlet.

Adequate Outfall Protection

Pond Liner & Pretreatment

- Wqv total = 4,616 cubic feet.
- The forebay has been sized to contain a minimum 10% of the water quality volume (WQv) and designed with a four depth.
  - Forebay – Wqv Req. – 461 cubic feet, Wqv provided – 1,206 cubic feet
- The forebay have been designed with non-erosive outlet exit velocities.
- Access for appropriate maintenance equipment have been provided to the forebay.
- A fixed vertical sediment depth marker has been shown in the forebay to measure sediment deposition over time.

Treatment – Wqv, Pond Geometetry, Pond Benches

- 20% of the water quality volume has been contained within the permanent pool as required.
  - Permanent pool – Req.-923 cubic feet, Provided – 3,374 cubic feet
- 80% of the water quality volume has been contained within the extended detention and stream channel protection area as allowed by the NYSDEC.
  - Wqv-Ext. + Cpv Req. – 11,969 cubic feet, Provided – 13,238 cubic feet
- The length to width ratio of the permanent pool is 2.8:1, a minimum of 1.5:1 is required\The ratio of the surface area of the permanent pool to the contributing drainage area is 1:75 where a minimum of 1:100 is required
- The permanent pool has been shown with a jagged shape with a long winding flow path to aid in water quality treatment.
- A safety bench has not been provided due to due pond side slopes shown at 1:4 for a majority of the ponds perimeter, except in the forebay areas.
- An aquatic bench has been provided that extends 8' inward from the permanent pool edge

Landscaping Plan

- A landscaping plan for the stormwater pond have been prepared to indicate how aquatic and
- terrestrial areas will be vegetatively stabilized and established.
- Wetland plants are required in the pond design, and along the aquatic bench, side slopes, and within shallow areas of the pool itself.
- The best elevations for establishing wetland plants, either through transplantation or volunteer colonization, are within six inches (plus or minus) of the normal pool.
- Excavate large and deep holes around the proposed planting sites, and backfill these with uncompacted topsoil.
- Planting holes should be three times deeper and wider than the diameter of the rootball (of balled and burlap stock), and five times deeper and wider for container grown stock.
- Extra mulching around the base of the tree or shrub is strongly recommended as a means of conserving moisture and suppressing weeds.

Maintenance – Required Elements, Design Guidance

- Maintenance responsibility for a pond and its buffer shall be vested with the Town of East Fishkill Highway Department and or other responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval.
- The principal spillway is equipped with a removable trash rack, and is accessible from dry land.
- Sediment removal in the forebay shall occur every five to six years or after 50% of total forebay capacity has been lost.
- Sediment removed from stormwater ponds should be disposed of according to an approved comprehensive operation and maintenance plan.

Pond Drain

- The pond has been equipped with a pond drain. A gate valve has been placed within the pond outlet structure. Refer to profile on plan sheet.

Safety Features – Required Elements, Design Guidance

- Side slopes to the pond are 4:1 (h:v) except for the forebay and perm. pool area, and shall terminate at a safety bench.
- Both the safety bench and the aquatic bench have been shown to be landscaped to prevent access to the pool.

Pond P-2 – Micro Pool Ext. Det. ~ P-1 NYSDEC Stormwater Manual Design

This office proposes a Micro Pool Extended Detention Pond located near the subdivision entrance of the project site. The functional intent of the pond is to treat the quality of the stormwater run-off and to provide quantitative attenuation.

As per the NYSDEC Stormwater Management Design Manual Chapter 6

Feasibility & Design Guidance

- Stormwater pond is not located within jurisdictional waters, including wetlands.
- The stormwater pond does not require a dam permit.
- A 2' minimum separation between the pond bottom and groundwater.
- The pond is not located within a sole source aquifer recharge area.
- P-1 pond design has a minimum contributing drainage area of 20.98 acres
- The site does not discharge to a trout stream.
- The pond is not located within the stream channel.

Conveyance - Inlet Protection & Design Guidance,

- The forebay has been provided at each pond inflow point.
- Inlet areas have been stabilized to ensure that non-erosive conditions exist for at least the 2-year frequency storm event.
- Outlet protection has been shown to reduce flow velocities the non-erosive velocities.
- Outfalls have been constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream.
- Flared pipe sections that discharge at or near the stream invert or into a step-pool arrangement have been used at the spillway outlet.

Adequate Outfall Protection

Pond Liner & Pretreatment

- Wqv total = 16,755 cubic feet.
- The forebay has been sized to contain a minimum 10% of the water quality volume (WQv) and designed with a four depth.
  - Forebay – Wqv Req. – 1,675 cubic feet, Wqv provided – 5,586 cubic feet
- The forebay have been designed with non-erosive outlet exit velocities.
- Access for appropriate maintenance equipment have been provided to the forebay.
- A fixed vertical sediment depth marker has been shown in the forebay to measure sediment deposition over time.

Treatment – Wqv, Pond Geometetry, Pond Benches

- 20% of the water quality volume has been contained within the permanent pool as required.
  - Permanent pool – Req.-923 cubic feet, Provided – 3,374 cubic feet
- 80% of the water quality volume has been contained within the extended detention and stream channel protection area as allowed by the NYSDEC.
  - Wqv-Ext. + Cpv Req. – 47,816 cubic feet, Provided – 54,431 cubic feet
- The length to width ratio of the permanent pool is 2.1:1, a minimum of 1.5:1 is required.
- The ratio of the surface area of the permanent pool to the contributing drainage area is 1:55 where a minimum of 1:100 is required
- The permanent pool has been shown with a jagged shape with a long winding flow path to aid in water quality treatment.
- A safety bench has not been provided due to due pond side slopes shown at 1:4 for a majority of the ponds perimeter, except in the forebay areas.

- An aquatic bench has been provided that extends 10’ inward from the permanent pool edge.

Landscaping Plan

- A landscaping plan for the stormwater pond have been prepared to indicate how aquatic and
- terrestrial areas will be vegetatively stabilized and established.
- Wetland plants are required in the pond design, and along the aquatic bench, side slopes, and within shallow areas of the pool itself.
- The best elevations for establishing wetland plants, either through transplantation or volunteer colonization, are within six inches (plus or minus) of the normal pool.
- Excavate large and deep holes around the proposed planting sites, and backfill these with uncompacted topsoil.
- Planting holes should be three times deeper and wider than the diameter of the rootball (of balled and burlap stock), and five times deeper and wider for container grown stock.
- Extra mulching around the base of the tree or shrub is strongly recommended as a means of conserving moisture and suppressing weeds.

Maintenance – Required Elements, Design Guidance

- Maintenance responsibility for a pond and its buffer shall be vested with the Town of East Fishkill Highway Department and or other responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval.
- The principal spillway is equipped with a removable trash rack, and is accessible from dry land.
- Sediment removal in the forebay shall occur every five to six years or after 50% of total forebay capacity has been lost.
- Sediment removed from stormwater ponds should be disposed of according to an approved comprehensive operation and maintenance plan.

Pond Drain

- The stormwater facility shall be drained via portable trash pump as required.

Safety Features – Required Elements, Design Guidance

- Side slopes to the pond are 4:1 (h:v) except for the forebay and perm. pool area, and shall terminate at a safety bench.
- Both the safety bench and the aquatic bench have been shown to be landscaped to prevent access to the pool.

Pond P-3 – Pocket Pond Design ~ P-5 Design

This office proposes a Pocket Pond located in the along the eastern portion of the project site. The functional intent of the pond is to treat the quality of the stormwater run-off and to provide quantitative attenuation. Deep test pits have been indicated on the plan set in the areas of the stormwater management facilities.

As per the NYSDEC Stormwater Management Design Manual Chapter 6

Feasibility & Design Guidance

- Stormwater pond is not located within jurisdictional waters, including wetlands.
- The stormwater pond does not require a dam permit.
- A 2' minimum separation between the pond bottom and groundwater.
- The pond is not located within a sole source aquifer recharge area.
- P-5 pond design has a minimum contributing drainage area of 3.47 acres
- The site does not discharge to a trout stream.
- The pond is not located within the stream channel

Conveyance - Inlet Protection & Design Guidance,

- A forebay has been provided at each pond inflow point.
- Inlet areas have been stabilized to ensure that non-erosive conditions exist for at least the 2-year frequency storm event.
- Outlet protection has been shown to reduce flow velocities the non-erosive velocities.
- Outfalls have been constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream.
- Flared pipe sections that discharge at or near the stream invert or into a step-pool arrangement have been used at the spillway outlet.

Adequate Outfall Protection

Pond Liner & Pretreatment

- Wqv total = 2,771 cubic feet.
- The forebay has been sized to contain a minimum 10% of the water quality volume (WQv) and is four feet in depth.
  - Forebay – Wqv Req. – 271 cubic feet, Wqv provided – 930 cubic feet
- The forebay have been designed with non-erosive outlet exit velocities.
- Access for appropriate maintenance equipment have been provided to the forebay.
- A fixed vertical sediment depth marker has been shown in the forebay to measure sediment deposition over time.

Treatment – Wqv, Pond Geometetry, Pond Benches

- 50% of the water quality volume has been contained within the permanent pool as required.
  - Permanent pool – Req.-1,385.5 cubic feet, Provided – 1,395 cubic feet
- 50% of the water quality volume has been contained within the extended detention and stream channel protection area as allowed by the NYSDEC.
- Wqv-Ext. + Cpv Req. – 7,047 cubic feet, Provided – 8,458 cubic feet
- The length to width ratio of the permanent pool is 2.0:1, a minimum of 1.5:1 is required. The ratio of the surface area of the permanent pool to the contributing drainage area is 1:80 where a minimum of 1:100 is required
- The permanent pool has been shown with a jagged shape with a long winding flow path to aid in water quality treatment.

- A safety bench has not been provided due to due pond side slopes shown at 1:4 for a majority of the ponds perimeter, except in the forebay areas.
- An aquatic bench has been provided that extends 6' inward from the permanent pool edge

Landscaping Plan

- Each pond has been provided landscaping plan for the stormwater management areas to indicate how aquatic and terrestrial areas will be vegetatively stabilized and established.
- Wetland plants are required in the pond design, and along the aquatic bench, side slopes, and within shallow areas of the pool itself.
- The best elevations for establishing wetland plants, either through transplantation or volunteer colonization, are within six inches (plus or minus) of the normal pool.
- Excavate large and deep holes around the proposed planting sites, and backfill these with uncompacted topsoil.
- Planting holes should be three times deeper and wider than the diameter of the rootball (of balled and burlap stock), and five times deeper and wider for container grown stock.
- Extra mulching around the base of the tree or shrub is strongly recommended as a means of conserving moisture and suppressing weeds.

Maintenance – Required Elements, Design Guidance

- Maintenance responsibility for a pond and its buffer shall be vested with the Town of East Fishkill Highway Department and or other responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval.
- The principal spillway is equipped with a removable trash rack, and is accessible from dry land.
- Sediment removal in the forebay shall occur every five to six years or after 50% of total forebay capacity has been lost.
- Sediment removed from stormwater ponds should be disposed of according to an approved comprehensive operation and maintenance plan.

Pond Drain

- The pond has been equipped with a pond drain. A gate valve has been placed within the pond outlet structures. Refer to profile on plan sheet.

Safety Features – Required Elements, Design Guidance

- Side slopes to the pond are 4:1 (h:v) except for the forebay and perm. pool area, and shall terminate at a safety bench.
- Both the safety bench and the aquatic bench have been shown to be landscaped to prevent access to the pool.

Pond Wqv-P – Water Quality Pond

This office proposes a Water Quality Pond located at the subdivision entrance to treat the impervious surfaces associated with the fist 250 lineal feet of proposed subdivision road. The water quality volume associated with the contributing drainage area is 641 cubic feet, the pond has the treatment potential of 2,004 cubic feet.

Feasibility & Design Guidance

- Stormwater pond is not located within jurisdictional waters, including wetlands.
- The stormwater pond does not require a dam permit.
- A 2' minimum separation between the pond bottom and groundwater.
- The pond is not located within a sole source aquifer recharge area.
- The pond design has a minimum contributing drainage area of 0.69 acres
- The site does not discharge to a trout stream.
- The pond is not located within the stream channel

Conveyance - Inlet Protection & Design Guidance,

- Inlet areas have been stabilized to ensure that non-erosive conditions exist for at least the 2-year frequency storm event.
- Outlet protection has been shown to reduce flow velocities the non-erosive velocities.
- Outfalls have been constructed such that they do not increase erosion or have undue influence on the downstream geomorphology of the stream.

Treatment – Wqv, Pond Geometetry, Pond Benches

- Wqv total = 641 cubic feet.
- Wqv treatment provided = 2,001 cubic feet.
- Access for appropriate maintenance equipment have been provided to the facility.

Maintenance – Required Elements, Design Guidance

- Maintenance responsibility for a pond and its buffer shall be vested with the Town of East Fishkill Highway Department and or other responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval.

Pond Drain

- The stormwater facility shall be drained via portable trash pump as required.

Stormwater Management Practice Maintenance

- Short Term – (during construction, until the road is dedicated to the Town of East Fishkill)

    Maintenance responsibility for all stormwater management components, structures, pipe, ponds, swales, outlet structures, and buffers shall be vested with the subdivision owner and general contractor chosen by the parcel owner. All components have been contained within drainage and maintenance easements throughout the subdivision with access via subdivision road and pond access paths.

    Site inspection of Sediment and Erosion Controls during Construction

Daily – The site construction entrance, any litter/debris, and dust shall be checked and/or inspected on a daily basis until the road is dedicated to the Town of East Fishkill.

Weekly - The project site shall be inspected by a qualified individual once every week. Site inspections are subject to any modifications required by the Town Engineer, Town Inspector or changes to the NOI as per NYSDEC recommendations. Site inspection sheet can be found in Appendix G of this report.

- Long Term – (Road is dedicated to the Town of East Fishkill)

  Maintenance responsibility for all stormwater management components, structures, pipe, ponds, swales, outlet structures, and buffers shall be vested with the Town of East Fishkill Highway Department and or other responsible authority by means of a legally binding and enforceable maintenance agreement that is executed as a condition of plan approval. All components have been contained within drainage and maintenance easements throughout the subdivision with access via town subdivision road and pond access paths.

Maintenance of the various components of the system is described

In order for any plan to operate as it was originally intended, it must be maintained properly. The following additional measures have been implemented in the overall design of the subdivision.

- The Hilltop Manor Subdivision contains a total of thirty-eight (38) catch basins, eleven (11) manholes, HDPE culverts, RCP elliptical culverts, and four (4) outlet control structure to be maintained as described below.
- The proposed stormwater management practices on site will be inspected on a monthly basis and after all major storm events (e.g., after each event where 3 inches of rainfall is exceeded in a 24 hour period).
- During the inspection, the New York State DEC Maintenance Inspection checklist should be utilized to properly maintain the practices.

In addition, the following items should be checked and repaired as needed:

- The area between the normal water surface and upland discharge points should be checked for erosion, and all eroded areas should be stabilized with topsoil, seed and mulch immediately.
- If a minimum coverage of 50% is not achieved in the planted aquatic bench after the second growing season, reinforcement plantings shall be required.
- All culvert outlets and inlets directing stormwater either into or out of the practices, should be checked for clogging and accumulation of sediment and cleaned as needed.
- The areas immediately surrounding the culvert outlets and inlets should be mowed monthly during the growing season to prevent the growth of trees and shrubs. Also, the accumulation of sediment within the practices should be monitored and when sediment accumulation within a practice has visibly exceeded the capacity, it should be removed as described above. It is expected that sediment will have to be removed from this area every 3 – 5 years.

Catch Basins

- All catch basins are required to have a 12" sump in order to accumulate sediment and silt prior to stormwater entering into the network of pipes. The sump serves as a supplemental practice suitable for pretreatment. Catch basins should be kept free of any accumulation of silts and sedimentation both during and after construction.
- Once construction is complete, the basins should be inspected on a yearly basis as a minimum. The sumps should be kept free of any siltation and organic debris that may impede stormwater flow and/or be washed out in the storm.

Storm Sewer Pipe

- The storm sewer culvert pipes should be inspected on a bi-annular basis. If the catch basins and outlet structures are properly maintained, obstruction in the storm sewer piping should be kept to a minimum. The piping should be kept free of siltation and build-up of either inorganic or organic loading.

Stormwater Pollution Prevention Measures

- Portable toilets shall be provided in a location convenient to site workers and shall be maintained on a as needed basis.
- This site project site shall be checked for litter and construction debris at the conclusion of each construction day. Wastes shall be disposed of properly to prevent debris from entering into stormwater management areas. The general contractor shall empty disposal containers on an as needed basis.
- Hazardous materials such as paint, fuel, and fertilizers are not anticipated to be stored onsite. If the storage of such materials is required, all EPA, NYSDEC, local, state, and manufacture guidelines shall be followed.
- The site shall be provided a truck wash area for all vehicles leaving the site to protect adjoining roads and the downstream creek form sediment contamination.
- Spill Response Emergency Phone Number(s):
  - NYS Spill Hotline: 1-800-457-7362
  - National Response Center: 1-800-424-8802

V. Erosion and Sediment Control

Temporary Erosion and Sediment Control Measures:

To reduce the amount of sediment runoff from the project site the following structural and vegetative measures have been identified.

Temporary Swale – A temporary excavated drainage way. The purpose of a temporary swale is to prevent runoff from entered disturbance areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Silt Fence – A temporary barrier of geotextile fabric (filter cloth) used to intercept sediment laden runoff from small drainage areas of disturbed soil. The purpose of a silt fence is to reduce runoff velocity and effect deposition of transported sediment load. Limits imposed by ultraviolet stability of the fabric will dictate the maximum period the silt fence may be used.

Sediment Trap – A temporary sediment control device formed by excavation and/or embankment to intercept sediment laden runoff and to retain the sediment. The purpose of the structure is to intercept sediment laden runoff and trap the sediment in order to protect drainage ways, properties, and right-of-way below the sediment trap from sedimentation.

Stabilized Construction Entrance – A stabilized pad of aggregate underlain with filter cloth located at any point where traffic will be entering or leaving a construction site to or from a public right of way, street alley, sidewalk or parking. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Dust Control – The control of dust resulting from land-disturbing activities. The purpose is to prevent surface and air movement of dust from disturbed soil surfaces that may cause off-site damage, health hazards, and traffic safety problems.

Vegetative Measures

Seeding Notes:

1. Exposed slopes and all graded areas shall be seeded with the following grass seed mix as required:

   Steep slopes (3:1)
   Temporary seeding -
   Summer season - german millet @ 40 lbs per acre
   Winter season - rye grain @ 120 lbs per acre

   Permanent seeding - spring/fall
   Tall fescue @ 100 lbs per acre
   Kobe lespedeza @ 10 lbs per acre
   Bahiagrass @ 25 lbs per acre
   Rye grain @ 40 lbs per acre

2. Grass seed mix may be applied by either mechanical or hydroseeding methods. Hydroseeding shall be performed in accordance with the current edition of n.y. standards and specifications for erosion and sediment control.
3. Seeded areas shall be mulched as required:
   Mid-summer, late fall or winter
   Apply at a rate of 100 lbs/1,000 sq.ft. Grain straw, cover with netting and staple to the slope.

   Spring or early fall
   Apply at a rate of 45 lbs/1,000 sq.ft. Wood fiber in a hydro seeder slurry.

Permanent Structural Measures:

Rock Outlet Protection – A section of rock protection placed at the outlet and of the culverts, conduits, or channels. The purpose of the rock outlet protection is to reduce the depth, velocity, and energy of the water, such that the flow will not erode the receiving downstream reach. See erosion control plan for further detail.

Site inspection of Sediment and Erosion Controls

The project site shall be inspected by a qualified individual once every week. Site inspections are subject to any modifications required by the Town Engineer, Town Inspector or changes to the NOI as per NYSDEC recommendations. Site inspection sheet can be found in Appendix G of this report.

VI. Construction Schedule

PHASE I (APPROXIMATE AREA OF DISTURBANCE 4.90 ACRES) -

1. FILE NOI WITH THE N.Y.S.D.E.C.

2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MAINTAINING, AND REMOVING ALL SITE EROSION AND SEDIMENT CONTROLS UNTIL THE ROAD IS DEDICATED TO THE TOWN OF EAST FISHKILL. THE LIST OF COMPLIANCE INSPECTION MILESTONES HAVE BEEN PROVIDED ON THIS PLAN SET LISTED BELOW.

3. THE PARCEL OWNER IS RESPONSIBLE FOR RETAINING A QUALIFIED INDIVIDUAL TO PERFORM ONSITE INSPECTS AS REQUIRED BY THE GP 0-08-001 PERMIT.

4. PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO CONSTRUCTION WITH THE TOWN ENGINEER, CONTRACTOR, OWNER, AND SWPPP INSPECTOR FOR THE OWNER.

5. A NYSLS SHALL FILED IDENTIFY THE PROPOSED LIMIT OF DISTURBANCE, SEDIMENT TRAPS, AND PARCEL ACCESS POINTS AS IDENTIFIED ON THE PLAN SET.

6 SEDIMENT TRAP AND SUBDIVISION ENTRANCE(S) FROM CREEK BEND ROAD -
: CLEAR AND ROUGH GRADE AS REQUIRED.
: STABILIZE SUBDIVISION ROAD/POND ENTRANCE TO SITE BY INSTALLING GRAVEL PER CONSTRUCTION ACCESS DETAIL. STABILIZE ADJACENT BARE AREAS WITH VEGETATION.

7. INSTALL SEDIMENT TRAPS FOR CONSTRUCTION OF SUBDIVISION ROAD -
: A NYSLS SHALL STAKEOUT THE LIMIT OF DISTURBANCE IN THE AREA OF THE SEDIMENT TRAP.
: ORANGE CONSTRUCTION FENCING SHALL LINE THE SEDIMENT TRAP AREA.
: INSTALL SILT FENCE ALONG THE LOWER SIDE OF THE PROPOSED SEDIMENT TRAPS.
: EXCAVATE AREA FOR SEDIMENT TRAP. POND VEGETATION AND FINAL GRADING TO BE PERFORMED SUBSEQUENT TO FINAL ASPHALT COURSE.
: INSTALL TEMP. DRAINAGE SWALE A-4, PROPER EROSION CONTROLS AROUND SWALES AND DISTURBED AREA AS REQUIRED.
: INSTALL DEWATERING DEVICE. DEWATERING DEVICE TO OUTLET TO A TEMPORARY CATCH BASIN WITHTHE SPECIFIED HDPE OUTLET PIPE RIM AND INVERT ELEVATIONS

TO MATCH THE OUTLET CONTROL STRUCTURES. INSTALL CB1A,1B,1C, AND ALL ASSOCIAED PIPING AND IPRAP OUTLETS REQUIRED TO DRAIN SEDIMENT TRAP A AND B.
: TEMPORARY STABILIZATION OF THE SEDIMENT TRAPS AND ADJACENT DIVERSIONS SHALL BE PREFORMED.

8. REMOVE TREES FROM ROW, INSTALL WATER BARS, TEMPORARY DIVERSION SWALES A-4, ROUGH GRADE SUBDIVISION HAUL ROAD TO STABLE ROCK GRADE.
: PLACE EXCAVED ROCK MATERIAL IN DESIGNATED FILL AREAS AS INDICATED ON THE PLAN SET. FILL TO BE INSTALLED AND COMPACTED IN 6" LIFT TO 95% STANDARD PROCTOR TEST.
:LOT #4 SDS AREA TO BE LOCATED BY A NYSLS, LINED WIH ORANGE CONSTRUCITON FENCING. MATERIAL TO BE PLACED INSIDE ORANGE CONSTRIUCTION FENCING TO BE APPROVED SAND AND GRAVEL.

9. TEMPORARY STABILIZE THE HAUL ROAD SHOULDERS WHILE EXCAVATION OF ROAD CONTINUES VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

10. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

14. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION
EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE II (APPROXIMATE AREA OF DISTURBANCE 4.28 ACRES) -

1. CONTINUE TO REMOVE TREES AND MATERIAL ALONG HAUL ROAD AS REQUIRED TO MEET LIMITS OF GRADING AS SHOWN ON PHASE II. REPOSITION WATER BARS, TEMPORARY DIVERSION SWALES A-4, AS ROUGH GRADE SUBDIVISION HAUL ROAD IS SHAPED INTO THE TOWN ROAD.
: PLACE EXCAVATED ROCK MATERIAL IN DESIGNATED FILL AREAS AS INDICATED ON THE PLAN SET. FILL TO BE INSTALLED AND COMPACTED IN 6" LIFT TO 95% STANDARD PROCTOR TEST.

:LOT #4 SDS AREA TO BE LOCATED BY A NYSLS, LINED WITH ORANGE CONSTRUCTION FENCING. MATERIAL TO BE PLACED INSIDE ORANGE CONSTRUCTION FENCING TO BE APPROVED SAND AND GRAVEL.

2. TEMPORARY STABILIZE THE HAUL ROAD SHOULDERS WHILE EXCAVATION OF ROAD CONTINUES VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

3. INSTALL DRAINAGE INFRASTRUCTURE AS REQUIRED AS EXCAVATION CONTINUES.

4. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

5. CONTINUE TO CHECK ALL SEDIMENT AND EROSION CONTROLS INSTALLED AS PART OF PHASE I.

5. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION
EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE III (APPROXIMATE AREA OF DISTURBANCE 4.95 ACRES) -

1. CONTINUE TO REMOVE TREES AND MATERIAL ALONG HAUL ROAD AS REQUIRED TO MEET LIMITS OF GRADING AS SHOWN ON PHASE III. REPOSITION WATER BARS, TEMPORARY DIVERSION SWALES, AS ROUGH GRADE SUBDIVISION HAUL ROAD IS SHAPED INTO THE TOWN ROAD.
: PLACE EXCAVATED ROCK MATERIAL IN DESIGNATED FILL AREAS AS INDICATED ON THE PLAN SET. FILL TO BE INSTALLED AND COMPACTED IN 6" LIFT TO 95% STANDARD PROCTOR TEST.
:LOT #4 SDS AREA TO BE LOCATED BY A NYSLS, LINED WITH ORANGE CONSTRUCTION FENCING. MATERIAL TO BE PLACED INSIDE ORANGE CONSTRUCTION FENCING TO BE APPROVED SAND AND GRAVEL.

2. TEMPORARY STABILIZE THE HAUL ROAD SHOULDERS WHILE EXCAVATION OF ROAD CONTINUES VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

3. INSTALL DRAINAGE INFRASTRUCTURE AS REQUIRED AS EXCAVATION CONTINUES.

4. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

5. CONTINUE TO CHECK ALL SEDIMENT AND EROSION CONTROLS INSTALLED AS PART OF PHASE I & II.

5. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION
EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE IV APPROXIMATE AREA OF DISTURBANCE 4.5 ACRES) -
DISTURBANCE AREA - STATION 16+50 THROUGH 22+50

1. CONTINUE TO REMOVE TREES AND MATERIAL ALONG HAUL ROAD AS REQUIRED TO MEET LIMITS OF GRADING AS SHOWN ON PHASE IV. REPOSITION WATER BARS, TEMPORARY DIVERSION SWALES, AS ROUGH GRADE SUBDIVISION HAUL ROAD IS SHAPED INTO THE TOWN ROAD.
: PLACE EXCAVATED ROCK MATERIAL IN DESIGNATED FILL AREAS AS INDICATED ON THE PLAN SET. FILL TO BE INSTALLED AND COMPACTED IN 6" LIFT TO 95% STANDARD PROCTOR TEST.
:LOT #3 & #4 SDS AREA TO BE LOCATED BY A NYSLS, LINED WITH ORANGE CONSTRUCTION FENCING. MATERIAL TO BE PLACED INSIDE ORANGE CONSTRUCTION FENCING TO BE APPROVED SAND AND GRAVEL.

2. TEMPORARY STABILIZE THE HAUL ROAD SHOULDERS WHILE EXCAVATION OF ROAD CONTINUES VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

3. INSTALL DRAINAGE INFRASTRUCTURE AS REQUIRED AS EXCAVATION CONTINUES.

4. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

5. CONTINUE TO CHECK ALL SEDIMENT AND EROSION CONTROLS INSTALLED AS PART OF PHASE I, II & III.

6. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION
EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE IVA APPROXIMATE AREA OF DISTURBANCE 0.75 ACRES) -
DISTURBANCE AREA - STATION 22+50 THROUGH 29+25

1. CONTINUE TO REMOVE TREES AND MATERIAL ALONG SUBDIVISION ROAD AS REQUIRED TO MEET LIMITS OF GRADING AS SHOWN IVA. PLACE SILT FENCING AND CHECK DAMS AS REQUIRED AND SHOWN. PLACE EXCAVATED ROCK MATERIAL IN DESIGNATED FILL AREAS AS INDICATED ON THE PLAN SET. FILL TO BE INSTALLED AND COMPACTED IN 6" LIFT TO 95% STANDARD PROCTOR TEST.

2. TEMPORARY STABILIZE THE HAUL ROAD SHOULDERS WHILE EXCAVATION OF ROAD CONTINUES VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

3. INSTALL DRAINAGE INFRASTRUCTURE AS REQUIRED AS EXCAVATION CONTINUES.

4. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

5. CONTINUE TO CHECK ALL SEDIMENT AND EROSION CONTROLS INSTALLED AS PART OF PHASE I, II & III.

6. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION

EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE V APPROXIMATE AREA OF DISTURBANCE 1.80 ACRES) -

1. REGRADE UPPER HOLDING POND TO CONFORM TO SHAPE AND DEPTH OF NYDSEC STORMWATER POND P-2.

2. TEMPORARY STABILIZE THE DISTURBED AREA VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

3. INSTALL DRAINAGE INFRASTRUCTURE AS REQUIRED AS EXCAVATION CONTINUES.

4. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

5. CONTINUE TO CHECK ALL SEDIMENT AND EROSION CONTROLS INSTALLED AS PART OF PHASE I, II III, & IV.

6. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION
EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE VI APPROXIMATE AREA OF DISTURBANCE 2.50 ACRES) -

1. TEMPORARY STABILIZE THE HAUL ROAD SHOULDERS WHILE UTILITY INSTALLATION (ELECTRIC AND FIBER) IS BEING PREFORMED VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

1. INSTALL BINDER COURSE FOR TOWN ROAD WHILE MEETING THE INSPECTION REQUIREMENTS LISTED ON 2HIS PLAN SET. TOPSOIL SHOULDERS, MULCH AND SEED AS REQUIRED.

3. TEMPORARY STABILIZE THE DISTURBED AREA VIA SILT FENCING, WATER BARS, SEEDING AND MULCHING.

4. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

5. CONTINUE TO CHECK ALL SEDIMENT AND EROSION CONTROLS INSTALLED AS PART OF PHASE I, II III, & IV.

6. REMOVE TEMPORARY DIVERSION SWALES AND WATER BARS UPON SHOULDER AND SIDE SLOPE STABLIZATION.

7. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

PHASE VII-X APPROXIMATE AREA OF DISTURBANCE 4.95 ACRES) -

1. CONSRUCT INDIVIDUAL DRIVEWAY(S) AND HOUSE SITE(S), A MAXIMUM OF 6 BUILDING LOTS AT ONE TIME AND/OR LESS THAN 5.0 ACRES OF DISTURBANCE TOTAL ACROSS ALL BUILDING LOTS. REFER TO PHASING LISTED ON THIS SHEET.
: INSTALL SILT FENCING ON DOWN HILL PORTION OF GRADING.
: CLEAR AND ROUGH GRADE FOR DRIVEWAY AND HOUSE AS REQUIRED.
: CHECK STABILIZED ENTRANCE TO INSURE PROPER FUNCTION.
: STABILIZE ADJACENT BARE AREAS WITH VEGETATION.

2. INSTALL DRIANAGE STRUCTURES AS REQUIRED.
: INSTALL DRIVEWAY FOUNDATION AND ASPHALT COURSE.

3: FOLLOW INDIVIDUAL LOT CONSTRUCTION GENERAL NOTE.

4. CONSTRUCT HOME AS PER BUILDING PLOT PLAN.

5. VEGETATE ALL DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.

6. REMOVE SILT FENCING EROSION CONTROL FOR THE INDIVIDUAL LOT ONCE THE AREA HAS BEEN STABILIZED AS REQUIRED.

7. CONSTRUCTION SEQUENCES MAY BE CONDUCTED IN A ROLLING PATTERN AS LONG AS THE TOTAL DISTURBANCE AT ANY ONE TIME IS ALWAYS LESS THAN 5 ACRES.

8. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONE FOR INSPECTION REQUIREMENTS.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION
EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

PHASE XII (APPROXIMATE AREA OF RE-DISTURBANCE 4.75 ACRES) -

1. CONVERT TEMPORARY SEDIMENT PONDS TO FUNCTIONAL STORMWATER MANAGEMENT PONDS.

2. BEGIN RESHAPING OF POND INTERIOR ONLY IF THE SEDIMENT TRAP IS FREE OF STANDING WATER TO AVOID A RELEASE OF SEDIMENT INTO RECEIVEING SWALE.

3. INSTALL OUTLET CONTROL STRUCTURE AND 18" HDPE FROM PERIMETER SWALE TO DMH AS PER PLAN. REMOVE ANY TEMPORARY SWALES.

4. INSTALL POND PLANTINGS AS REQUIRED FOLLOWING ALL PLANTING RECOMMENDATIONS FOUND WITHIN THE PLAN SET.

5. FINAL ASPHALT COURSE, ADJUST CATCH BASIN GRATES AS REQUIRED.

6. SEED AND MULCH, INSTALL STREET TREES, SIGNS, AND MONUMENTS AS REQUIRED.

7. VEGETATE ALL DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
REMOVE ALL SILT FENCING AND STABILIZATION MEASURES AS REQUIRED.

8. REMOVE SILT FENCING WHEN PHASE HAS BEEN STABLIZED AS REQUIRED.

9. REFER TO § 157-10 CONSTRUCTION INSPECTION MILESTONES FOR INSPECTION REQUIREMENTS.

REFER TO EROSION CONTROL MAINTENANCE SCHEDULE FOR FURTHER INFORMATION

EROSION AND SEDIMENT CONTROL PLAN SUBJECT TO ANY IN FIELD MODIFICATIONS REQUIRED BY THE TOWN OF EAST FISHKILL INSPECTORS, NYSDEC, AND PROJECT ENGINEER.

: VEGETATE DISTURBED AREAS NOT TO BE SUBJECT TO CONSTRUCTION WITHIN 14 DAYS.
: UPON INSTALLATION OF ROAD-SUBBASE AND STABILIZATION OF ALL DISTURBED AREAS, SILT FENCING, TEMPORARY SWALES, CHECK DAMS, AND INLET PROTECTION ASSOCIATED WITH THIS PHASE MAY BE REMOVED UNLESS OTHER WISE NOTED BY FIELD INSPECTIONS BY THE TOWN ENGINEER AND PROJECT ENGINEER.

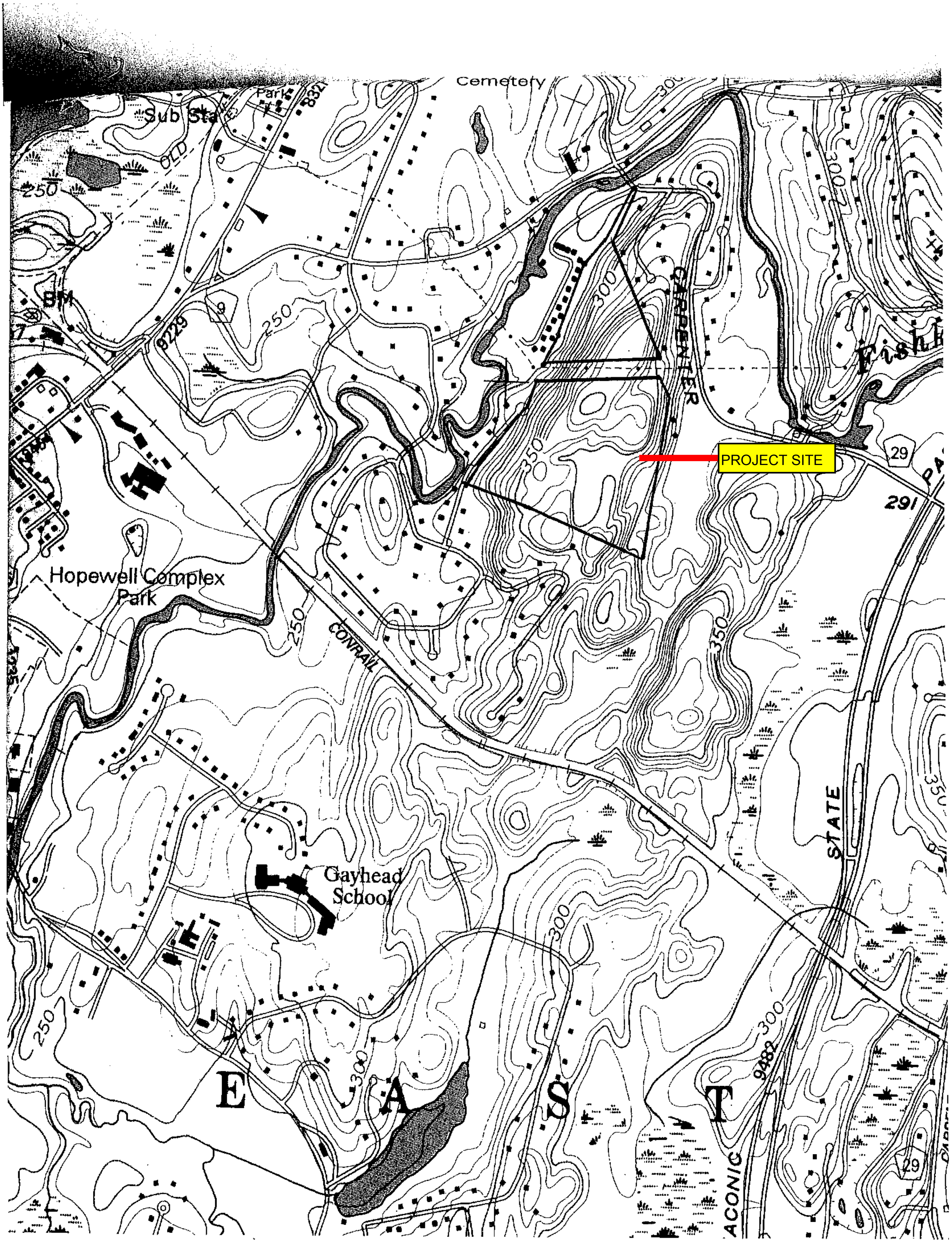
VII. Conclusion

As a result of the stormwater management practices proposed within the SWPPP prepared for this project, a reduction in erosion, sediment, and post development flows have been reduced as per the requirements of the NYSDEC GP0-10-001 Permit.

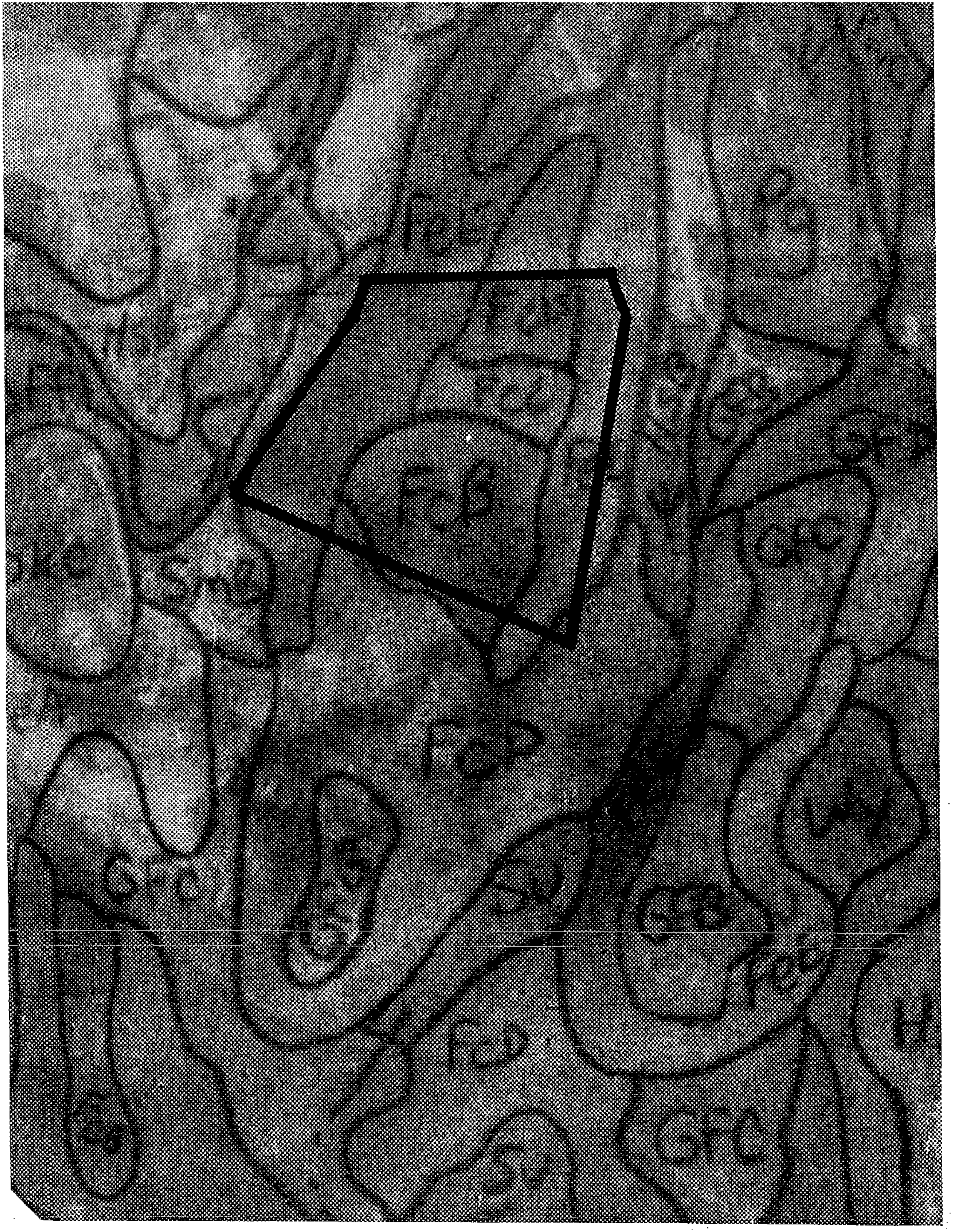
Appendix

Appendix A

USGS Mappings
Dutchess County Soils Mapping
Dutchess County Soils Description
SWPPP Component Flow Chart
Existing Drainage Analysis Hydrocad Calculations



Cemetery
Park
Sub Sta
OLD
250
BM
9229
9
8321
300
CARPENTER
Fishk
PROJECT SITE
29
291
350
Hopewell Complex
Park
CONRAIL
STATE
Gayhead
School
E
A
S
T
TACONIC
9482

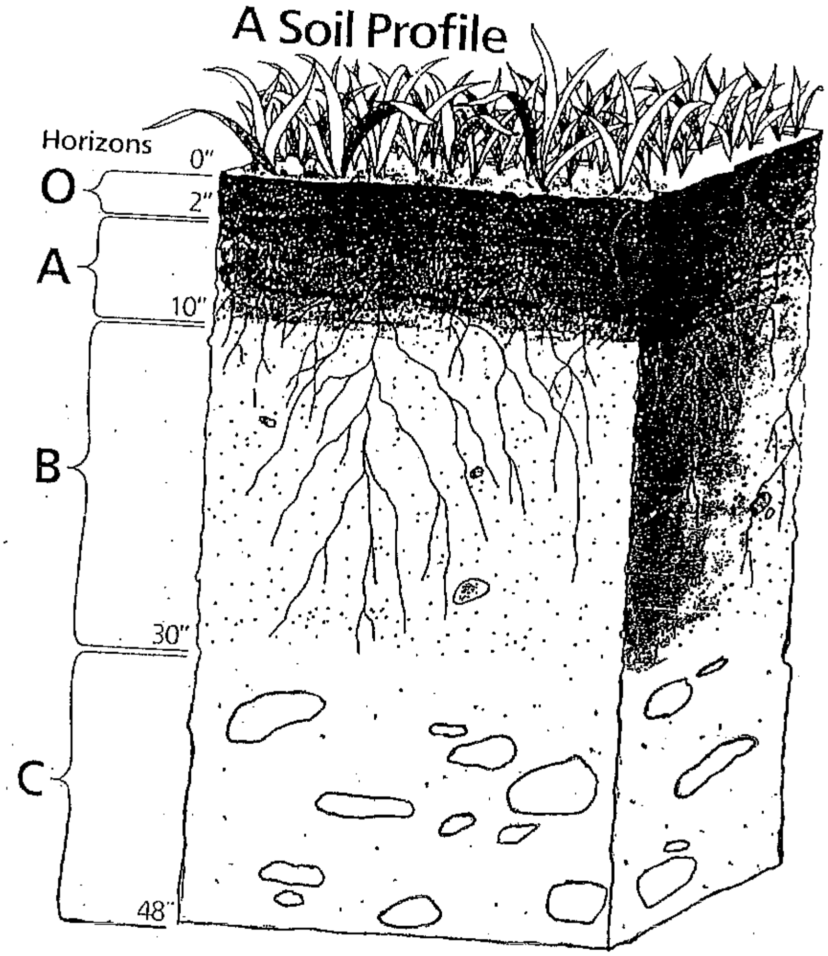

FB
FoP
GrC
FD
GrC

UNDERLYING SOILS INFORMATION

R. OSWALD

DUTCHESS COUNTY SOIL SURVEY

USERS GUIDE



Dutchess County, New York

Dutchess County Soil and Water Conservation District

Cardigan soils - Moderately deep (20 to 40 inches), well drained loamy soils formed in till underlain by folded shale bedrock. Permeability is moderate.

DxB Dutchess-Cardigan-Urban land complex, undulating, rocky (1 to 6 percent slopes) - This complex is about 25 percent Dutchess soils, 25 percent Cardigan soils, 25 percent Urban land, and 25 percent other soils and rock outcrop. Folded shale rock outcrop covers 0.1 to 2 percent of the surface.

Dutchess soils - Very deep, well drained loamy soils formed in till. Permeability is moderate.

Cardigan soils - Moderately deep (20 to 40 inches), well drained loamy soils formed in till underlain by folded shale bedrock. Permeability is moderate.

Urban land - Areas covered by buildings, streets, parking lots, and other impervious surfaces which obscure soil identification.

DxC Dutchess-Cardigan-Urban land complex, rolling, rocky (5 to 16 percent slopes) - This complex is about 25 percent Dutchess soils, 25 percent Cardigan soils, 25 percent Urban land, and 25 percent other soils and rock outcrop. Folded shale rock outcrop covers 0.1 to 2 percent of the surface.

Dutchess soils - Very deep, well drained loamy soils formed in till. Permeability is moderate.

Cardigan soils - Moderately deep (20 to 40 inches), well drained loamy soils formed in till underlain by folded shale bedrock. Permeability is moderate.

Urban land - Areas covered by buildings, streets, parking lots, and other impervious surfaces which obscure soil identification.

FcB Farmington-Galway complex, undulating, very rocky (1 to 6 percent slopes) - This complex is about 40 percent Farmington soils, 30 percent Galway soils, and 30 percent other soils and rock outcrop. Folded limestone bedrock covers 2 to 10 percent of the surface.

Farmington soils - Shallow (10 to 20 inches), well drained and somewhat excessively drained loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate.

Galway soils - Moderately deep (20 to 40 inches), well drained and moderately well drained loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate. Seasonal high water table at 1.5 to 3.0 feet from March to April.

* FcC Farmington-Galway complex, rolling, very rocky (5 to 16 percent slopes) - This complex is about 40 percent Farmington soils, 30 percent Galway soils, and 30 percent other soils and rock outcrop. Folded limestone bedrock covers 2 to 10 percent of the surface.

Farmington soils - Shallow (10 to 20 inches), well drained and somewhat excessively drained loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate.

Galway soils - Moderately deep (20 to 40 inches), well drained and moderately well drained loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate. Seasonal high water table at 1.5 to 3.0 feet from March to April.

* FcD Farmington-Galway complex, hilly, very rocky (15 to 30 percent slopes) - This complex is about 40 percent Farmington soils, 30 percent Galway soils, and 30 percent other soils and rock outcrop. Folded limestone bedrock covers 2 to 10 percent of the surface.

Farmington soils - Shallow (10 to 20 inches), well drained and somewhat excessively drained loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate.

Galway soils - Moderately deep (20 to 40 inches), well drained and moderately well drained loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate. Seasonal high water table at 1.5 to 3.0 feet from March to April.

* FeE Farmington-Rock Outcrop complex, steep (25 to 45 percent slopes) - This complex is about 60 percent Farmington soils, 20 percent folded limestone rock outcrop, and 20 percent other soils.

Farmington soils - Shallow (10 to 20 inches), well drained and somewhat excessively drained, loamy soils formed in till underlain by folded limestone bedrock. Permeability is moderate.

Rock outcrop - Common exposures of folded and tilted limestone bedrock or soils too thin to support plant

MLRA(S): 101, 140, 142, 144A, 144B, 143
REV. JDV,WEH, 3-90
LITHIC EUTROCHREPTS, LOAMY, MIXED, MESIC

THE FARMINGTON SERIES CONSIS OF SHALLOW, WELL DRAINED AND SOMEWHAT EXCESSIVELY DRAINED SOILS ON GLACIALTED UPLANDS. THEY FORMED IN GLACIAL TILL OR IN WIND AND WATER DEPOSITS MIXED WITH TILL. TYPICALLY, THESE SOILS HAVE A DARK GRAYISH BROWN SILT LOAM SURFACE LAYER, 8 INCHES THICK. THE SUBSOIL, FROM 8 TP 14 INCHES, IS YELLOWISH BROWN SILT LOAM AND, FROM 14 TO 18 INCHES, IS BROWN LOAM. HARD BEDROCK IS AT 18 INCHES. SLOPES RANGE FROM 0 TO 70 PERCENT.

LANDSCAPE AND CLIMATE PROPERTIES

ANNUAL AIR TEMPERATURE	FROST FREE DAYS	ANNUAL PRECIPITATION	ELEVATION (FT)	DRAINAGE CLASS	SLOPE (PCT)
45-50	120-190	28-45	100-800	W, SE	0-70

ESTIMATED SOIL PROPERTIES (A)

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	FRACT. >10 IN (PCT)	FRACT. 3-10IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO. 4	10	40	200	CLAY (PCT)
0-8	SIL, L, FSL	ML, CL, SM, SC	A-2, A-4, A-6	0	0-5	80-95	75-90	50-86	30-80	10-27
0-8	GR-SIL, GR-L, GR-FSL	ML, CL, GM, GC	A-2, A-4, A-6, A-1	0	0-5	55-80	50-75	35-70	20-65	10-27
0-8	CN-SIL, CN-L, CN-FSL	ML, CL, GM, GC	A-2, A-4, A-6, A-1	0	0-5	55-80	50-75	35-70	20-65	10-27
8-18	SIL, L, GR-FSL	ML, CL, GM, GC	A-2, A-4, A-6, A-1	0	0-5	60-95	55-90	35-85	20-80	10-27
18	UWB									

DEPTH (IN.)	LIQUID LIMIT	PLAS-TICITY INDEX	MOIST BULK DENSITY (G/CM3)	PERMEA-BILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SAR	CEC (ME/100G)	CACO3 (PCT)	GYPSUM (PCT)
0-8	20-35	3-15	1.10-1.40	0.6-2.0	0.11-0.19	5.1-7.3	-	-	10-35	0-2	0
0-8	20-35	3-15	1.10-1.40	0.6-2.0	0.08-0.15	5.1-7.3	-	-	10-35	0-2	0
0-8	20-35	3-15	1.10-1.40	0.6-2.0	0.08-0.15	5.1-7.3	-	-	10-35	0-2	0
8-18	20-35	3-15	1.20-1.50	0.6-2.0	0.07-0.18	5.6-7.8	-	-	5-20	0-5	0
18											

DEPTH (IN.)	ORGANIC MATTER (PCT)	SHRINK-SWELL POTENTIAL	EROSION FACTORS K	T	WIND EROD. GROUP	WIND EROD. INDEX	CORROSIVITY STEEL	CONCRETE
0-8	2-6	LOW	.32	2	-	-	LOW	MODERATE
0-8	2-6	LOW	.24	2	-	-		
0-8	2-6	LOW	.24	2	-	-		
8-18		LOW	.32					
18								

FLOODING FREQUENCY	DURATION	MONTHS	HIGH WATER TABLE DEPTH (FT)	KIND	MONTHS	CEMENTED PAN DEPTH (IN)	HARDNESS	BEDROCK DEPTH (IN)	HARDNESS	SUBSIDENCE INIT. (IN)	TOTAL (IN)	HYD GRP	POTENT'L FROST ACTION
NONE			>6.0			-		10-20	HARD	-		C	MODERATE

SANITARY FACILITIES (B)

SEPTIC TANK ABSORPTION FIELDS	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-DEPTH TO ROCK,SLOPE
SEWAGE LAGOON AREAS	0-7%:SEVERE-DEPTH TO ROCK 7+%:SEVERE-DEPTH TO ROCK,SLOPE
SANITARY LANDFILL (TRENCH)	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-DEPTH TO ROCK,SLOPE
SANITARY LANDFILL (AREA)	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-DEPTH TO ROCK,SLOPE
DAILY COVER FOR LANDFILL	0-15%:POOR-AREA RECLAIM 15+%:POOR-AREA RECLAIM,SLOPE

BUILDING SITE DEVELOPMENT (B)

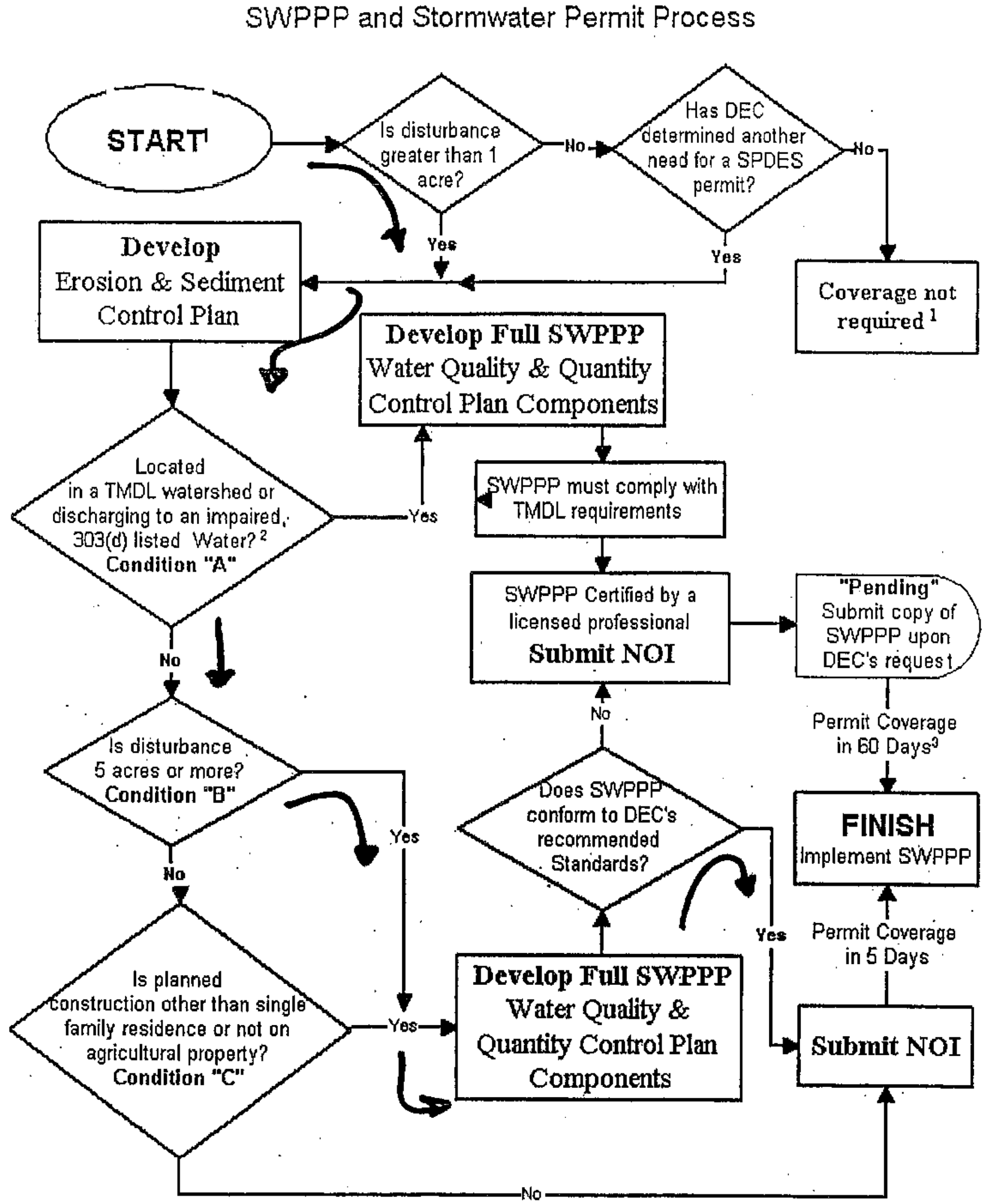
SHALLOW EXCAVATIONS	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-DEPTH TO ROCK,SLOPE
DWELLINGS WITHOUT BASEMENTS	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-SLOPE,DEPTH TO ROCK
DWELLINGS WITH BASEMENTS	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-DEPTH TO ROCK,SLOPE
SMALL COMMERCIAL BUILDINGS	0-8%:SEVERE-DEPTH TO ROCK 8+%:SEVERE-SLOPE,DEPTH TO ROCK
LOCAL ROADS AND STREETS	0-15%:SEVERE-DEPTH TO ROCK 15+%:SEVERE-DEPTH TO ROCK,SLOPE
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	0-15%:SEVERE-THIN LAYER 15+%:SEVERE-SLOPE,THIN LAYER

CONSTRUCTION MATERIAL (B)

ROADFILL	0-25%:POOR-AREA RECLAIM 25+%:POOR-AREA RECLAIM,SLOPE
SAND	IMPROBABLE-EXCESS FINES
GRAVEL	IMPROBABLE-EXCESS FINES
TOPSOIL	0-15%:POOR-AREA RECLAIM,SMALL STONES 15+%:POOR-AREA RECLAIM,SMALL STONES,SLOPE

WATER MANAGEMENT (B)

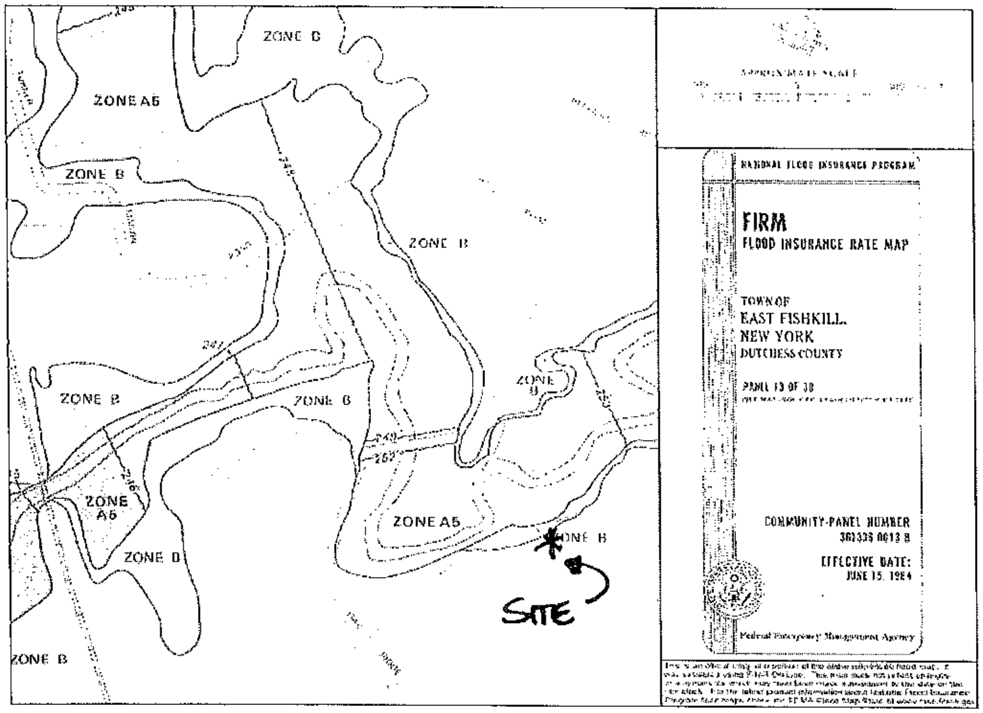
POND RESERVOIR AREA	0-8%:SEVERE-DEPTH TO ROCK 8+%:SEVERE-DEPTH TO ROCK,SLOPE
EMBANKMENTS DIKES AND LEVEES	SEVERE-PIPING
EXCAVATED PONDS AQUIFER FED	SEVERE-NO WATER
DRAINAGE	DEEP TO WATER
IRRIGATION	0-3%:DROUGHTY,DEPTH TO ROCK 3+%:DROUGHTY,DEPTH TO ROCK,SLOPE
TERRACES AND DIVERSIONS	0-8%:DEPTH TO ROCK 8+%:SLOPE,DEPTH TO ROCK
GRASSED WATERWAYS	0-8%:DROUGHTY,DEPTH TO ROCK 8+%:SLOPE,DROUGHTY,DEPTH TO ROCK



NOTES:
1. Under any of the above conditions other environmental permits may be required. DEC may require permit for construction disturbance <.1 acre on a case by case basis.
2. <u>and</u> the following exists: construction and/or stormwater discharges from the construction or post-construction site contain the pollutant of concern identified in the TMDL or 303(d) listing.
3. After receipt by DEC of completed application.

Figure 1- Stormwater Pollution Prevention Plan Component Flow Chart

MSC Viewer



ZONE B
ZONE A5
ZONE B
ZONE B
ZONE B
ZONE B
ZONE B
ZONE A5
ZONE B
ZONE A5
ONE B
SITE
ZONE B
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
TOWN OF
EAST FISHKILL,
NEW YORK
DUTCHESS COUNTY
PANEL 13 OF 38
COMMUNITY-PANEL NUMBER
EFFECTIVE DATE:
JUNE 15, 1984
Federal Emergency Management Agency

Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
B, C, and X	Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE, A1-A30	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

High Risk - Coastal Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

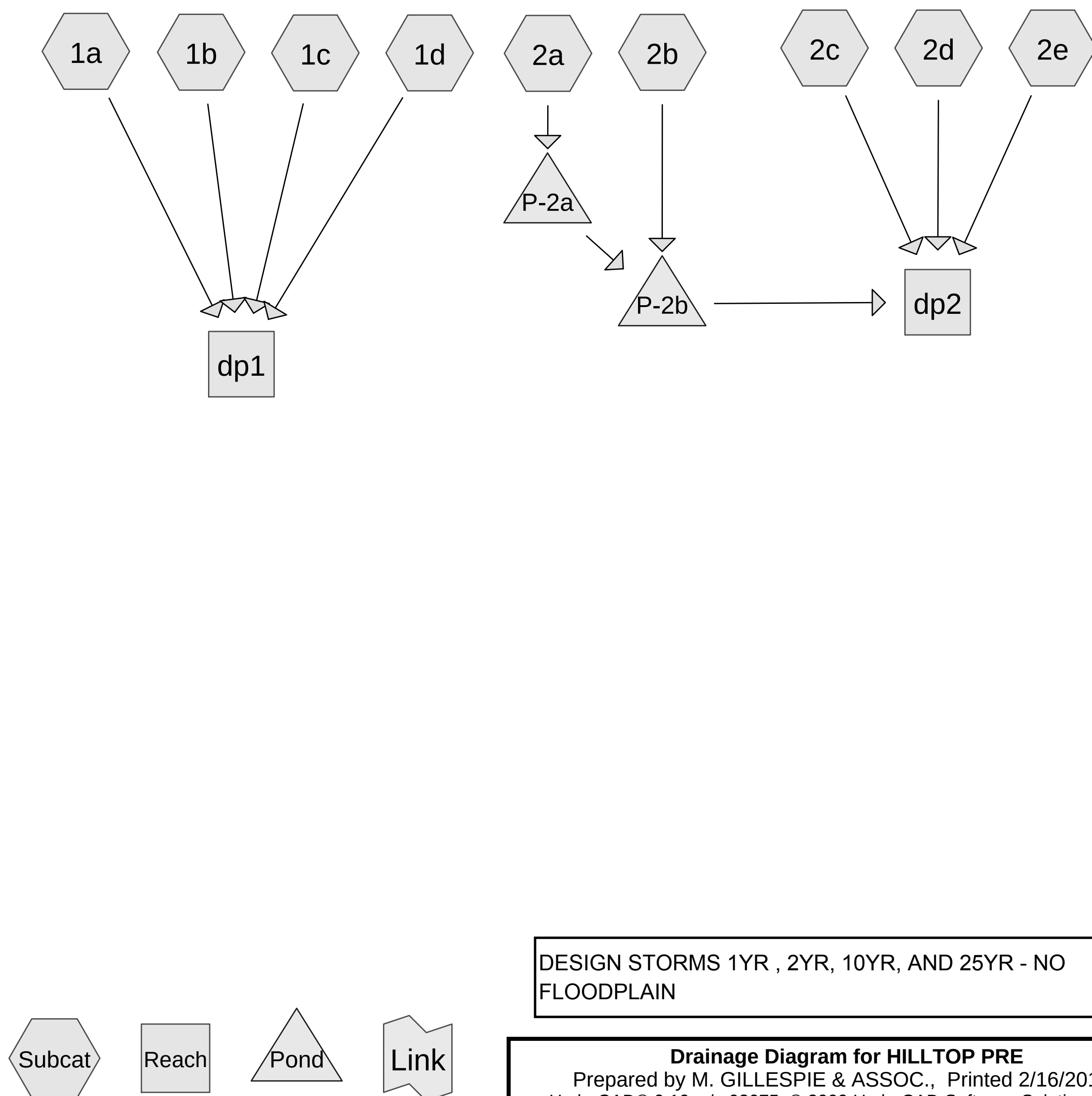
ZONE	DESCRIPTION
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are

	shown within these zones.
VE, V1 - 30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

FEMA Map Service Center, P.O. Box 1038 Jessup, Maryland 20794-1038 Phone: (800) 358-9616



DESIGN STORMS 1YR , 2YR, 10YR, AND 25YR - NO FLOODPLAIN

Drainage Diagram for HILLTOP PRE
Prepared by M. GILLESPIE & ASSOC., Printed 2/16/2010

Summary for Subcatchment 1a:

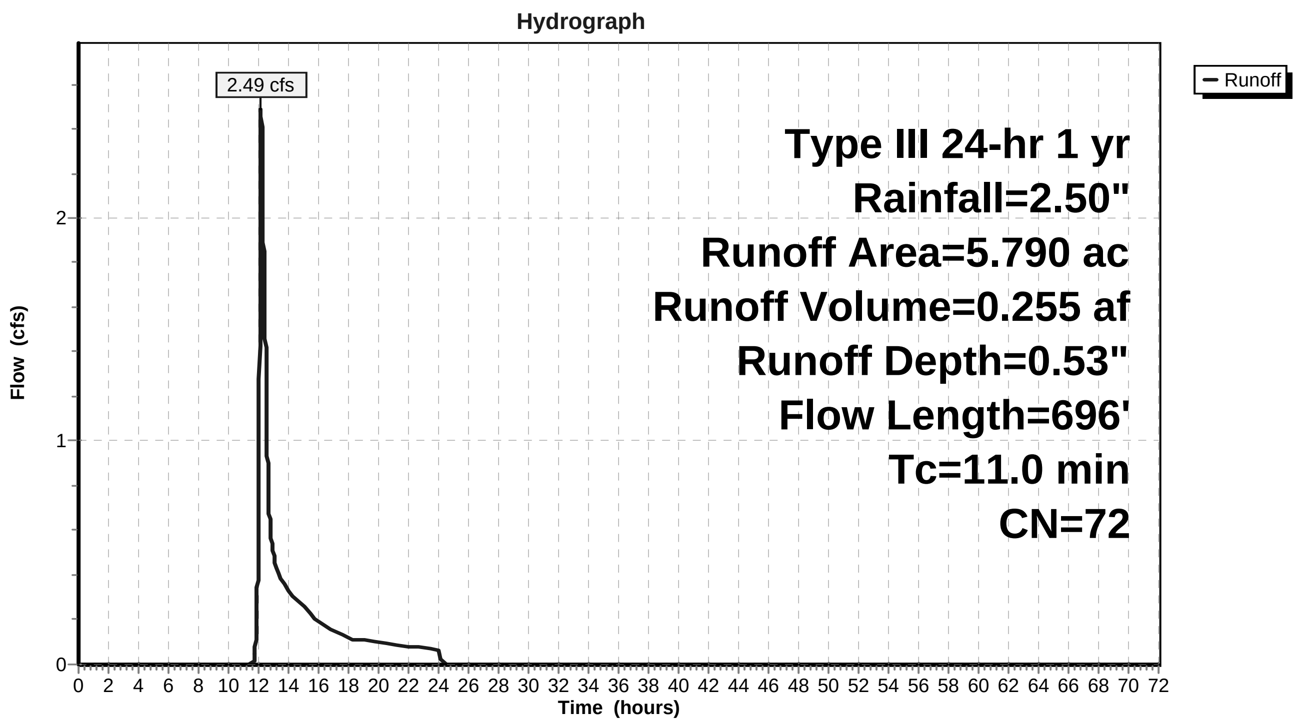
Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.255 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
4.100	73	Woods, Fair, HSG C
5.790	72	Weighted Average
5.790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

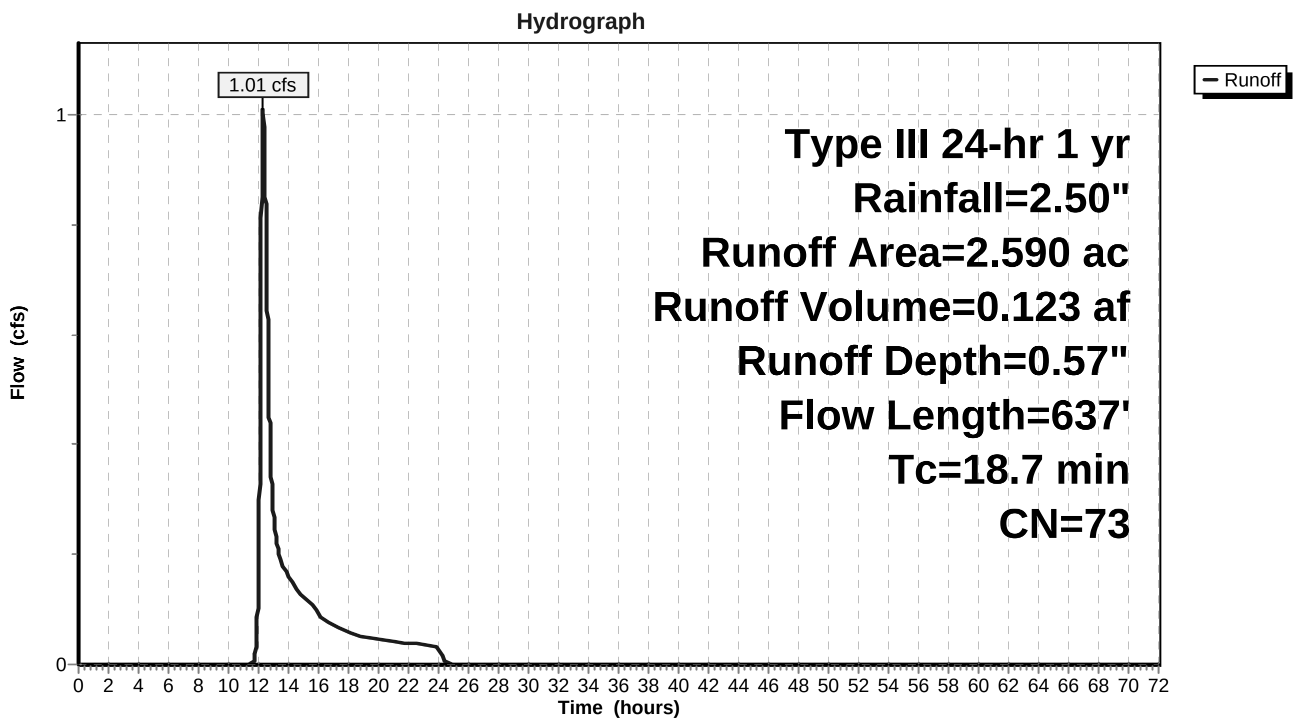
Runoff = 1.01 cfs @ 12.30 hrs, Volume= 0.123 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.060	79	50-75% Grass cover, Fair, HSG C
2.530	73	Woods, Fair, HSG C
2.590	73	Weighted Average
2.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0300	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.2	537	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	637	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

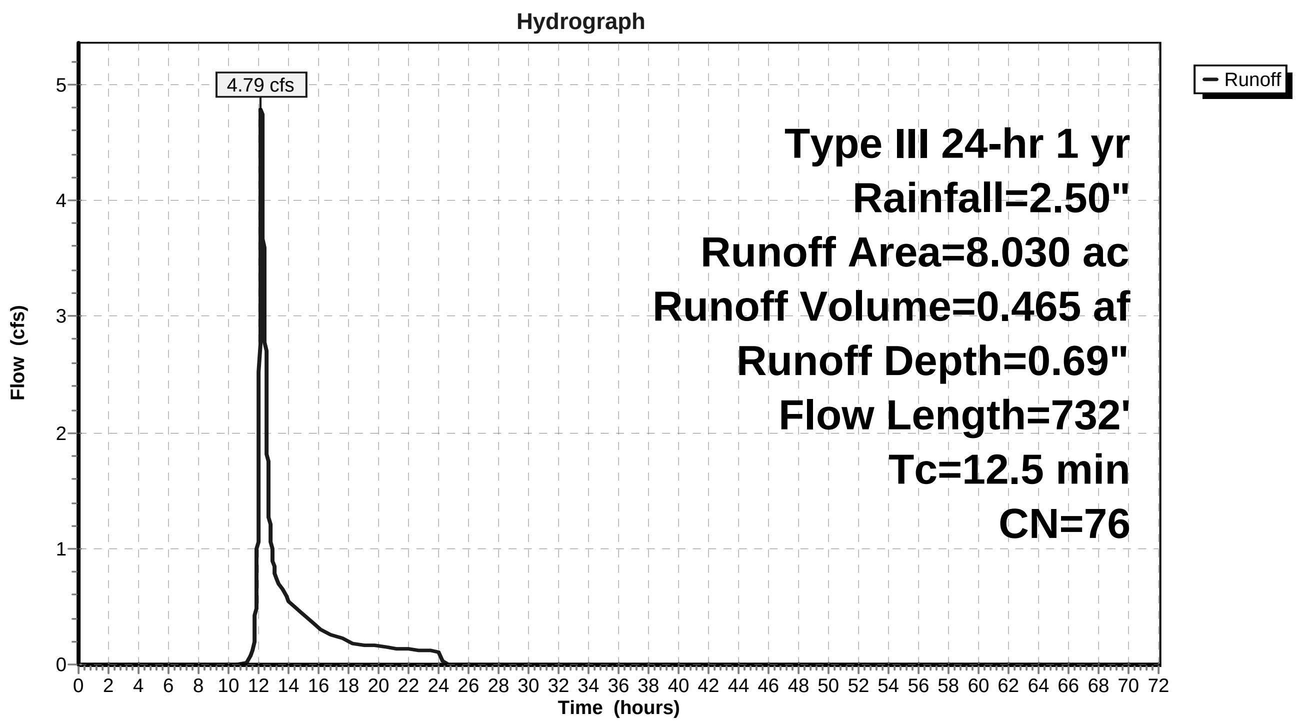
Runoff = 4.79 cfs @ 12.19 hrs, Volume= 0.465 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
6.360	73	Woods, Fair, HSG C
0.880	98	Paved parking, HSG C
0.790	79	50-75% Grass cover, Fair, HSG C
8.030	76	Weighted Average
7.150		89.04% Pervious Area
0.880		10.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	342	0.2740	8.43		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	290	0.0200	4.78	7.17	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.50' Z= 2.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.5	732	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

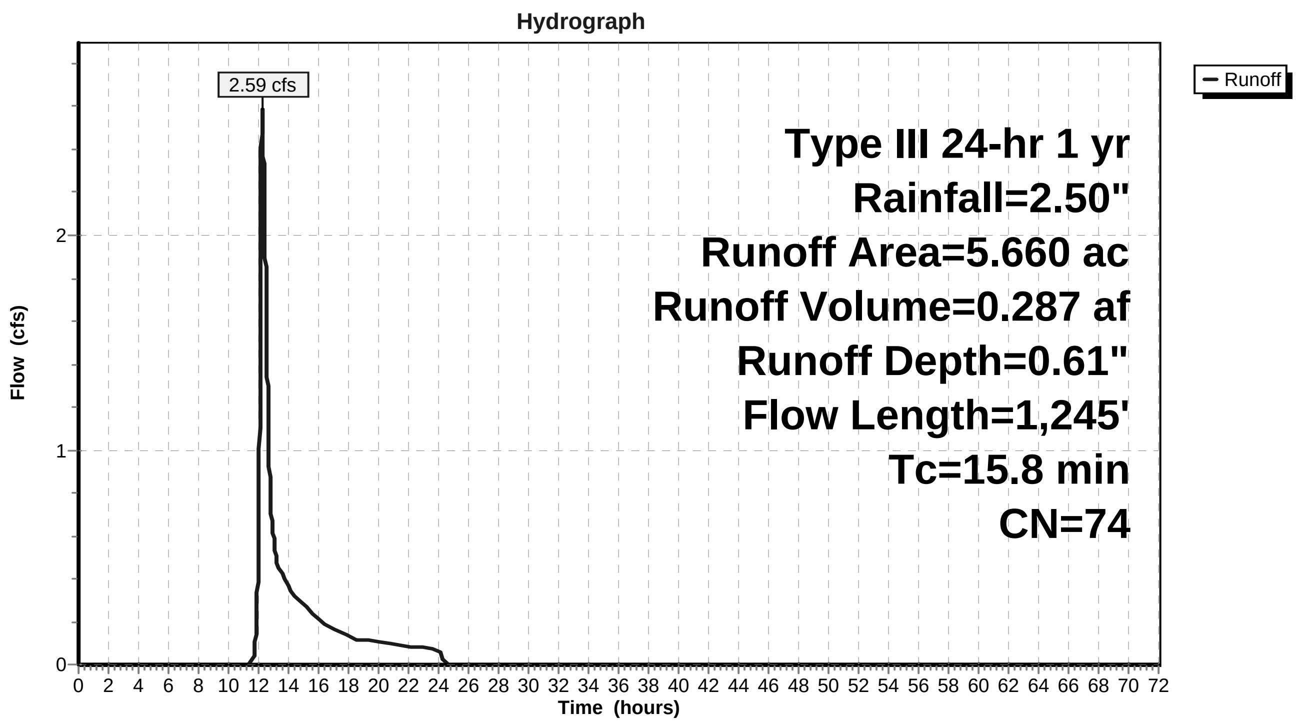
Runoff = 2.59 cfs @ 12.24 hrs, Volume= 0.287 af, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
5.000	73	Woods, Fair, HSG C
0.150	98	Paved parking, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
5.660	74	Weighted Average
5.510		97.35% Pervious Area
0.150		2.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0700	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	767	0.1190	5.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	378	0.0260	5.80	23.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
15.8	1,245	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

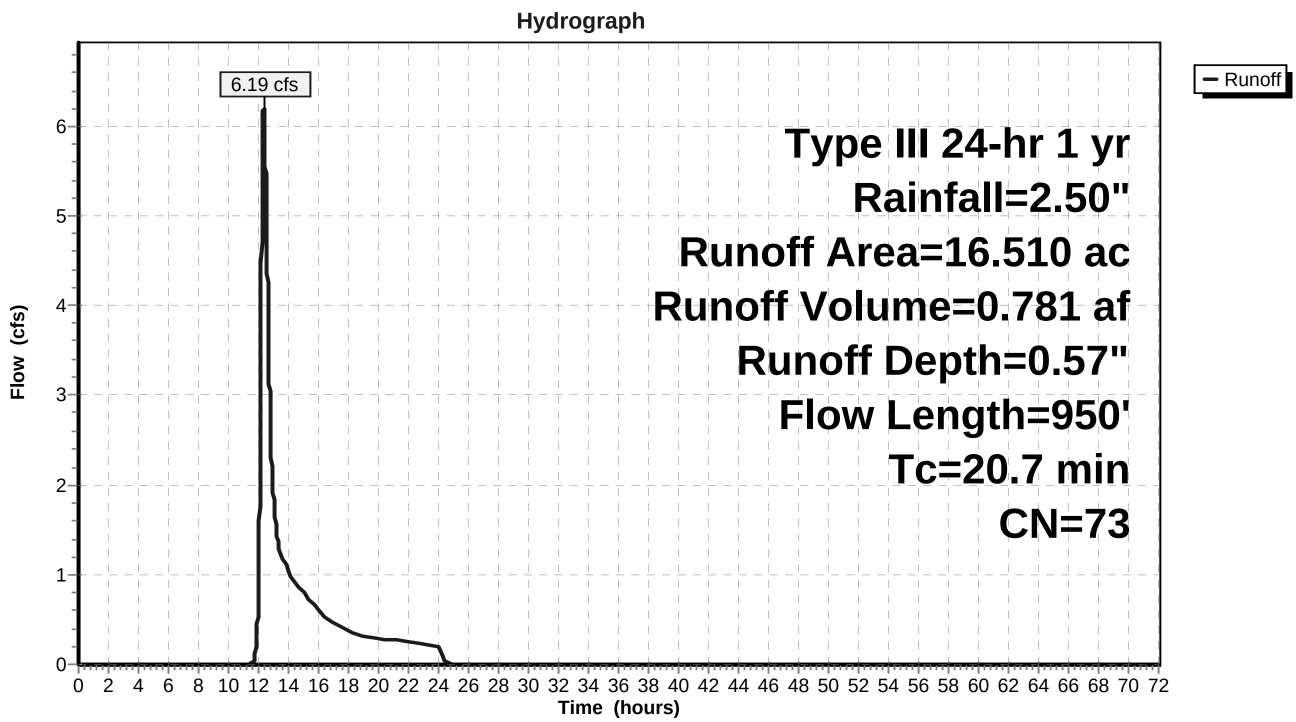
Runoff = 6.19 cfs @ 12.34 hrs, Volume= 0.781 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
16.510	73	Woods, Fair, HSG C
16.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.1	850	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.7	950	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

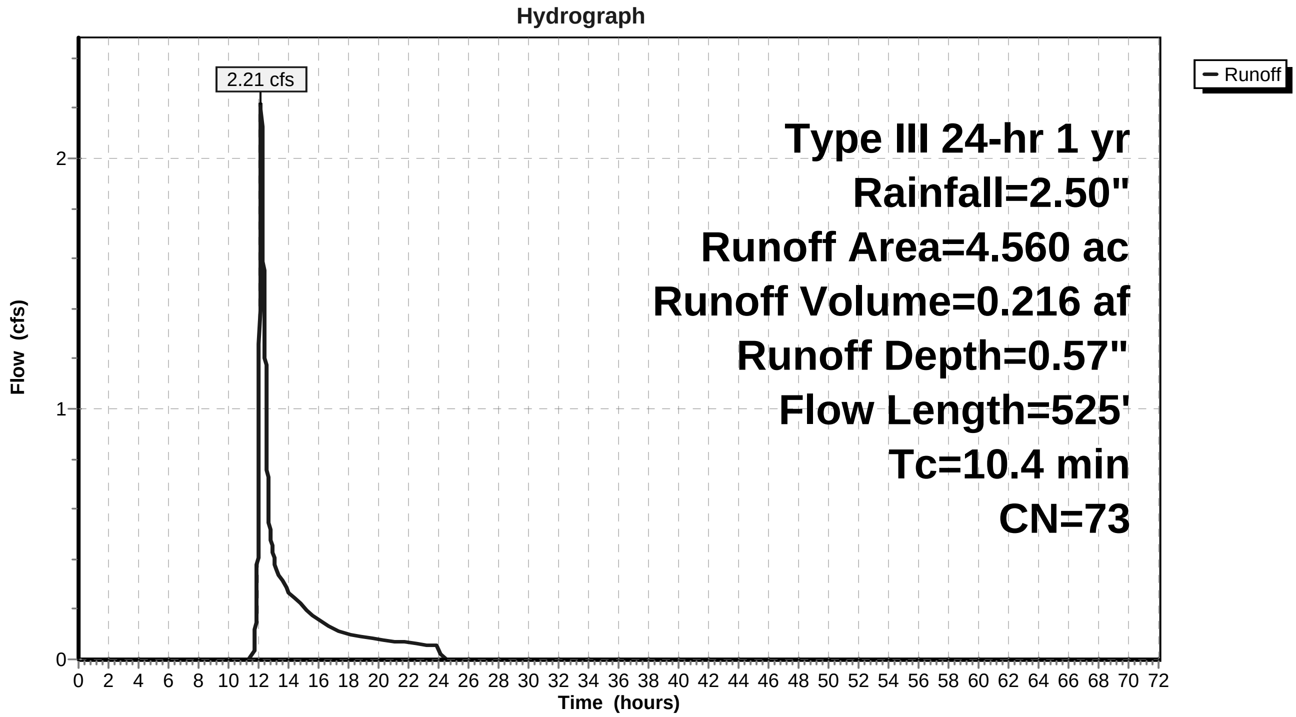
Runoff = 2.21 cfs @ 12.17 hrs, Volume= 0.216 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
4.560	73	Woods, Fair, HSG C
4.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	425	0.0880	4.78		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.4	525	Total			

Subcatchment 2b:



Summary for Subcatchment 2c:

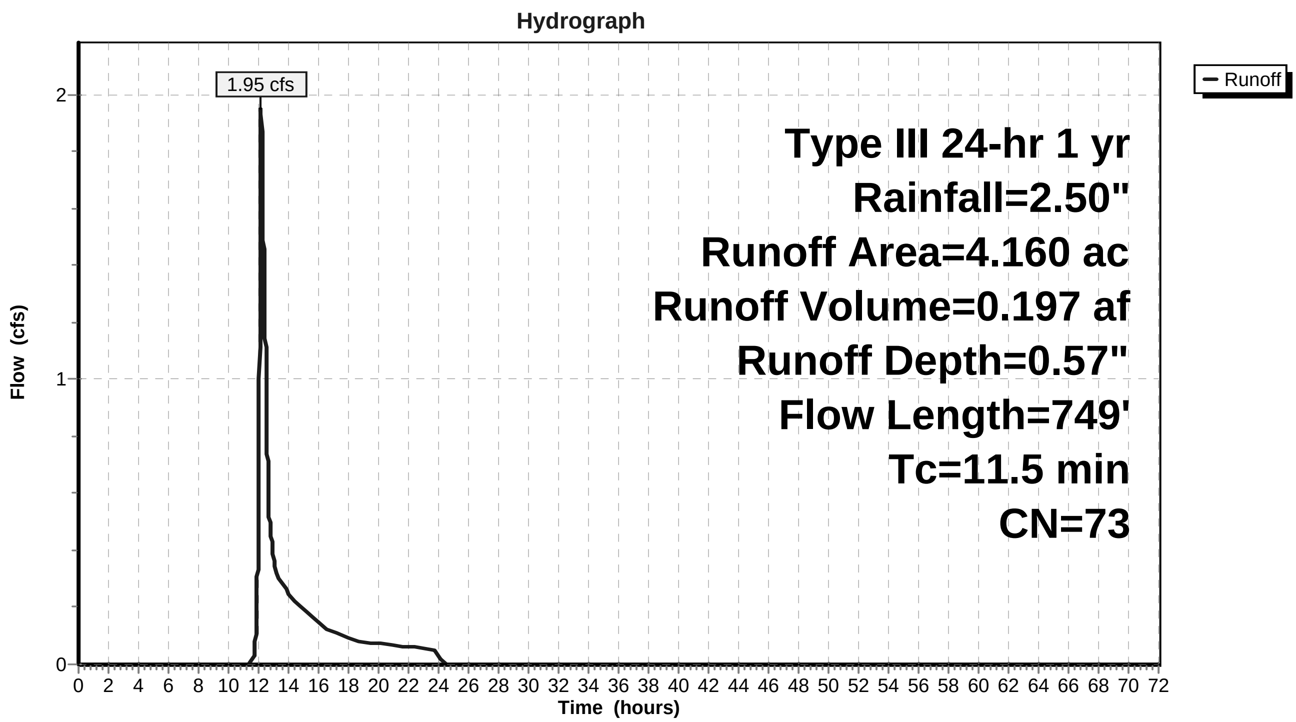
Runoff = 1.95 cfs @ 12.18 hrs, Volume= 0.197 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
4.160	73	Woods, Fair, HSG C
4.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	649	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	749	Total			

Subcatchment 2c:



Summary for Subcatchment 2d:

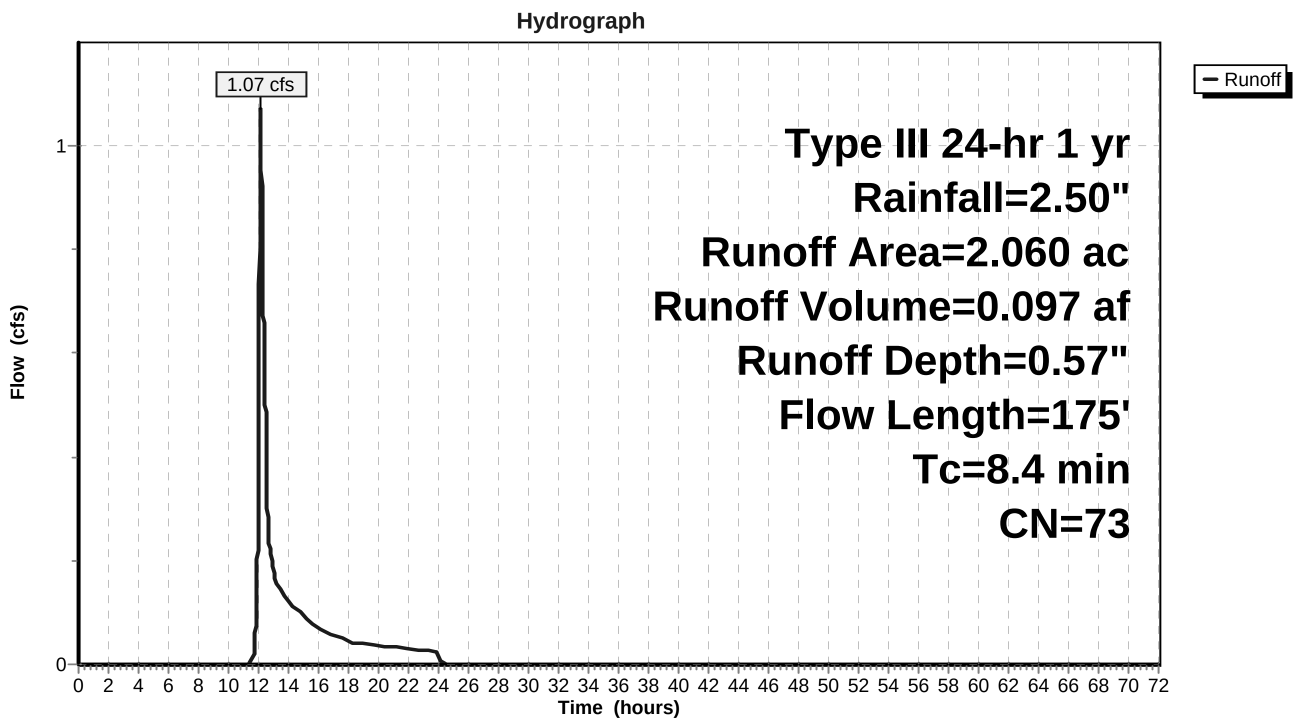
Runoff = 1.07 cfs @ 12.14 hrs, Volume= 0.097 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
2.060	73	Woods, Fair, HSG C
2.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.1900	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.4000	10.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.4	175	Total			

Subcatchment 2d:



Summary for Subcatchment 2e:

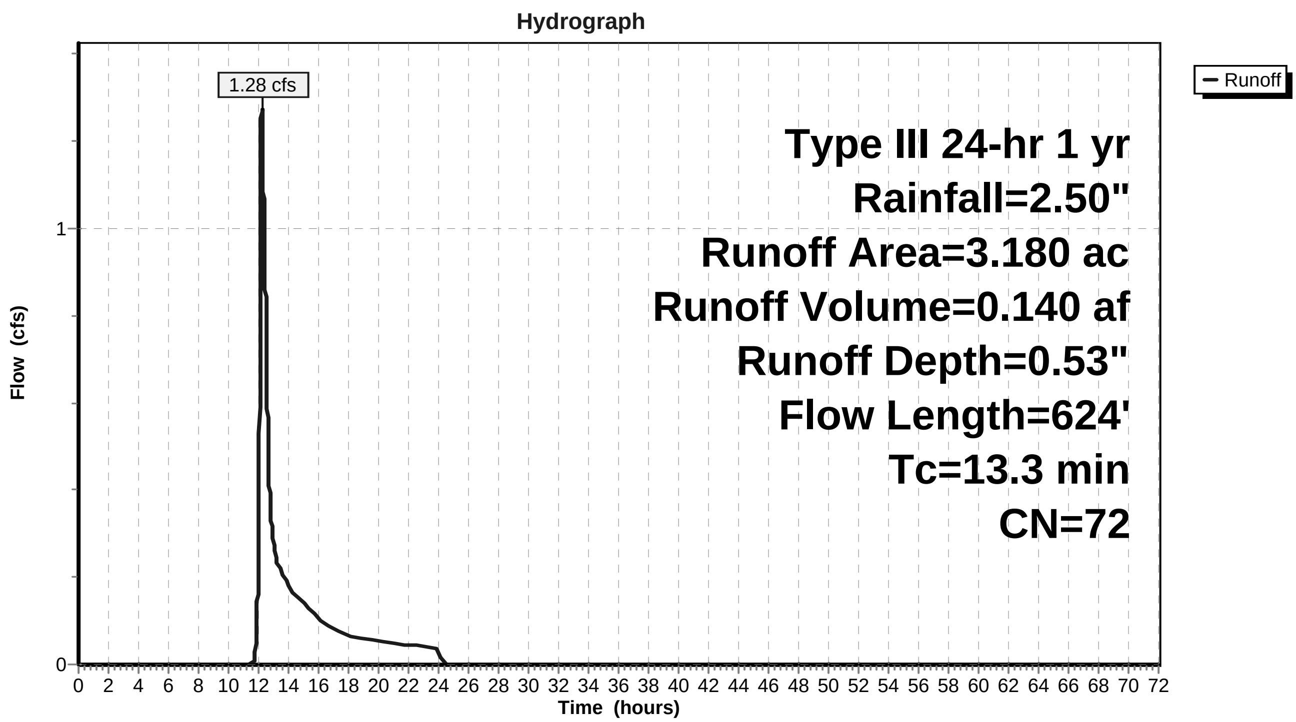
Runoff = 1.28 cfs @ 12.22 hrs, Volume= 0.140 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
2.410	73	Woods, Fair, HSG C
0.770	70	Brush, Fair, HSG C
3.180	72	Weighted Average
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	524	0.0490	3.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.3	624	Total			

Subcatchment 2e:

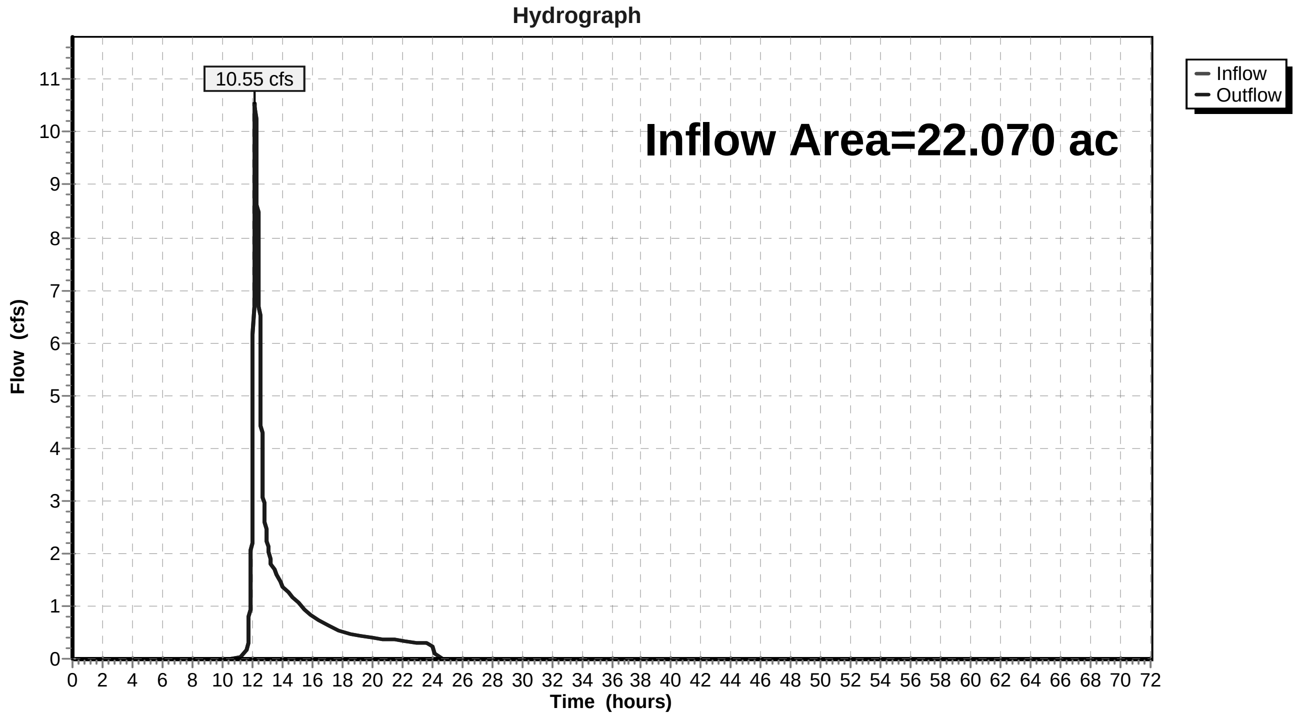


Summary for Reach dp1:

Inflow Area = 22.070 ac, 4.67% Impervious, Inflow Depth = 0.61" for 1 yr event
Inflow = 10.55 cfs @ 12.21 hrs, Volume= 1.129 af
Outflow = 10.55 cfs @ 12.21 hrs, Volume= 1.129 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

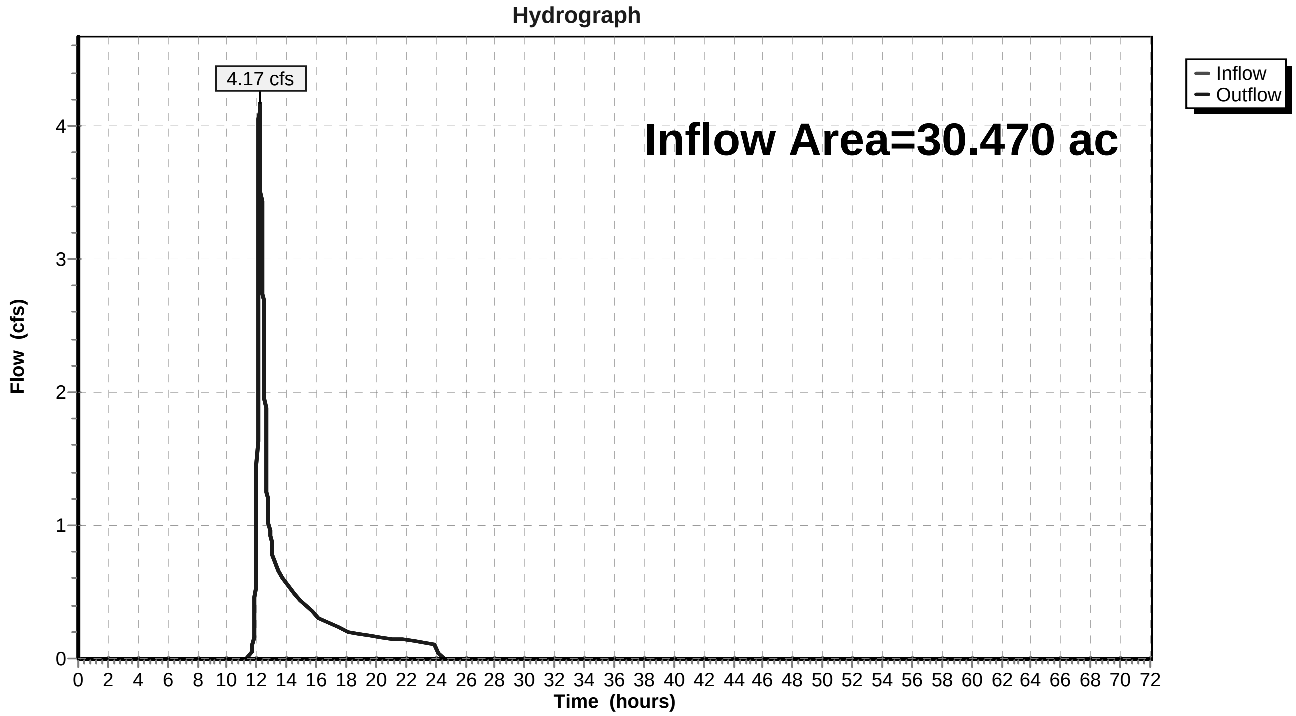


Summary for Reach dp2:

Inflow Area = 30.470 ac, 0.00% Impervious, Inflow Depth = 0.17" for 1 yr event
Inflow = 4.17 cfs @ 12.18 hrs, Volume= 0.434 af
Outflow = 4.17 cfs @ 12.18 hrs, Volume= 0.434 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



Summary for Pond P-2a:

Inflow Area = 16.510 ac, 0.00% Impervious, Inflow Depth = 0.57" for 1 yr event
Inflow = 6.19 cfs @ 12.34 hrs, Volume= 0.781 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 339.67' @ 25.17 hrs Surf.Area= 53,217 sf Storage= 34,018 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

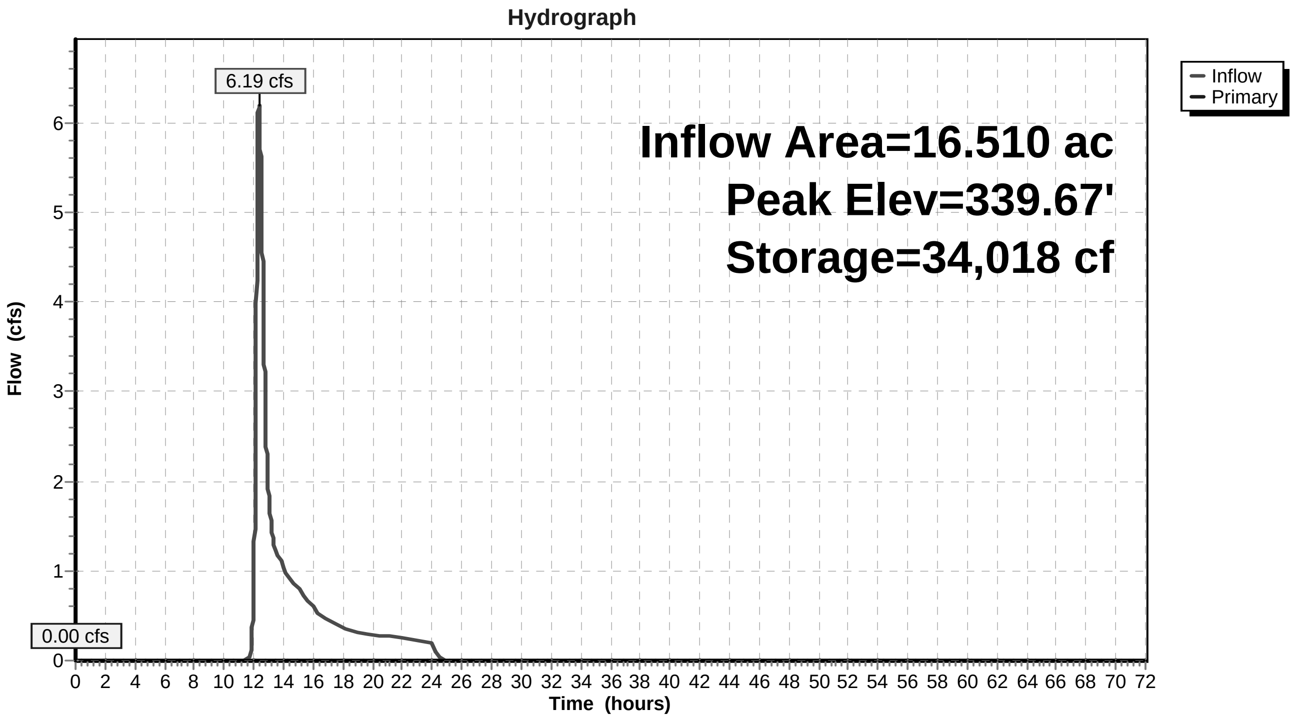
Volume	Invert	Avail.Storage	Storage Description
#1	338.15'	237,745 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
338.15	2,500	389.0	0	0	2,500
340.00	73,051	1,452.0	54,923	54,923	158,241
342.00	111,095	1,581.0	182,822	237,745	189,524

Device	Routing	Invert	Outlet Devices
#1	Primary	340.45'	**28.0' long x 60.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=338.15' TW=307.40' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P-2a:


Hydrograph
6.19 cfs
0.00 cfs
Inflow
Primary
Inflow Area=16.510 ac
Peak Elev=339.67'
Storage=34,018 cf
Flow (cfs)
0
1
2
3
4
5
6
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Time (hours)

Summary for Pond P-2b:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth = 0.12" for 1 yr event
Inflow = 2.21 cfs @ 12.17 hrs, Volume= 0.216 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 309.21' @ 24.60 hrs Surf.Area= 10,179 sf Storage= 9,396 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

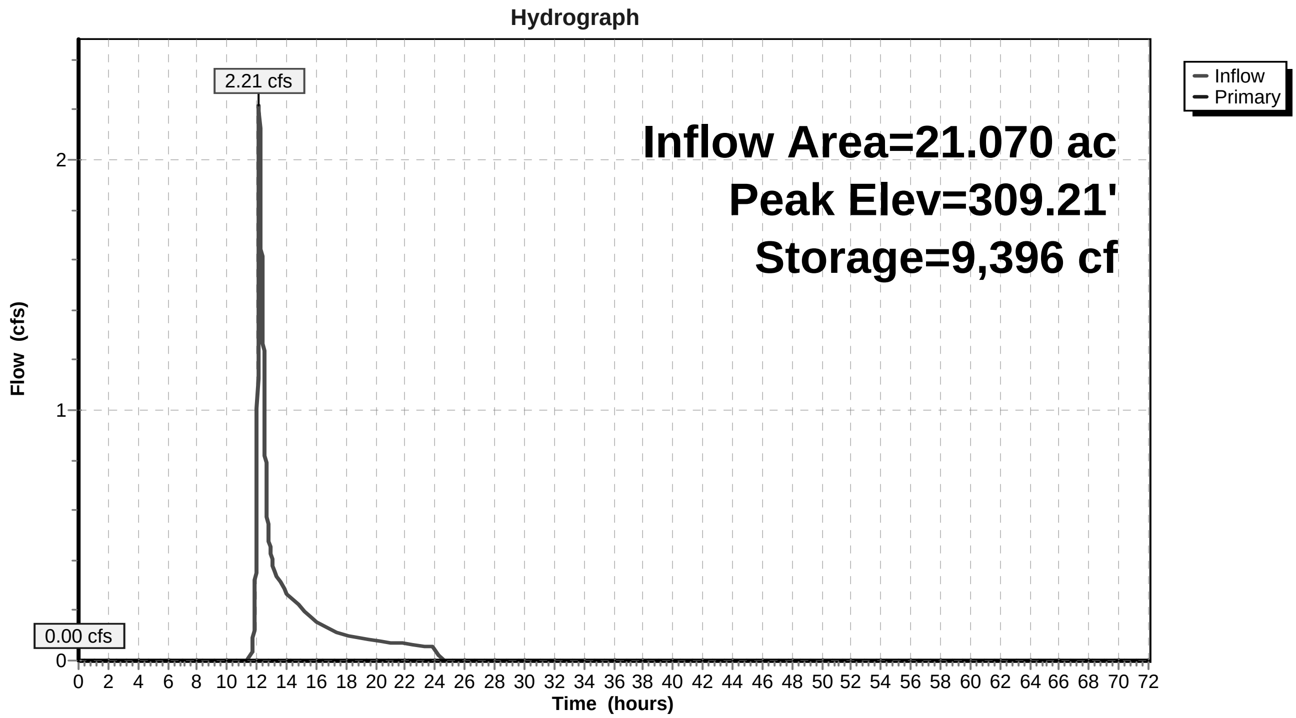
Volume	Invert	Avail.Storage	Storage Description
#1	307.40'	65,773 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
307.40	15	5.0	0	0	15
307.50	2,045	190.0	75	75	2,886
308.00	3,538	265.0	1,379	1,453	5,604
310.00	16,389	556.0	18,361	19,814	24,633
312.00	30,274	815.0	45,958	65,773	52,924

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**40.0' long x 30.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=307.40' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P-2b:


Hydrograph
2.21 cfs
0.00 cfs
Inflow
Primary
Inflow Area=21.070 ac
Peak Elev=309.21'
Storage=9,396 cf
Flow (cfs)
Time (hours)
0
1
2
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Summary for Subcatchment 1a:

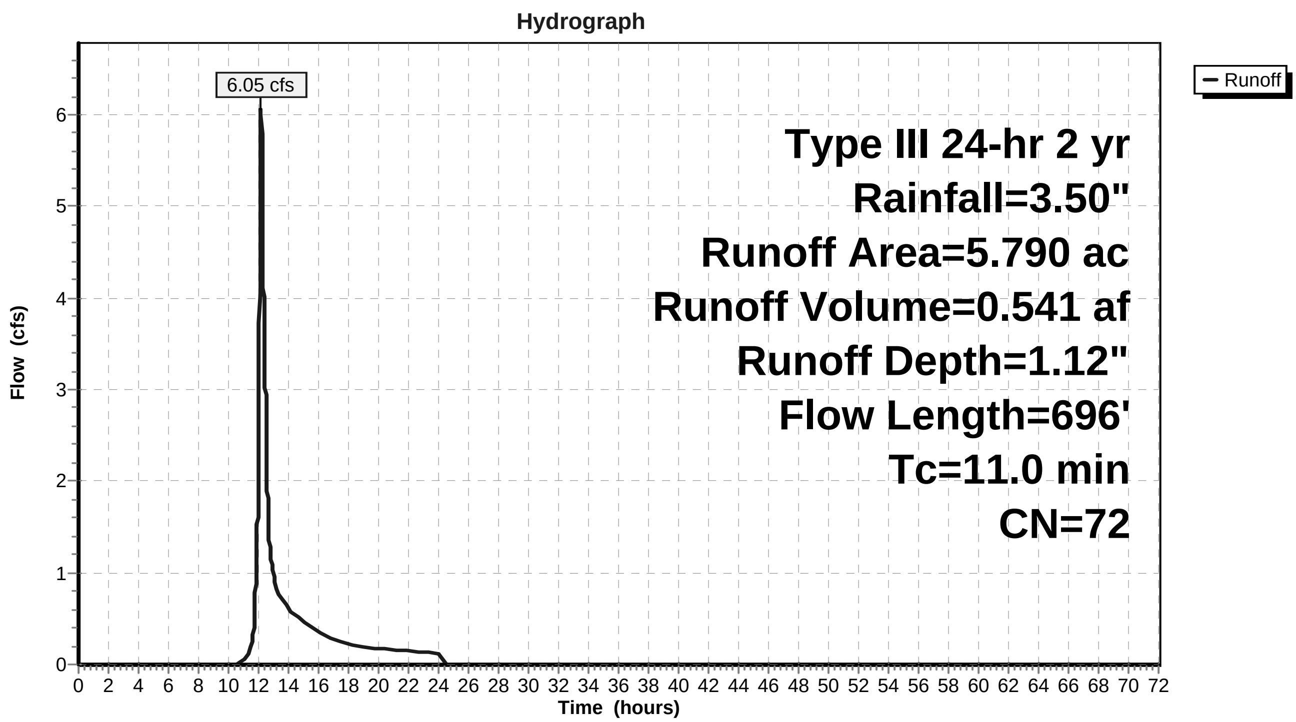
Runoff = 6.05 cfs @ 12.16 hrs, Volume= 0.541 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
4.100	73	Woods, Fair, HSG C
5.790	72	Weighted Average
5.790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

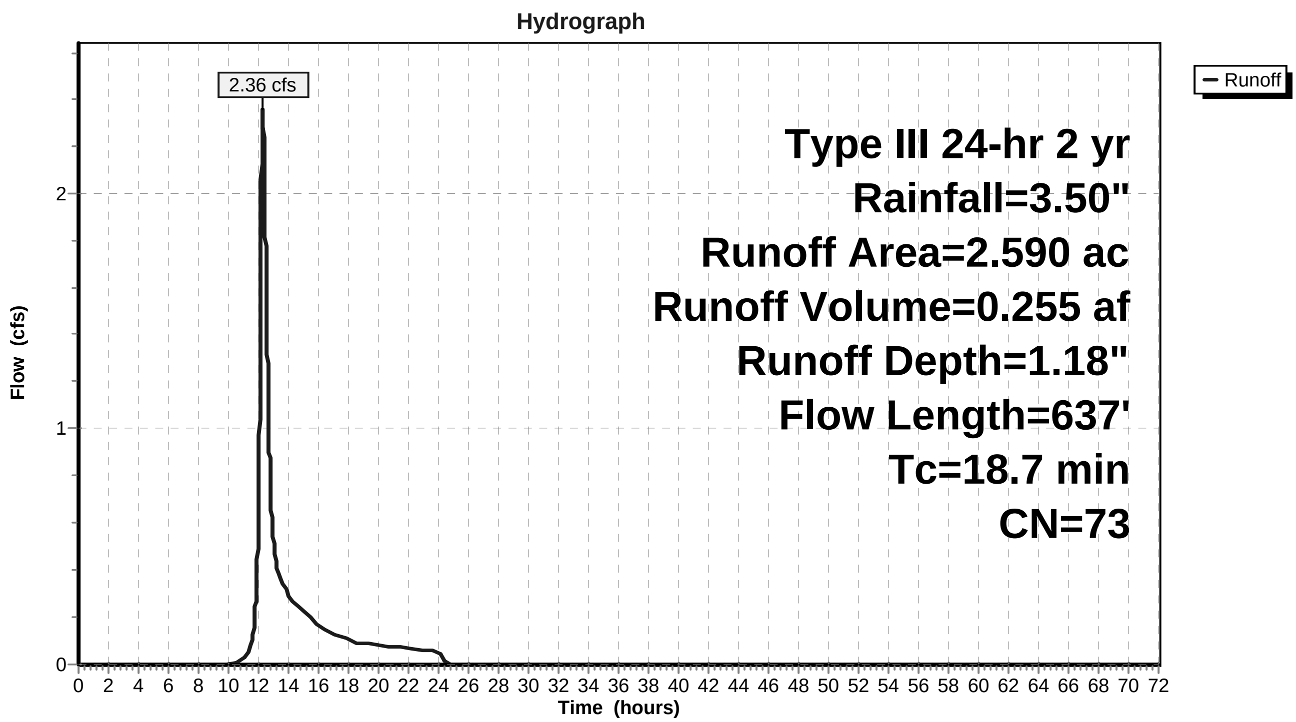
Runoff = 2.36 cfs @ 12.28 hrs, Volume= 0.255 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.060	79	50-75% Grass cover, Fair, HSG C
2.530	73	Woods, Fair, HSG C
2.590	73	Weighted Average
2.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0300	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.2	537	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	637	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

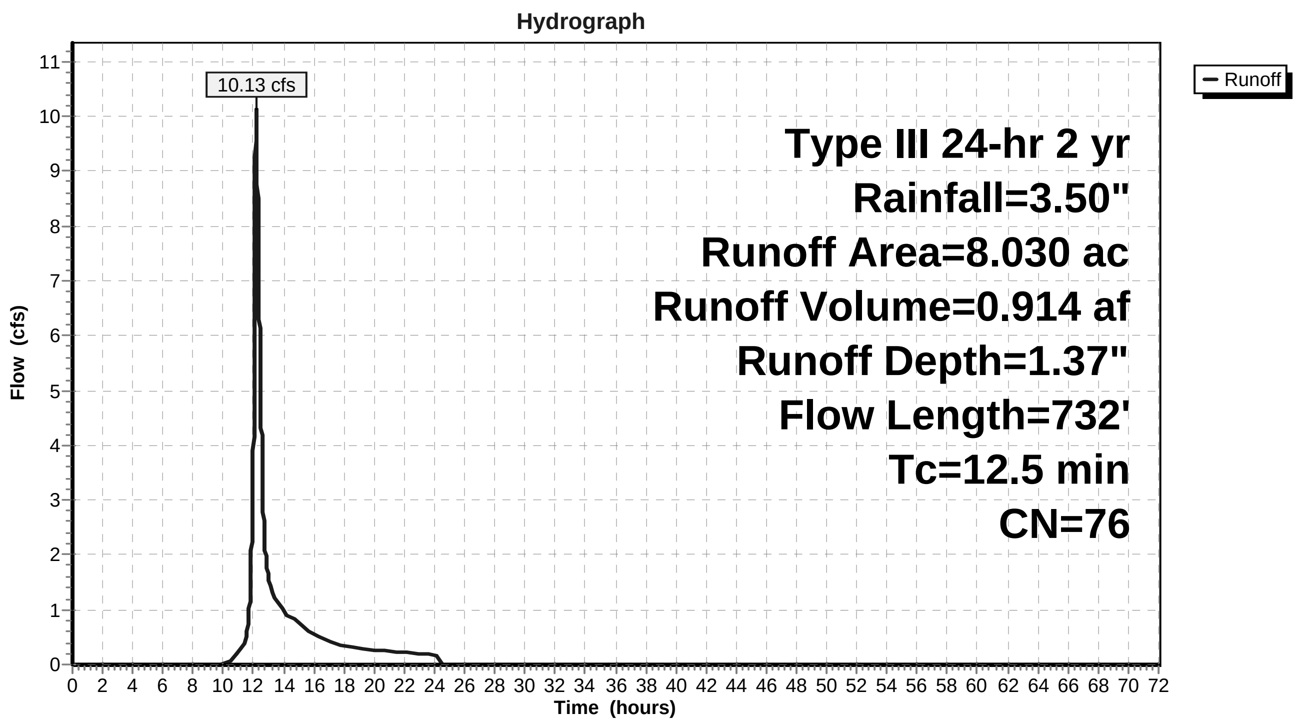
Runoff = 10.13 cfs @ 12.18 hrs, Volume= 0.914 af, Depth= 1.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
6.360	73	Woods, Fair, HSG C
0.880	98	Paved parking, HSG C
0.790	79	50-75% Grass cover, Fair, HSG C
8.030	76	Weighted Average
7.150		89.04% Pervious Area
0.880		10.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	342	0.2740	8.43		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	290	0.0200	4.78	7.17	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.50' Z= 2.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.5	732	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

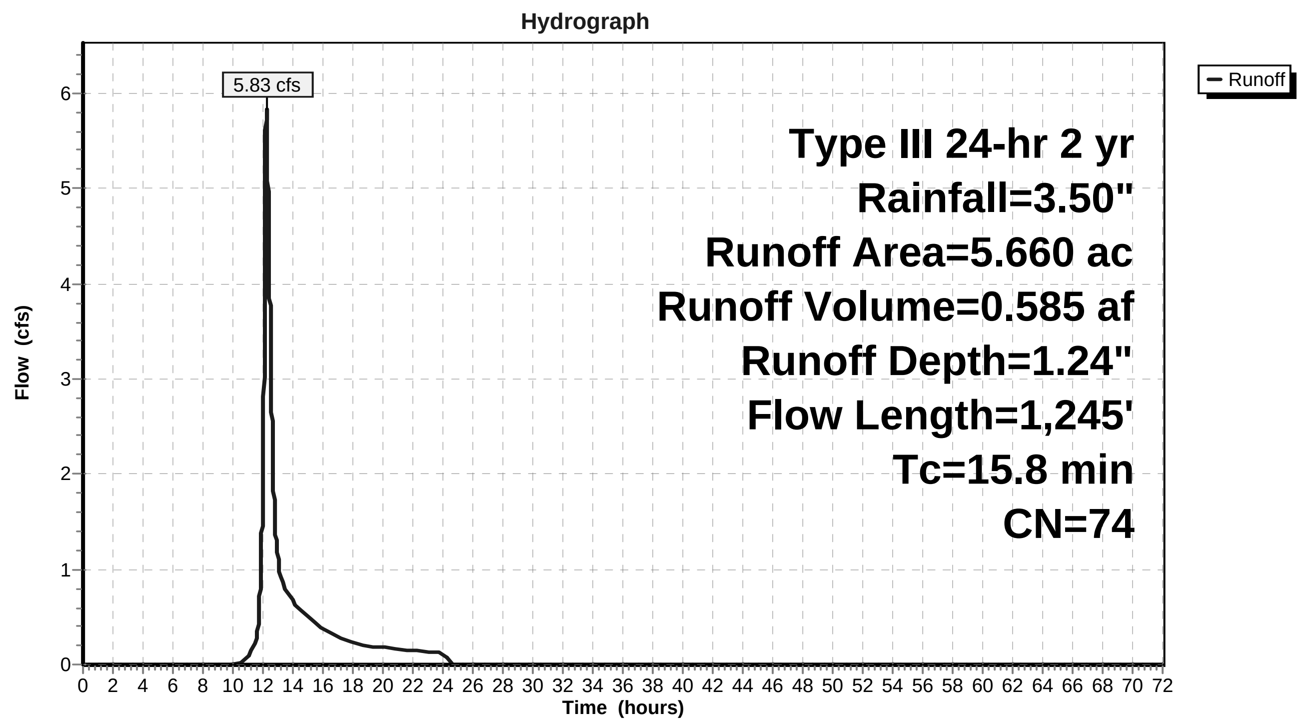
Runoff = 5.83 cfs @ 12.23 hrs, Volume= 0.585 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
5.000	73	Woods, Fair, HSG C
0.150	98	Paved parking, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
5.660	74	Weighted Average
5.510		97.35% Pervious Area
0.150		2.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0700	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	767	0.1190	5.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	378	0.0260	5.80	23.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
15.8	1,245	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

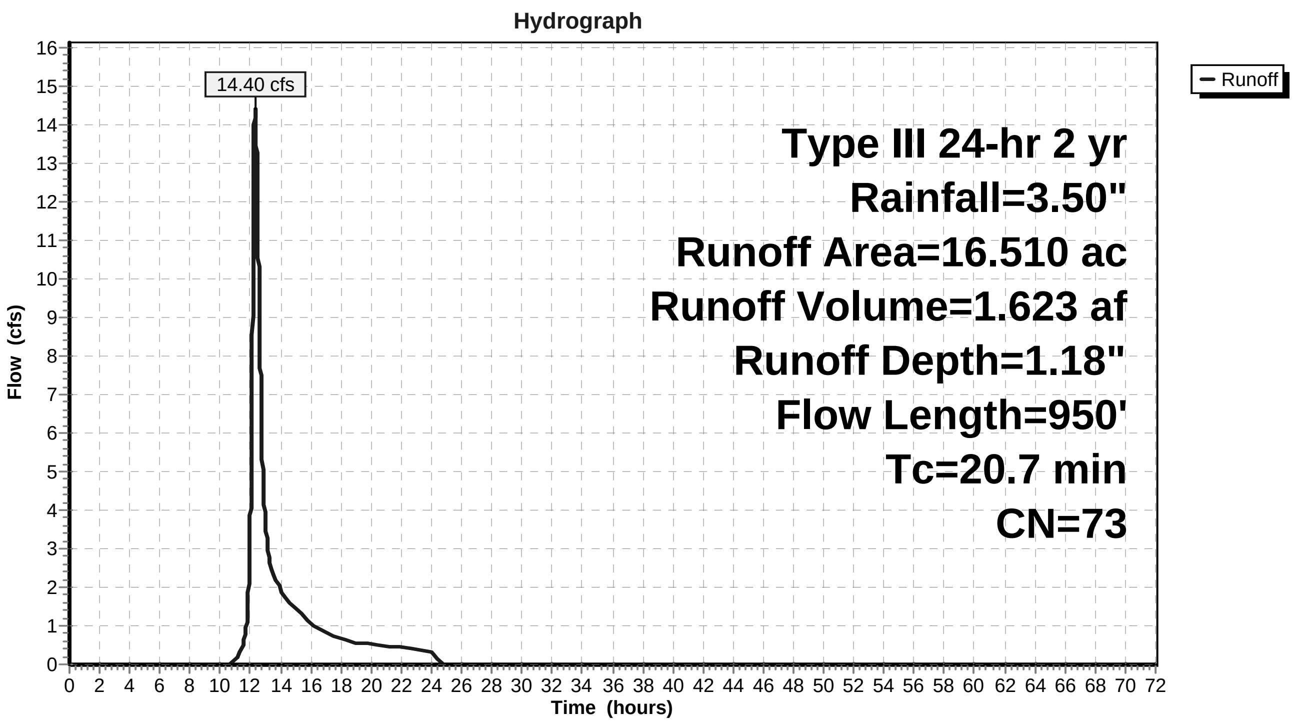
Runoff = 14.40 cfs @ 12.31 hrs, Volume= 1.623 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
16.510	73	Woods, Fair, HSG C
16.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.1	850	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.7	950	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

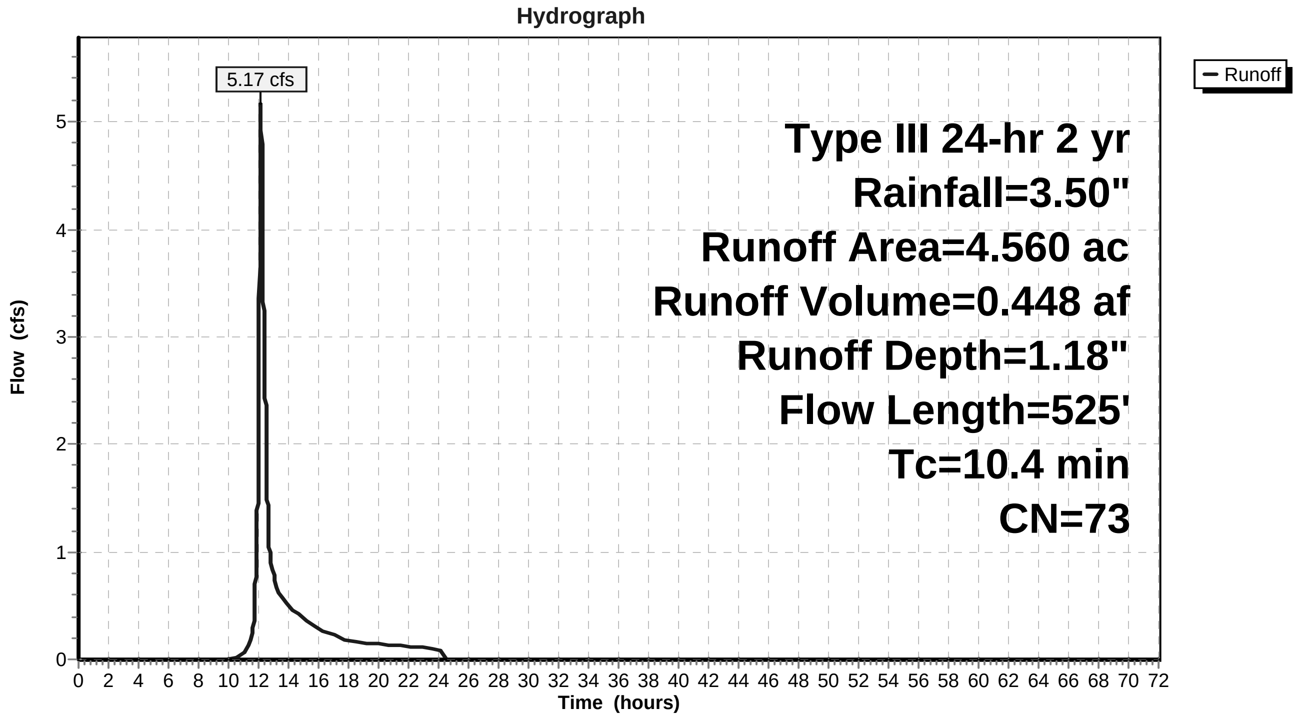
Runoff = 5.17 cfs @ 12.15 hrs, Volume= 0.448 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
4.560	73	Woods, Fair, HSG C
4.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	425	0.0880	4.78		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.4	525	Total			

Subcatchment 2b:



Summary for Subcatchment 2c:

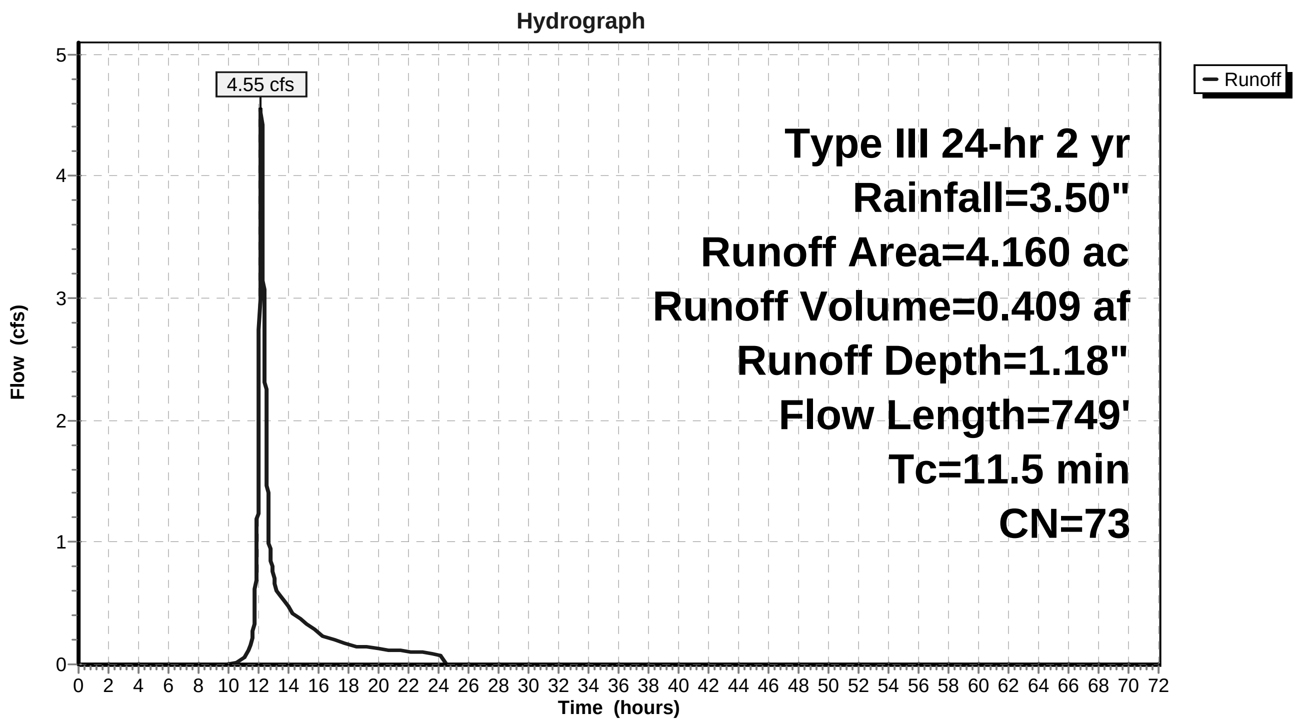
Runoff = 4.55 cfs @ 12.17 hrs, Volume= 0.409 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
4.160	73	Woods, Fair, HSG C
4.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	649	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	749	Total			

Subcatchment 2c:



Summary for Subcatchment 2d:

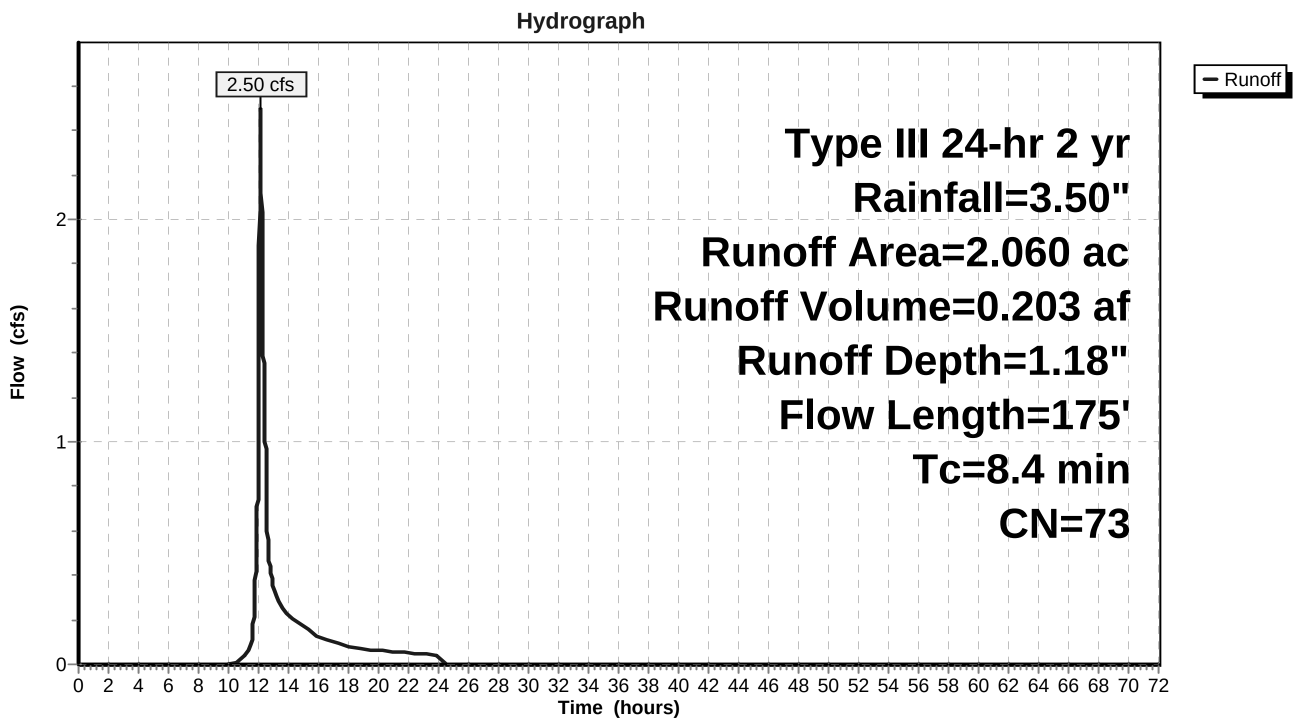
Runoff = 2.50 cfs @ 12.13 hrs, Volume= 0.203 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
2.060	73	Woods, Fair, HSG C
2.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.1900	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.4000	10.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.4	175	Total			

Subcatchment 2d:



Summary for Subcatchment 2e:

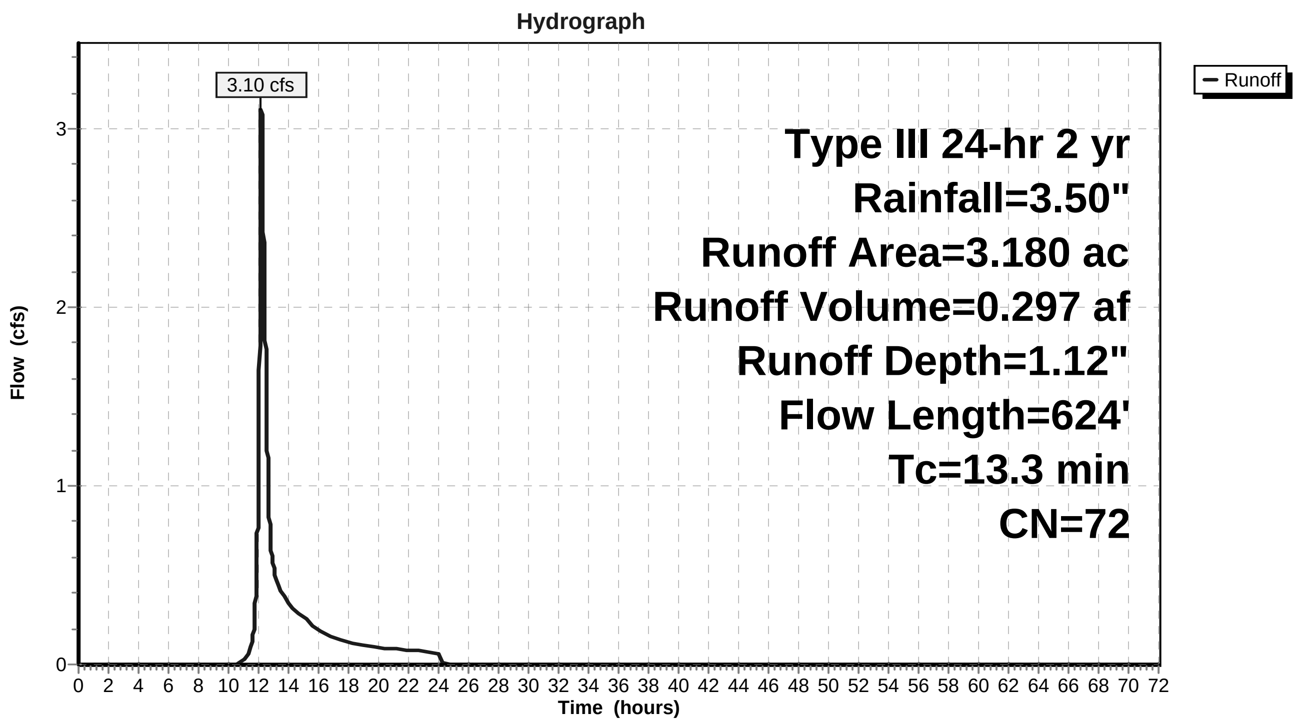
Runoff = 3.10 cfs @ 12.19 hrs, Volume= 0.297 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
2.410	73	Woods, Fair, HSG C
0.770	70	Brush, Fair, HSG C
3.180	72	Weighted Average
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	524	0.0490	3.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.3	624	Total			

Subcatchment 2e:

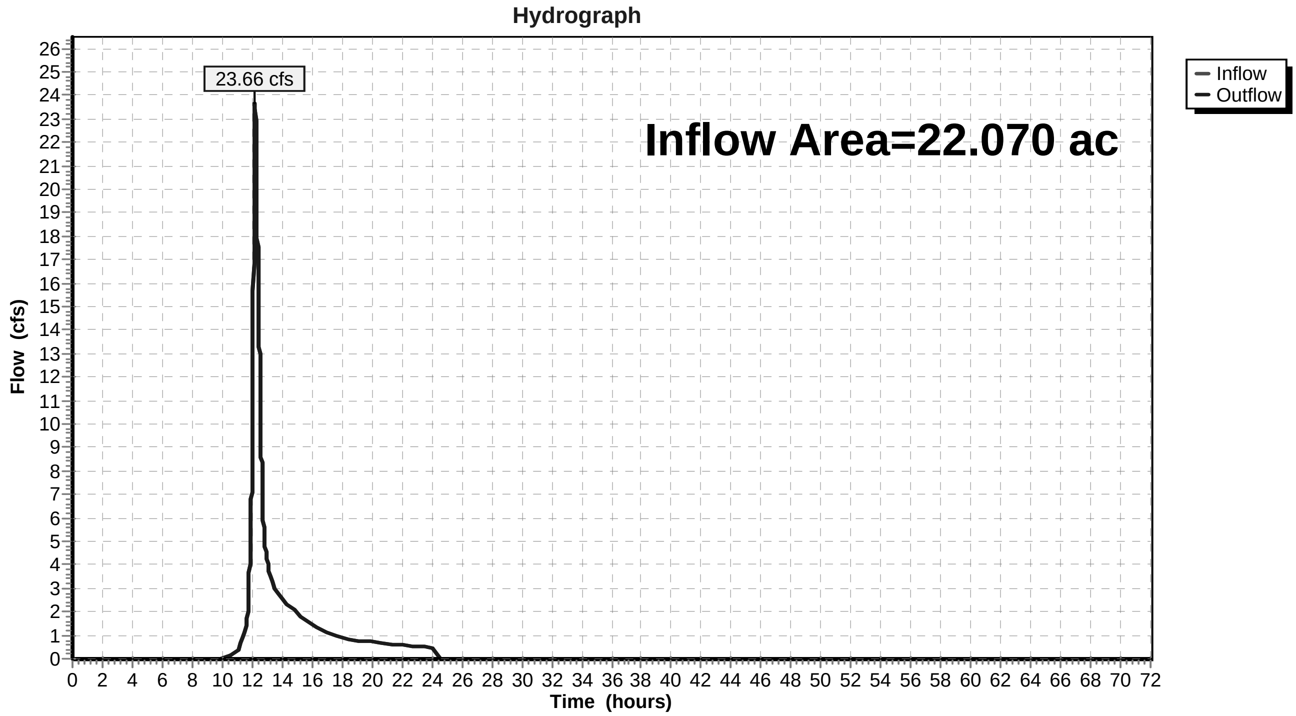


Summary for Reach dp1:

Inflow Area = 22.070 ac, 4.67% Impervious, Inflow Depth = 1.25" for 2 yr event
Inflow = 23.66 cfs @ 12.19 hrs, Volume= 2.294 af
Outflow = 23.66 cfs @ 12.19 hrs, Volume= 2.294 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

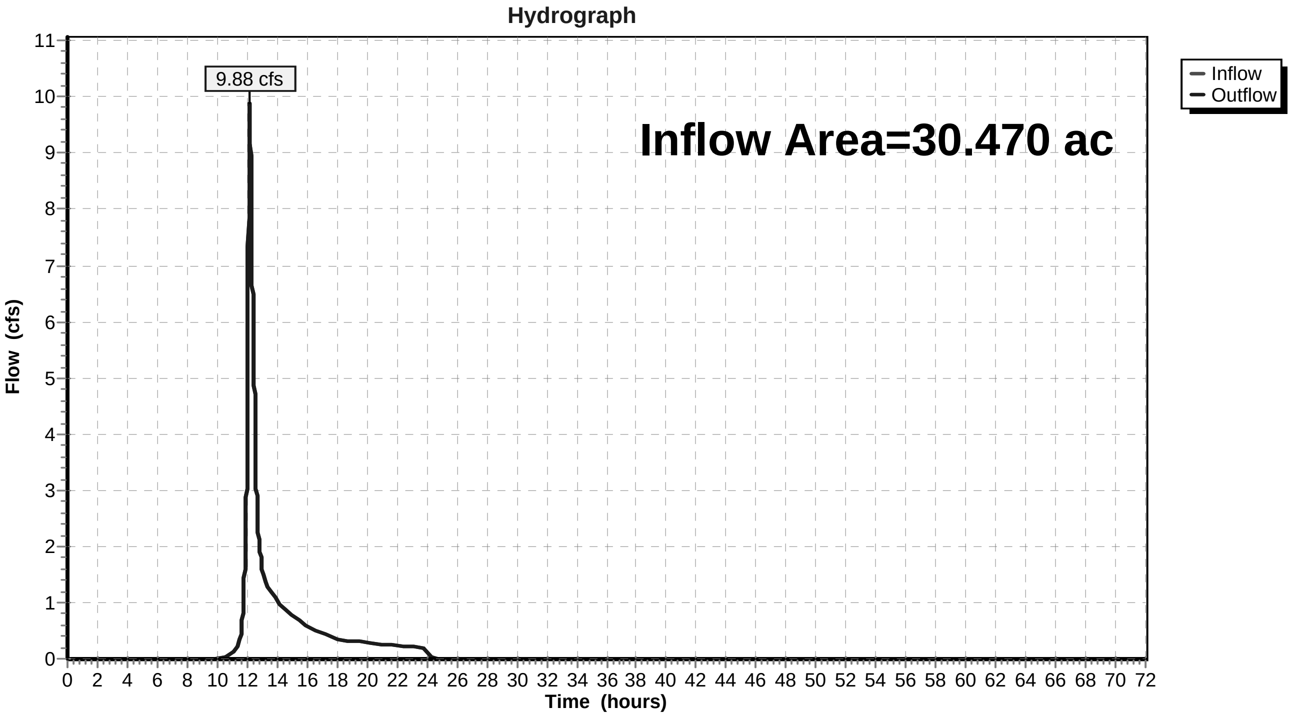


Summary for Reach dp2:

Inflow Area =	30.470 ac,	0.00% Impervious, Inflow Depth = 0.36"	for 2 yr event	
Inflow =	9.88 cfs @	12.16 hrs, Volume=	0.908 af	
Outflow =	9.88 cfs @	12.16 hrs, Volume=	0.908 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



Summary for Pond P-2a:

Inflow Area = 16.510 ac, 0.00% Impervious, Inflow Depth = 1.18" for 2 yr event
Inflow = 14.40 cfs @ 12.31 hrs, Volume= 1.623 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.21' @ 25.17 hrs Surf.Area= 76,685 sf Storage= 70,697 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

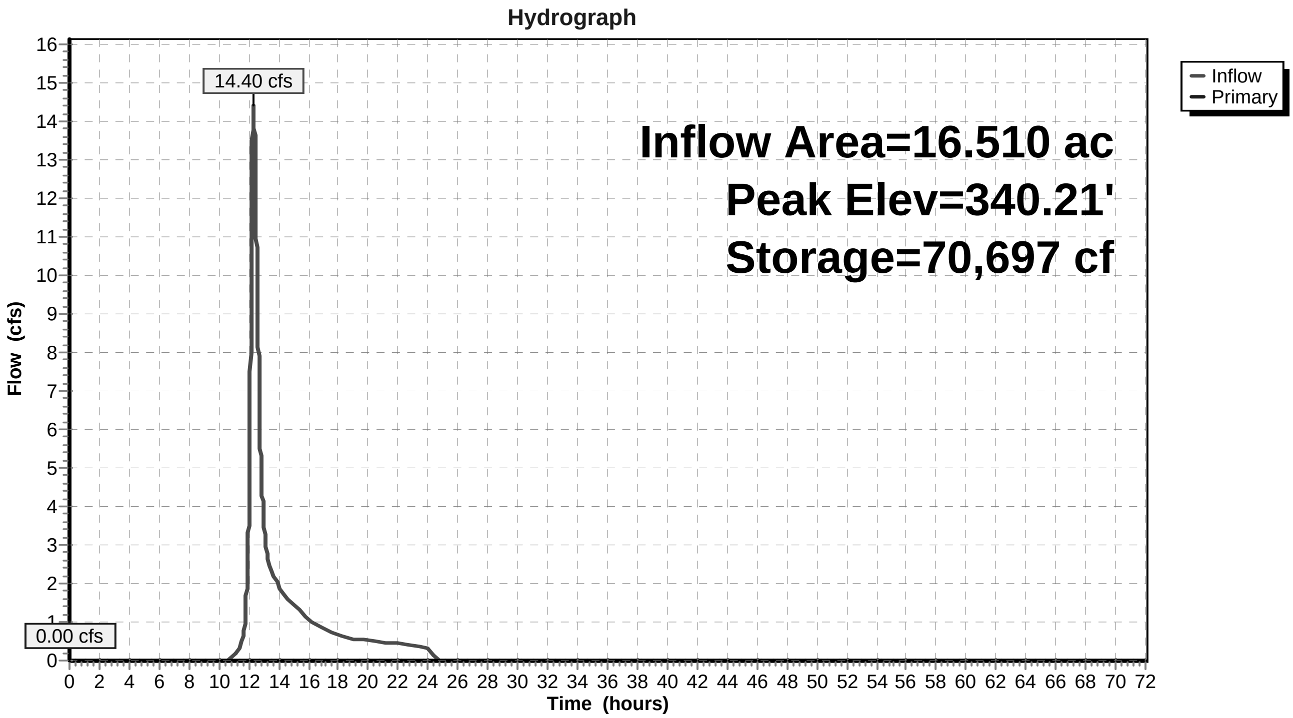
Volume	Invert	Avail.Storage	Storage Description
#1	338.15'	237,745 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
338.15	2,500	389.0	0	0	2,500
340.00	73,051	1,452.0	54,923	54,923	158,241
342.00	111,095	1,581.0	182,822	237,745	189,524

Device	Routing	Invert	Outlet Devices
#1	Primary	340.45'	**28.0' long x 60.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=338.15' TW=307.40' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P-2a:


Hydrograph
14.40 cfs
0.00 cfs
Inflow
Primary
Inflow Area=16.510 ac
Peak Elev=340.21'
Storage=70,697 cf
Flow (cfs)
Time (hours)
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Summary for Pond P-2b:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth = 0.26" for 2 yr event
Inflow = 5.17 cfs @ 12.15 hrs, Volume= 0.448 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 309.98' @ 24.60 hrs Surf.Area= 16,234 sf Storage= 19,526 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

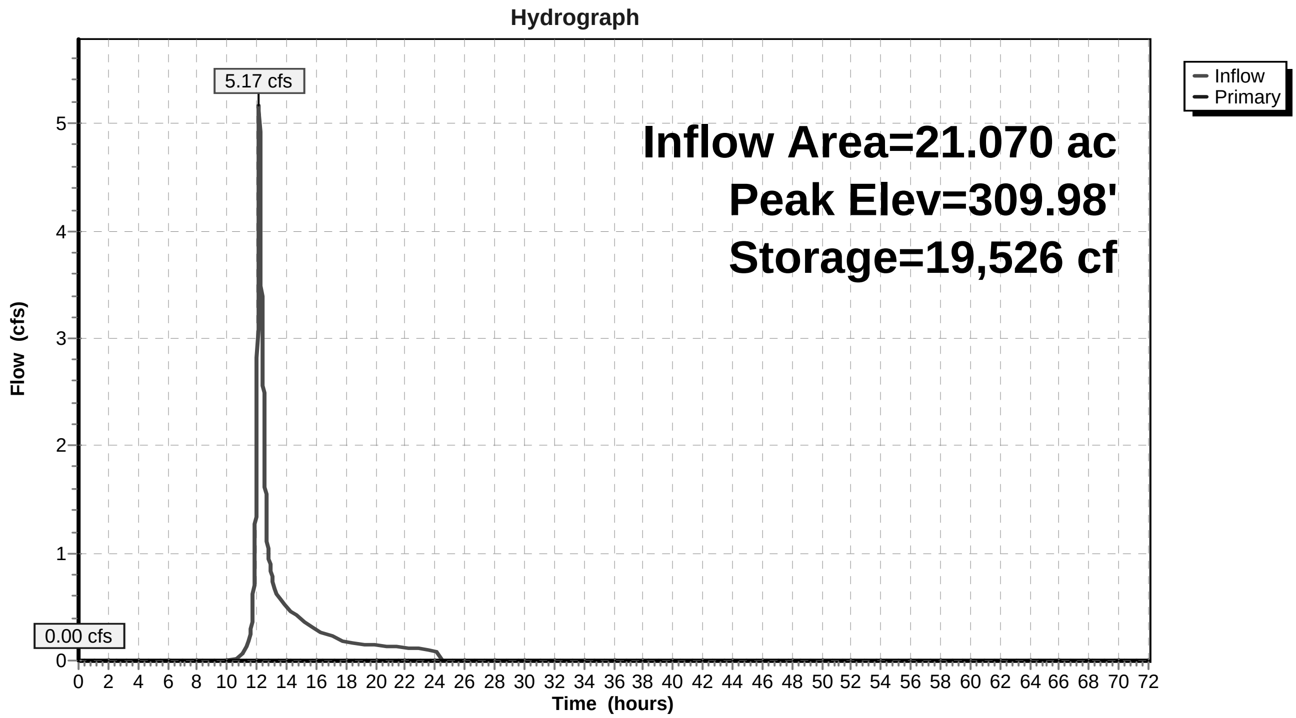
Volume	Invert	Avail.Storage	Storage Description
#1	307.40'	65,773 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
307.40	15	5.0	0	0	15
307.50	2,045	190.0	75	75	2,886
308.00	3,538	265.0	1,379	1,453	5,604
310.00	16,389	556.0	18,361	19,814	24,633
312.00	30,274	815.0	45,958	65,773	52,924

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**40.0' long x 30.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=307.40' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P-2b:


Hydrograph
5.17 cfs
0.00 cfs
Inflow
Primary
Inflow Area=21.070 ac
Peak Elev=309.98'
Storage=19,526 cf
Flow (cfs)
Time (hours)
0
1
2
3
4
5
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Summary for Subcatchment 1a:

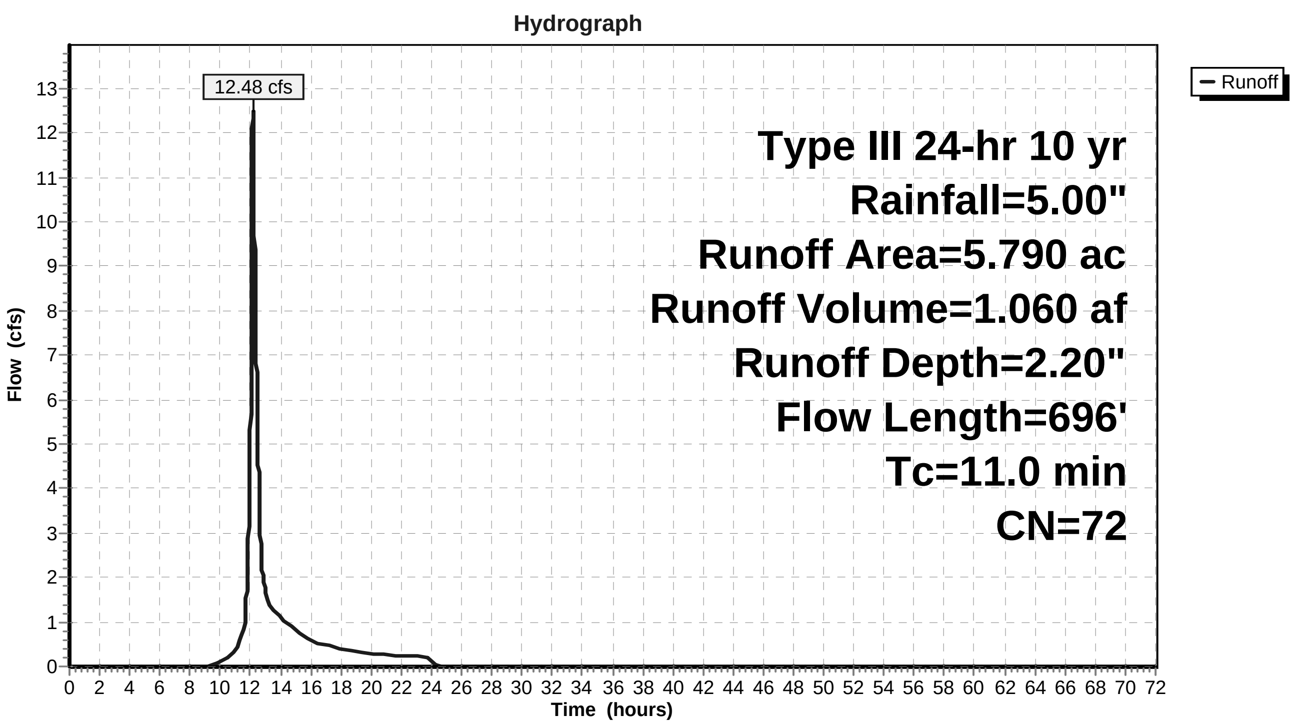
Runoff = 12.48 cfs @ 12.16 hrs, Volume= 1.060 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
4.100	73	Woods, Fair, HSG C
5.790	72	Weighted Average
5.790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

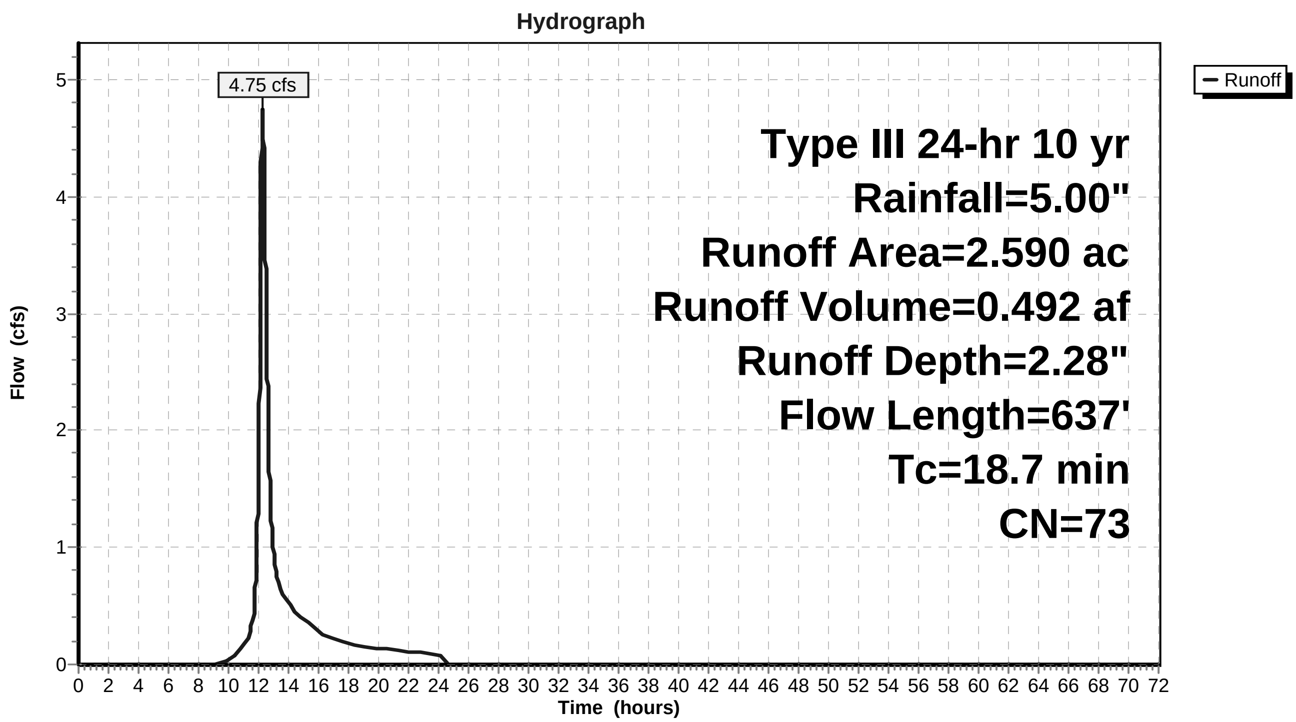
Runoff = 4.75 cfs @ 12.26 hrs, Volume= 0.492 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.060	79	50-75% Grass cover, Fair, HSG C
2.530	73	Woods, Fair, HSG C
2.590	73	Weighted Average
2.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0300	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.2	537	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	637	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

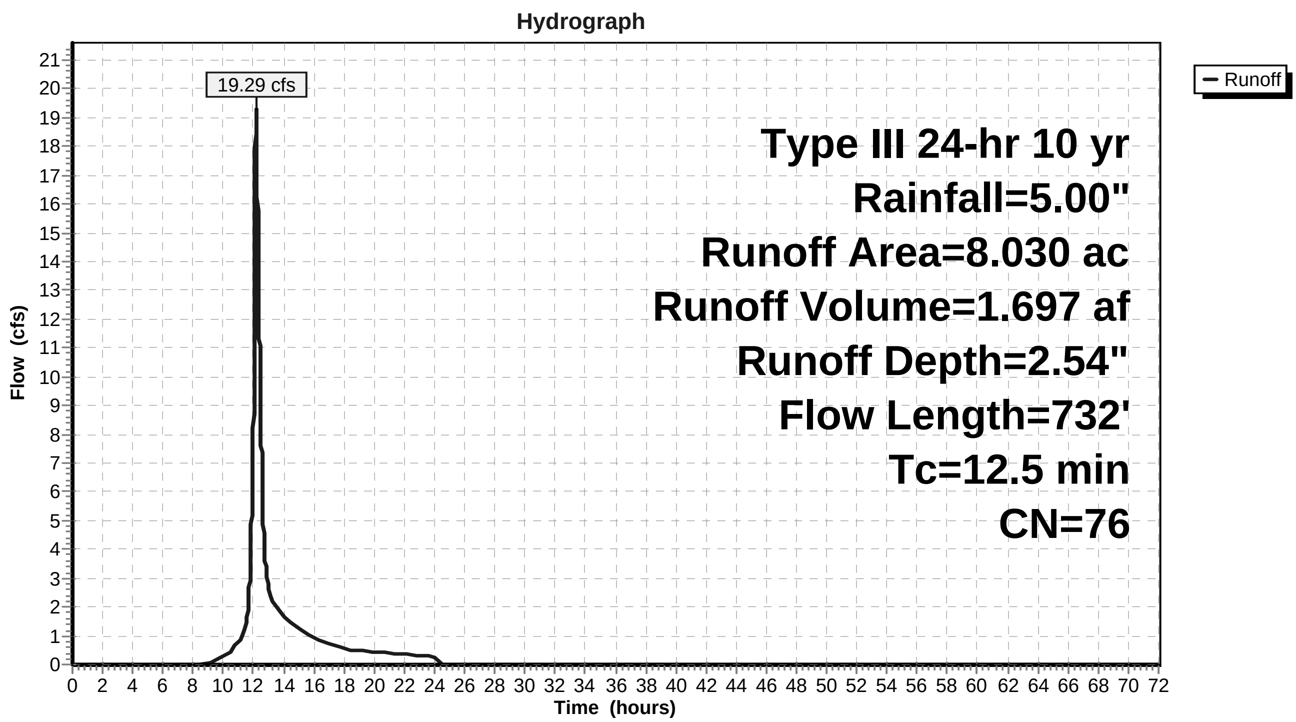
Runoff = 19.29 cfs @ 12.18 hrs, Volume= 1.697 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
6.360	73	Woods, Fair, HSG C
0.880	98	Paved parking, HSG C
0.790	79	50-75% Grass cover, Fair, HSG C
8.030	76	Weighted Average
7.150		89.04% Pervious Area
0.880		10.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	342	0.2740	8.43		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	290	0.0200	4.78	7.17	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.50' Z= 2.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.5	732	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

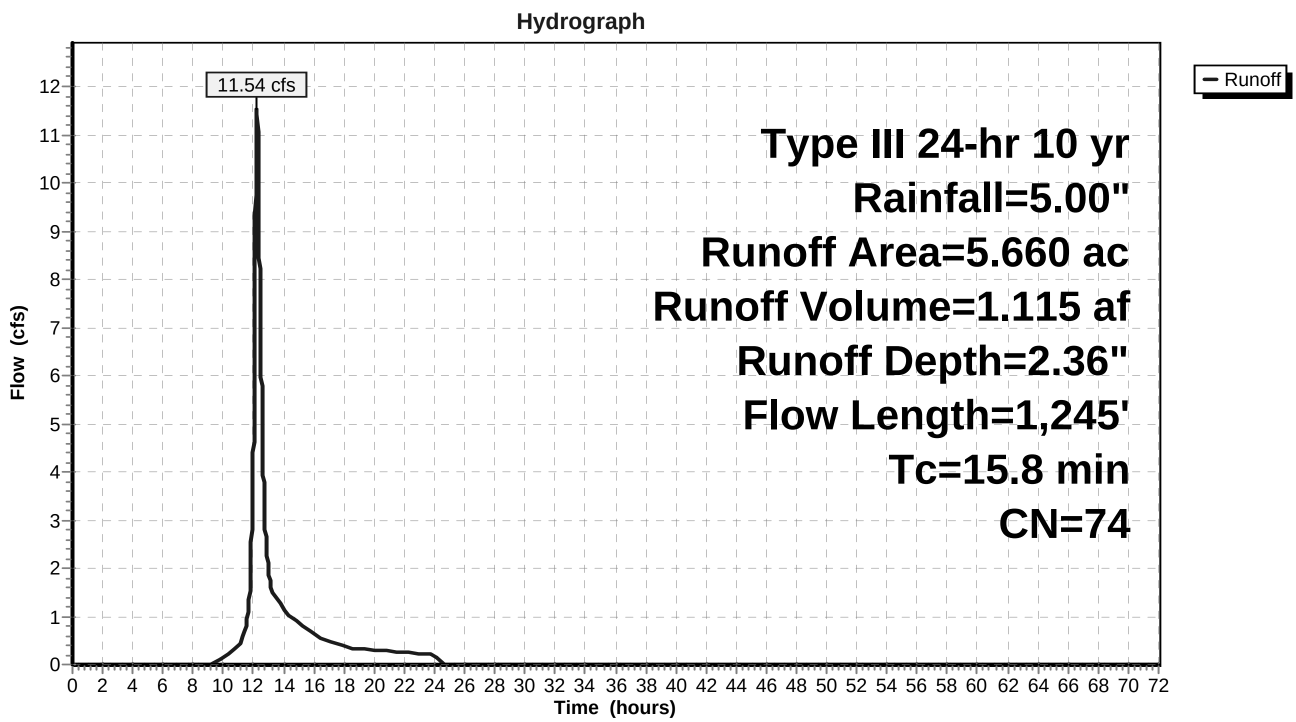
Runoff = 11.54 cfs @ 12.22 hrs, Volume= 1.115 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
5.000	73	Woods, Fair, HSG C
0.150	98	Paved parking, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
5.660	74	Weighted Average
5.510		97.35% Pervious Area
0.150		2.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0700	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	767	0.1190	5.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	378	0.0260	5.80	23.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
15.8	1,245	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

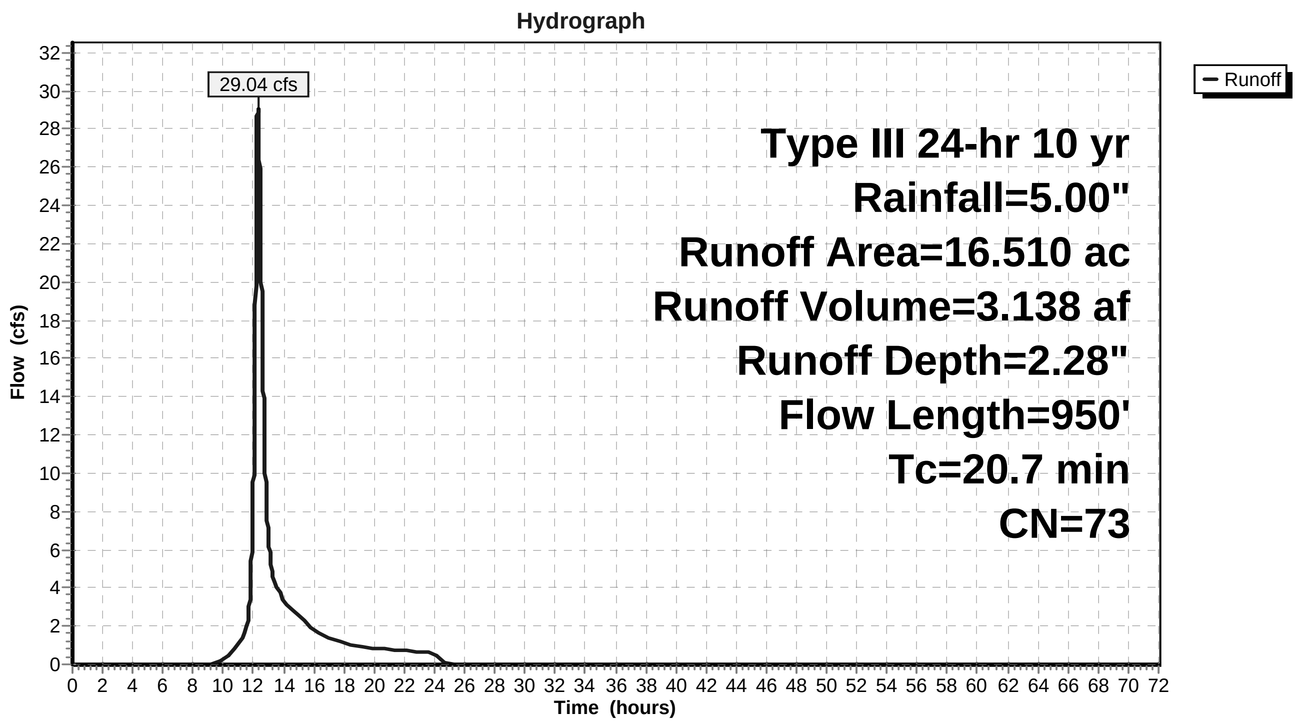
Runoff = 29.04 cfs @ 12.30 hrs, Volume= 3.138 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
16.510	73	Woods, Fair, HSG C
16.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.1	850	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.7	950	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

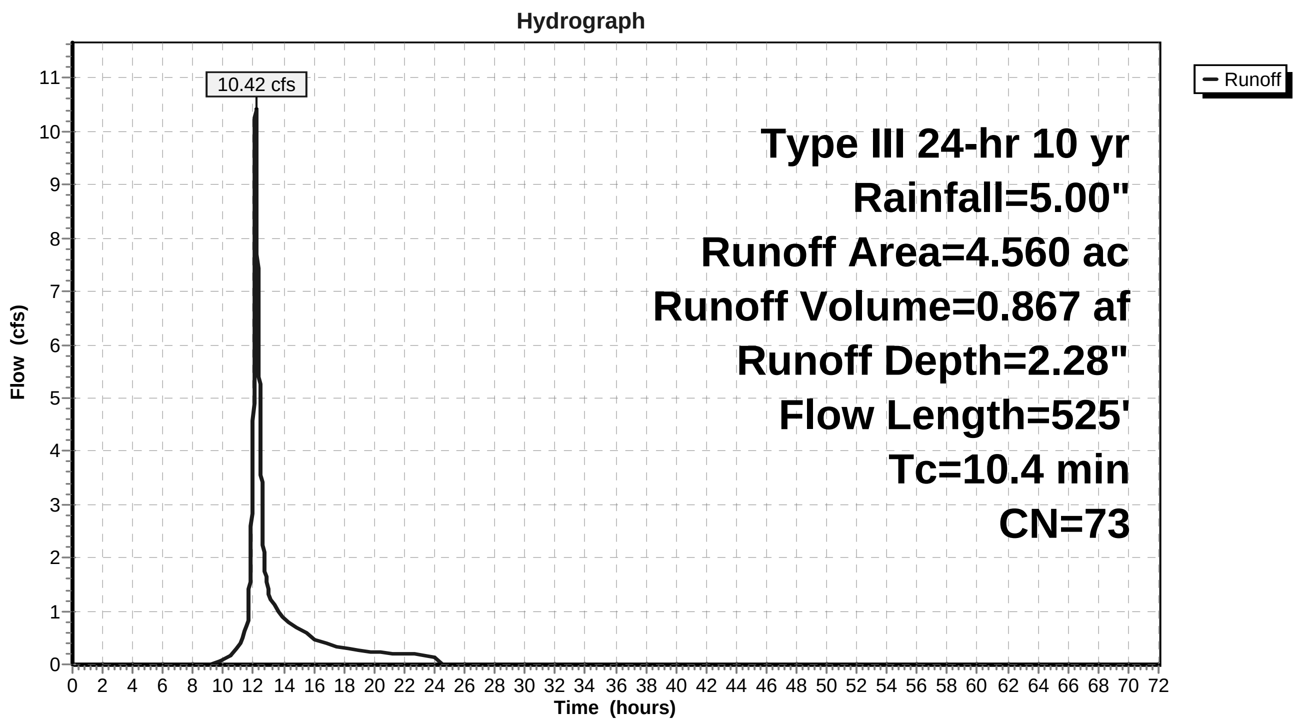
Runoff = 10.42 cfs @ 12.15 hrs, Volume= 0.867 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
4.560	73	Woods, Fair, HSG C
4.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	425	0.0880	4.78		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.4	525	Total			

Subcatchment 2b:



Summary for Subcatchment 2c:

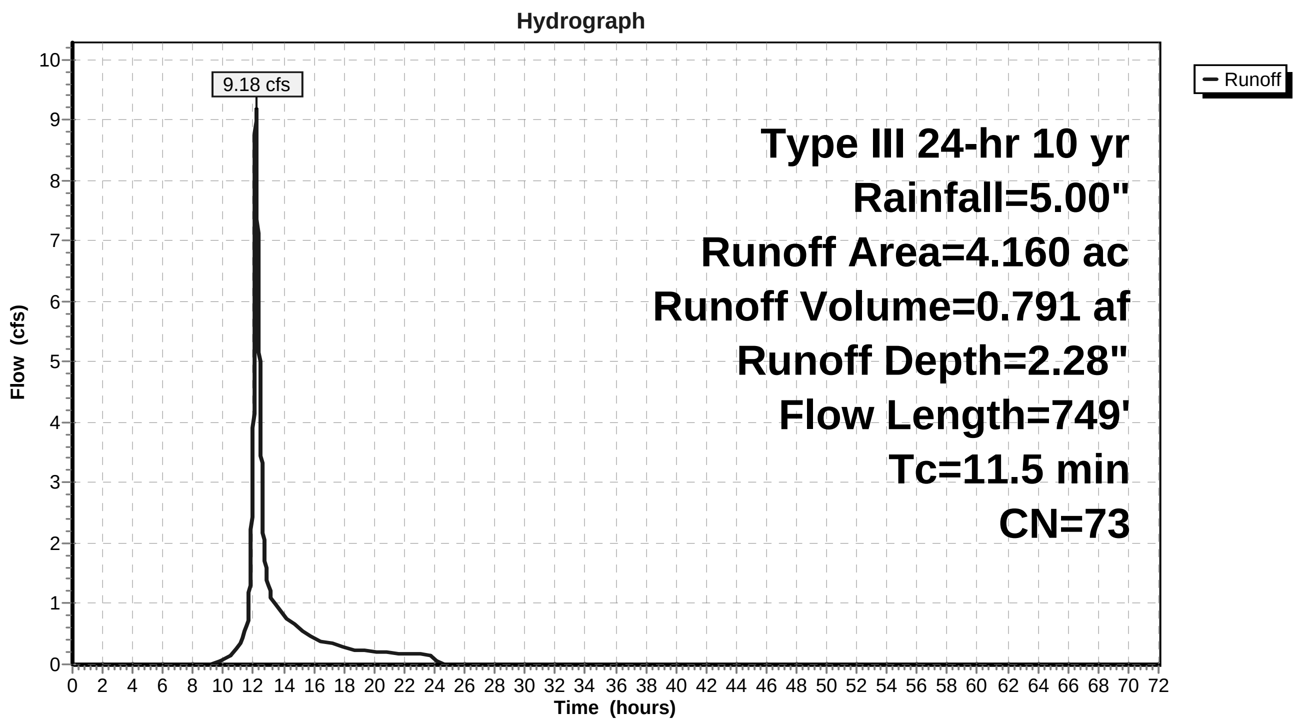
Runoff = 9.18 cfs @ 12.16 hrs, Volume= 0.791 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
4.160	73	Woods, Fair, HSG C
4.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	649	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	749	Total			

Subcatchment 2c:



Summary for Subcatchment 2d:

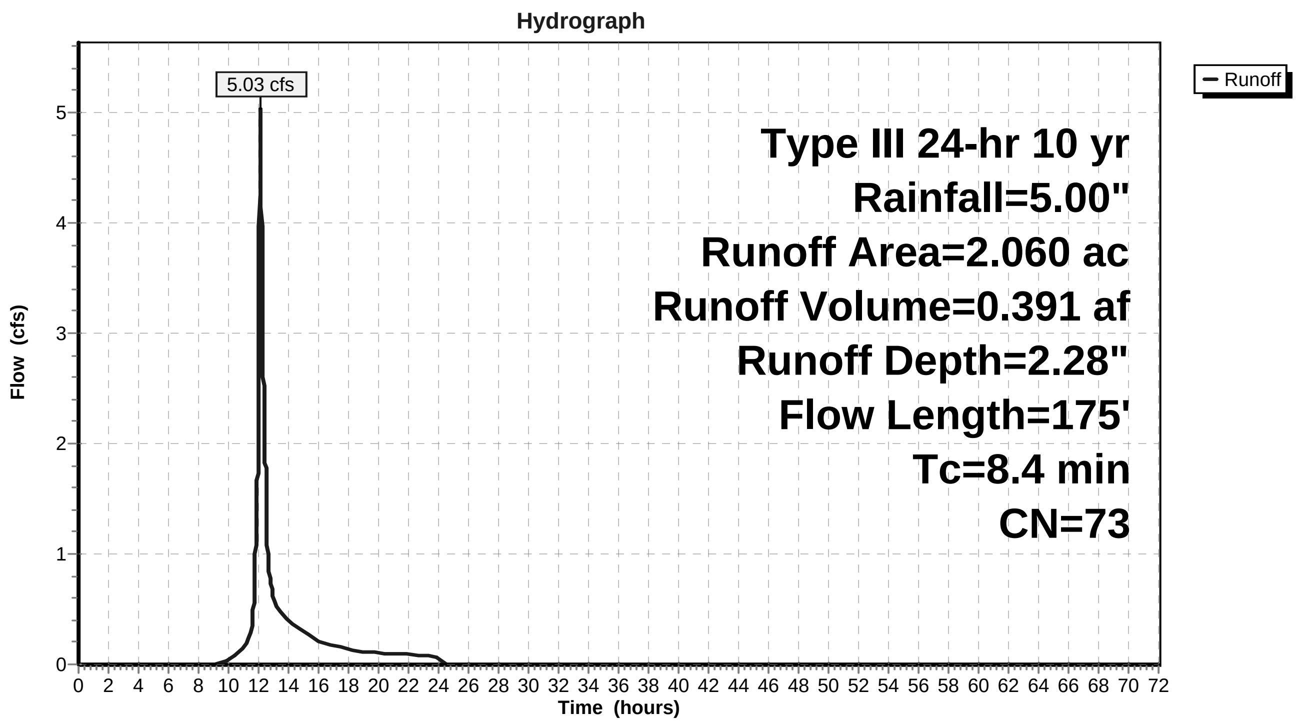
Runoff = 5.03 cfs @ 12.12 hrs, Volume= 0.391 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
2.060	73	Woods, Fair, HSG C
2.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.1900	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.4000	10.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.4	175	Total			

Subcatchment 2d:



Summary for Subcatchment 2e:

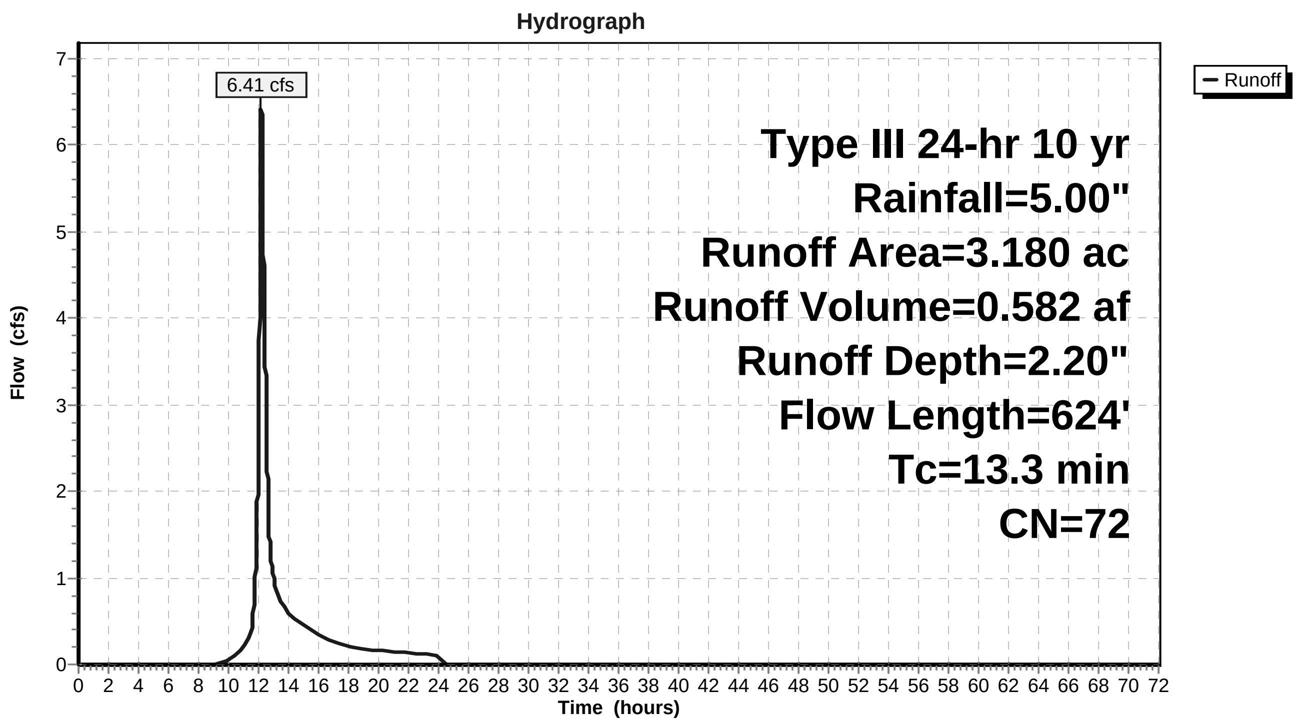
Runoff = 6.41 cfs @ 12.19 hrs, Volume= 0.582 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
2.410	73	Woods, Fair, HSG C
0.770	70	Brush, Fair, HSG C
3.180	72	Weighted Average
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	524	0.0490	3.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.3	624	Total			

Subcatchment 2e:

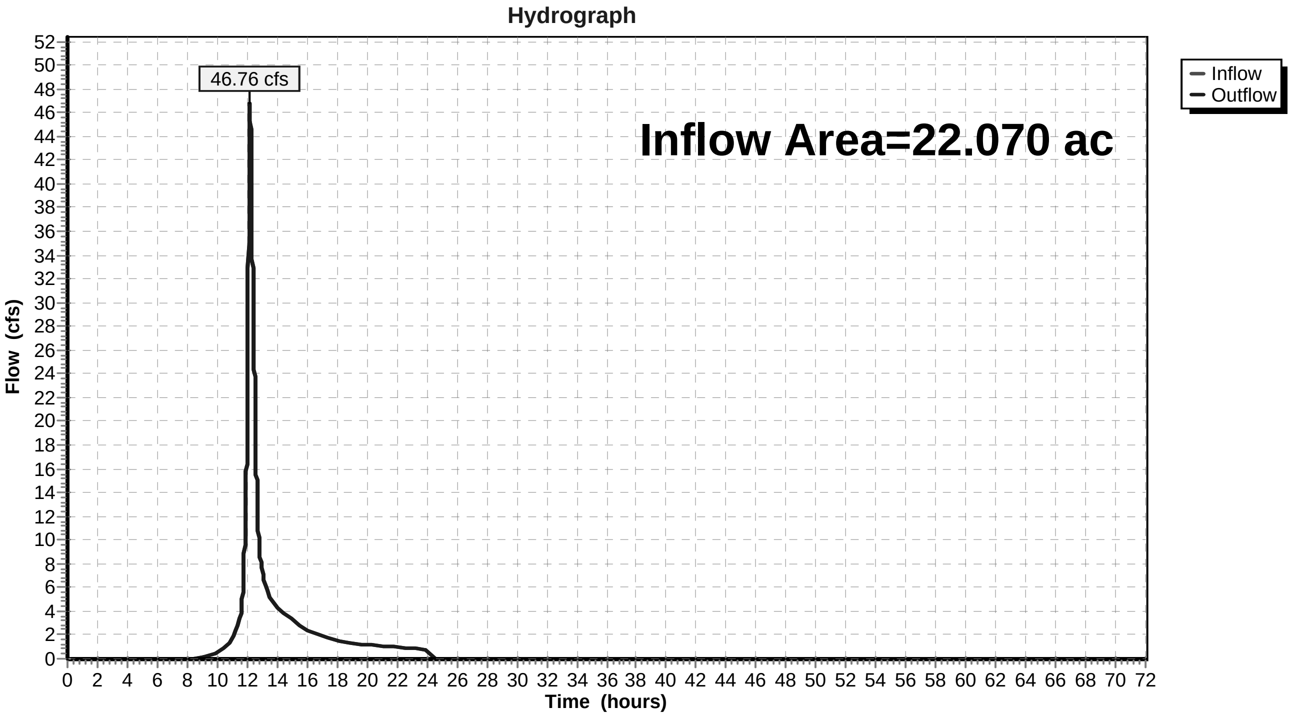


Summary for Reach dp1:

Inflow Area = 22.070 ac, 4.67% Impervious, Inflow Depth = 2.37" for 10 yr event
Inflow = 46.76 cfs @ 12.18 hrs, Volume= 4.364 af
Outflow = 46.76 cfs @ 12.18 hrs, Volume= 4.364 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

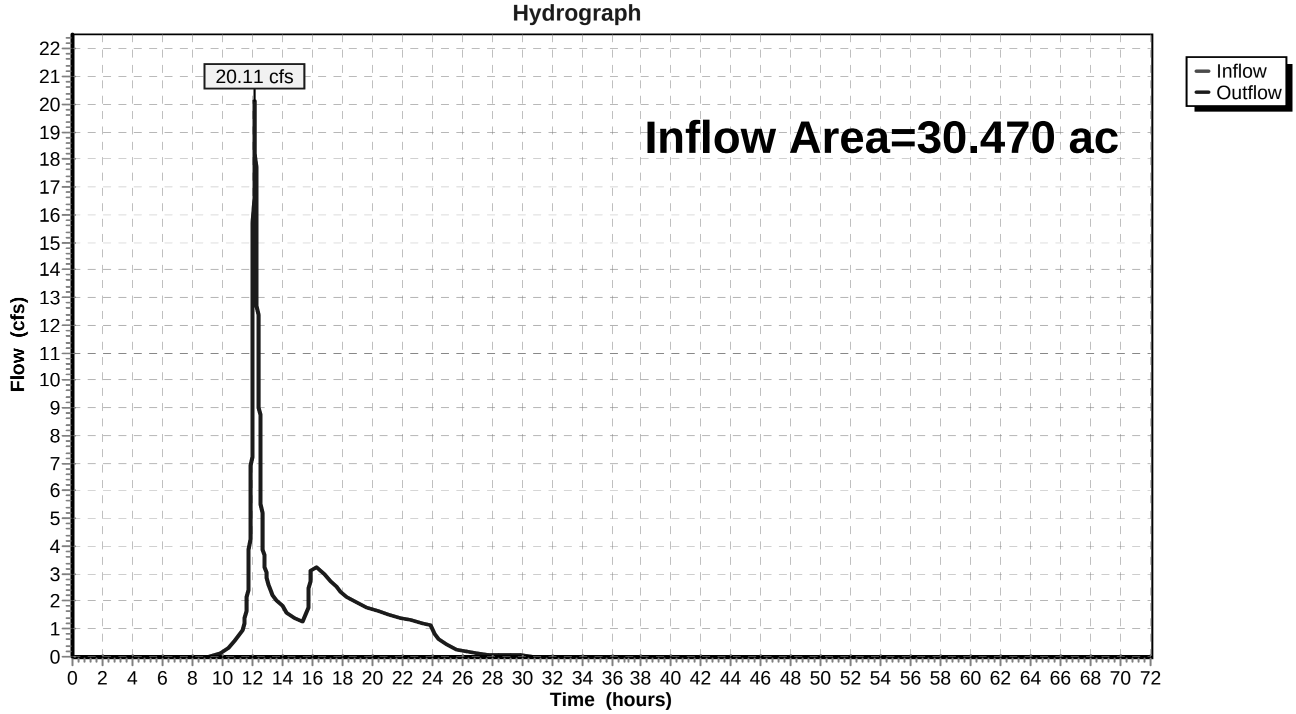


Summary for Reach dp2:

Inflow Area =	30.470 ac,	0.00% Impervious,	Inflow Depth = 1.12"	for 10 yr event	
Inflow =	20.11 cfs @	12.16 hrs,	Volume=	2.836 af	
Outflow =	20.11 cfs @	12.16 hrs,	Volume=	2.836 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



Summary for Pond P-2a:

Inflow Area = 16.510 ac, 0.00% Impervious, Inflow Depth = 2.28" for 10 yr event
Inflow = 29.04 cfs @ 12.30 hrs, Volume= 3.138 af
Outflow = 2.13 cfs @ 15.58 hrs, Volume= 1.081 af, Atten= 93%, Lag= 196.9 min
Primary = 2.13 cfs @ 15.58 hrs, Volume= 1.081 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.54' @ 15.58 hrs Surf.Area= 82,595 sf Storage= 97,160 cf

Plug-Flow detention time= 409.6 min calculated for 1.081 af (34% of inflow)
Center-of-Mass det. time= 278.7 min (1,132.4 - 853.6)

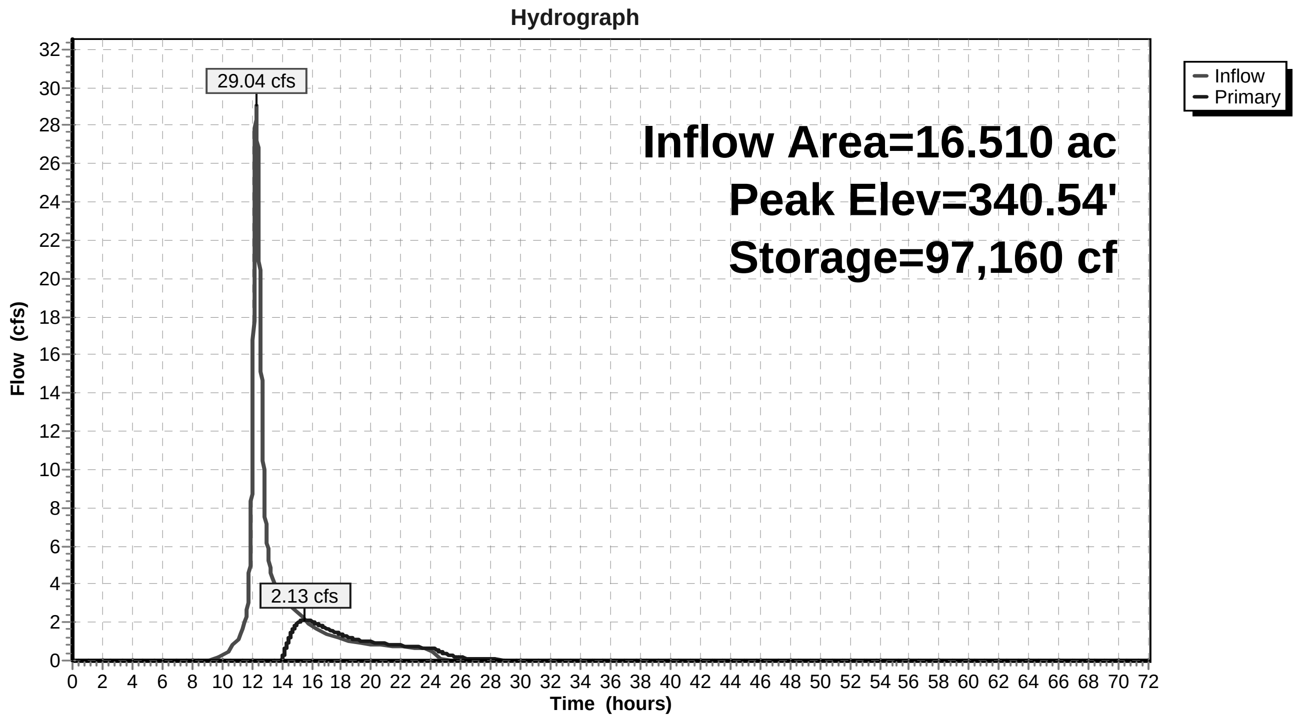
Volume	Invert	Avail.Storage	Storage Description
#1	338.15'	237,745 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
338.15	2,500	389.0	0	0	2,500
340.00	73,051	1,452.0	54,923	54,923	158,241
342.00	111,095	1,581.0	182,822	237,745	189,524

Device	Routing	Invert	Outlet Devices
#1	Primary	340.45'	**28.0' long x 60.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=2.13 cfs @ 15.58 hrs HW=340.54' TW=310.93' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 2.13 cfs @ 0.82 fps)

Pond P-2a:


Hydrograph
29.04 cfs
2.13 cfs
Inflow
Primary
Inflow Area=16.510 ac
Peak Elev=340.54'
Storage=97,160 cf
Flow (cfs)
Time (hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72

Summary for Pond P-2b:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth = 1.11" for 10 yr event
Inflow = 10.42 cfs @ 12.15 hrs, Volume= 1.948 af
Outflow = 2.42 cfs @ 16.22 hrs, Volume= 1.071 af, Atten= 77%, Lag= 244.6 min
Primary = 2.42 cfs @ 16.22 hrs, Volume= 1.071 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.03' @ 16.22 hrs Surf.Area= 23,011 sf Storage= 40,006 cf

Plug-Flow detention time= 369.6 min calculated for 1.071 af (55% of inflow)
Center-of-Mass det. time= 189.7 min (1,193.8 - 1,004.1)

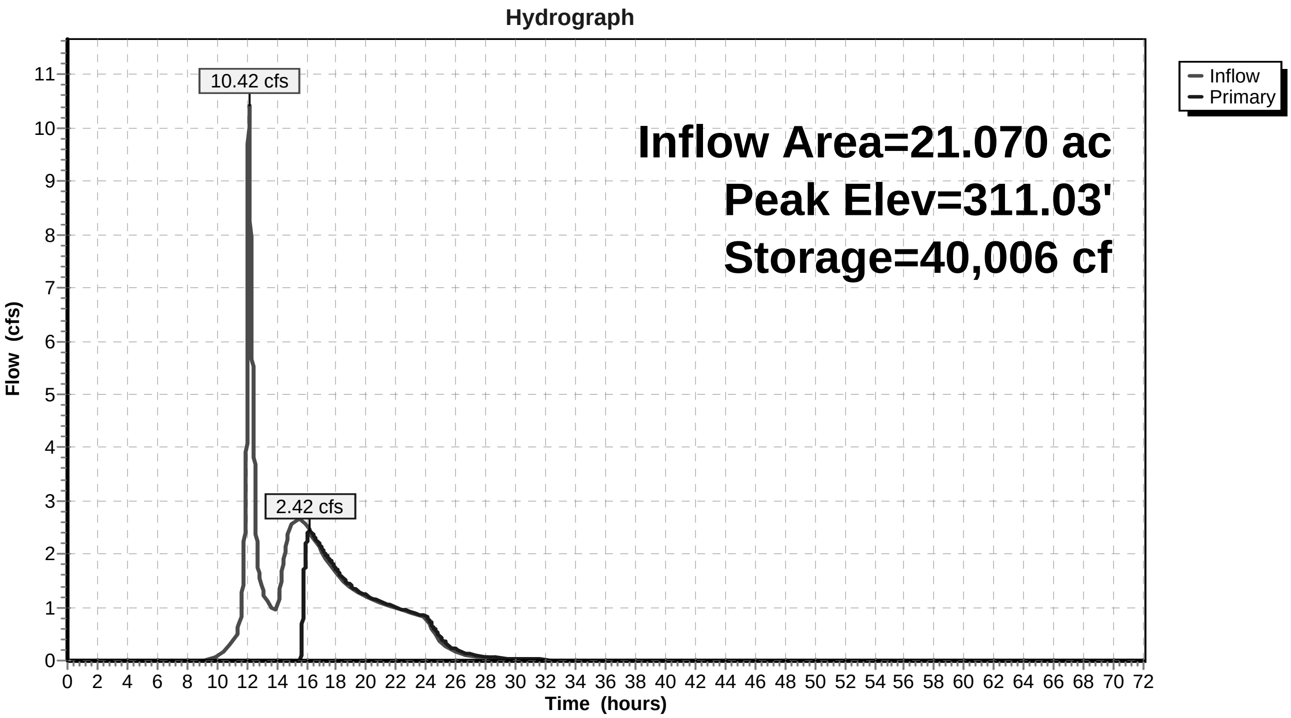
Volume	Invert	Avail.Storage	Storage Description
#1	307.40'	65,773 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
307.40	15	5.0	0	0	15
307.50	2,045	190.0	75	75	2,886
308.00	3,538	265.0	1,379	1,453	5,604
310.00	16,389	556.0	18,361	19,814	24,633
312.00	30,274	815.0	45,958	65,773	52,924

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**40.0' long x 30.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=2.42 cfs @ 16.22 hrs HW=311.03' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 2.42 cfs @ 0.76 fps)

Pond P-2b:


Hydrograph
10.42 cfs
2.42 cfs
Inflow Area=21.070 ac
Peak Elev=311.03'
Storage=40,006 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
11
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Summary for Subcatchment 1a:

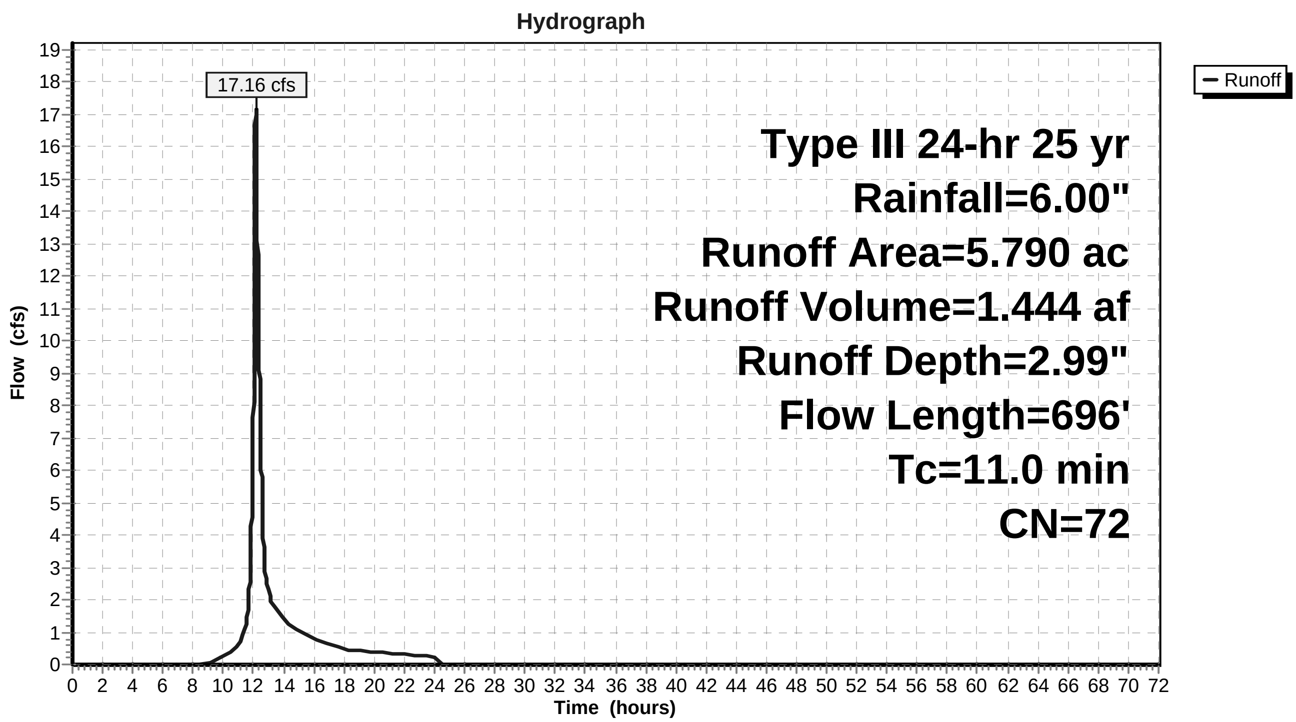
Runoff = 17.16 cfs @ 12.16 hrs, Volume= 1.444 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
4.100	73	Woods, Fair, HSG C
5.790	72	Weighted Average
5.790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

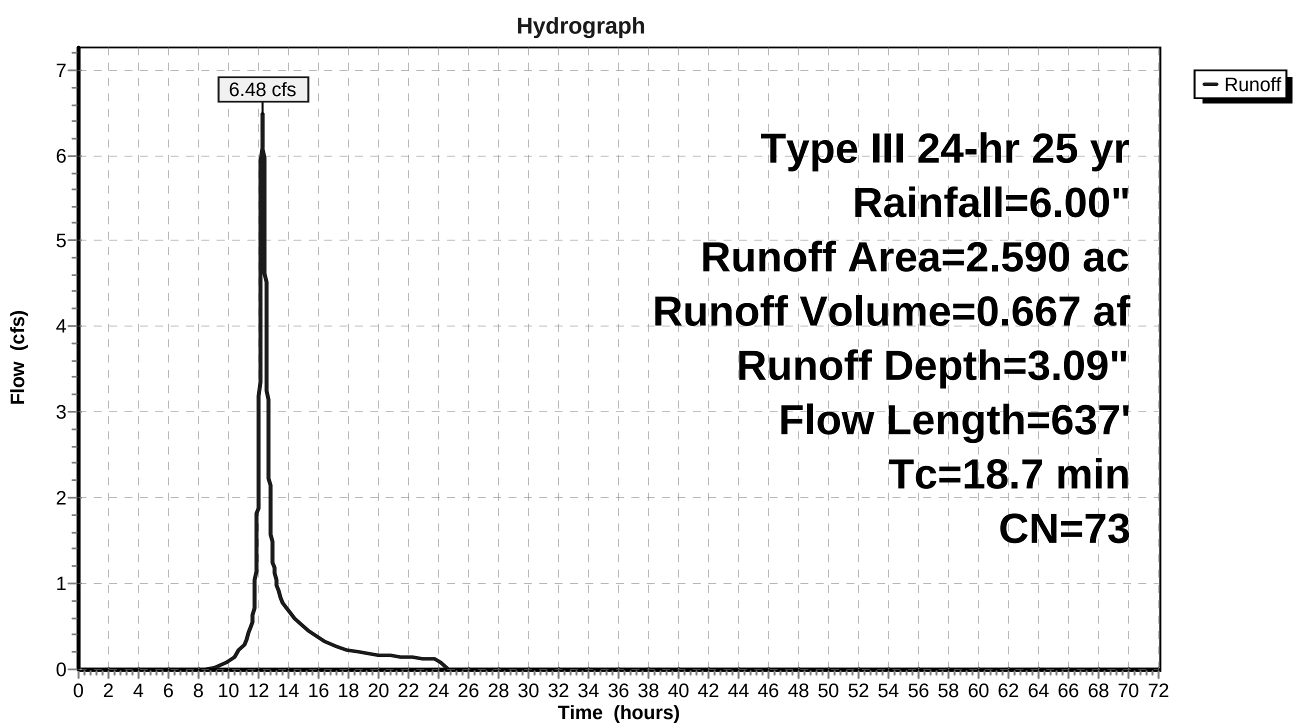
Runoff = 6.48 cfs @ 12.26 hrs, Volume= 0.667 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.060	79	50-75% Grass cover, Fair, HSG C
2.530	73	Woods, Fair, HSG C
2.590	73	Weighted Average
2.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0300	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.2	537	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	637	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

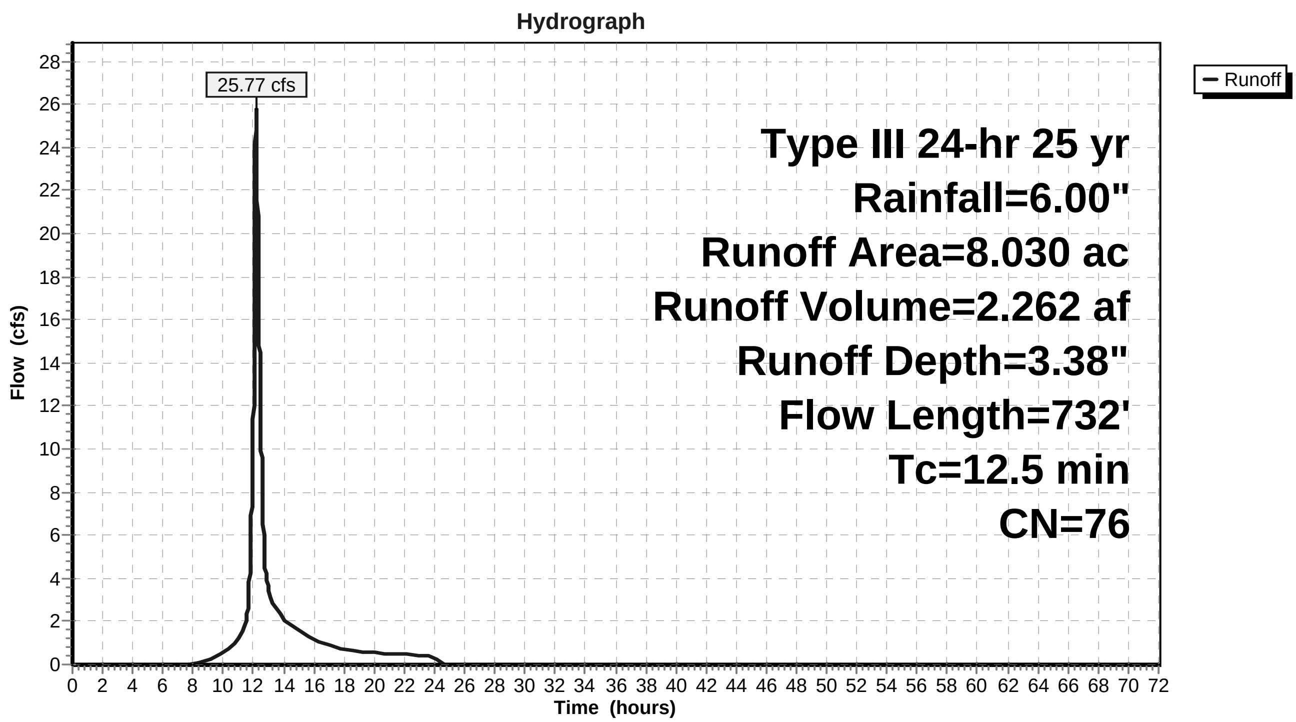
Runoff = 25.77 cfs @ 12.17 hrs, Volume= 2.262 af, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
6.360	73	Woods, Fair, HSG C
0.880	98	Paved parking, HSG C
0.790	79	50-75% Grass cover, Fair, HSG C
8.030	76	Weighted Average
7.150		89.04% Pervious Area
0.880		10.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	342	0.2740	8.43		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	290	0.0200	4.78	7.17	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.50' Z= 2.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.5	732	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

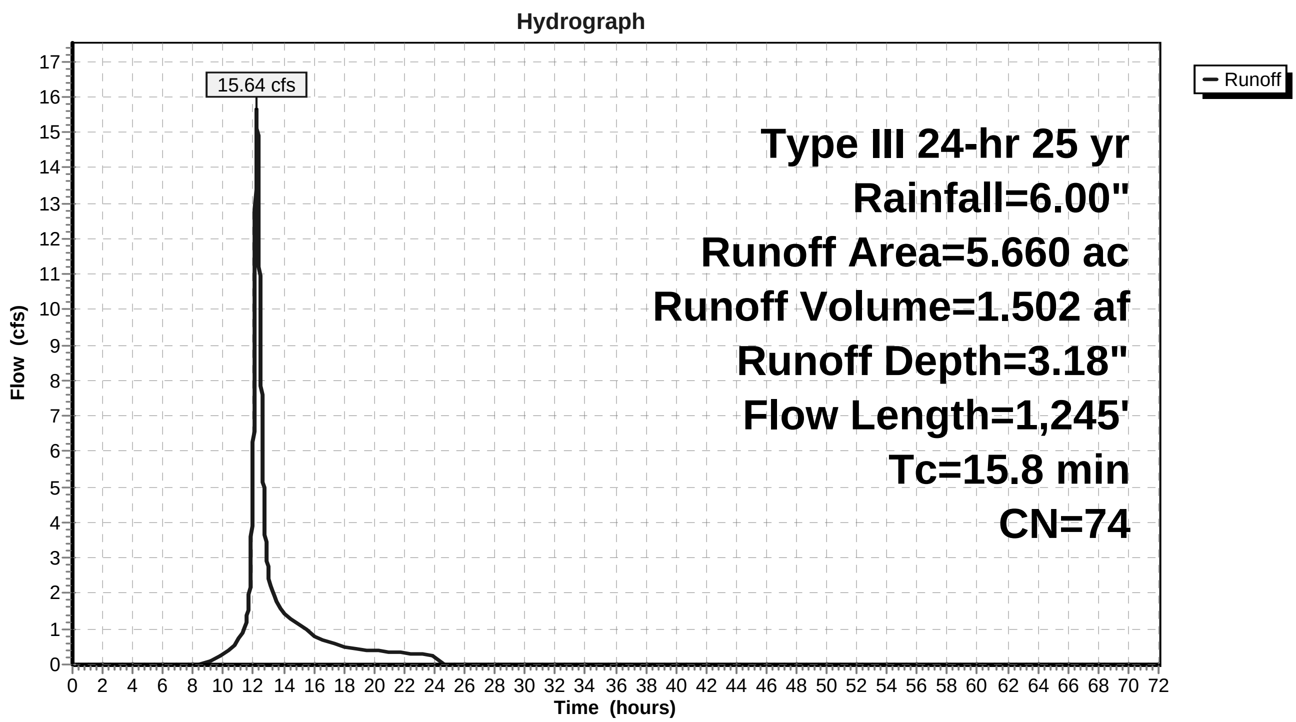
Runoff = 15.64 cfs @ 12.22 hrs, Volume= 1.502 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
5.000	73	Woods, Fair, HSG C
0.150	98	Paved parking, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
5.660	74	Weighted Average
5.510		97.35% Pervious Area
0.150		2.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0700	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	767	0.1190	5.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	378	0.0260	5.80	23.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
15.8	1,245	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

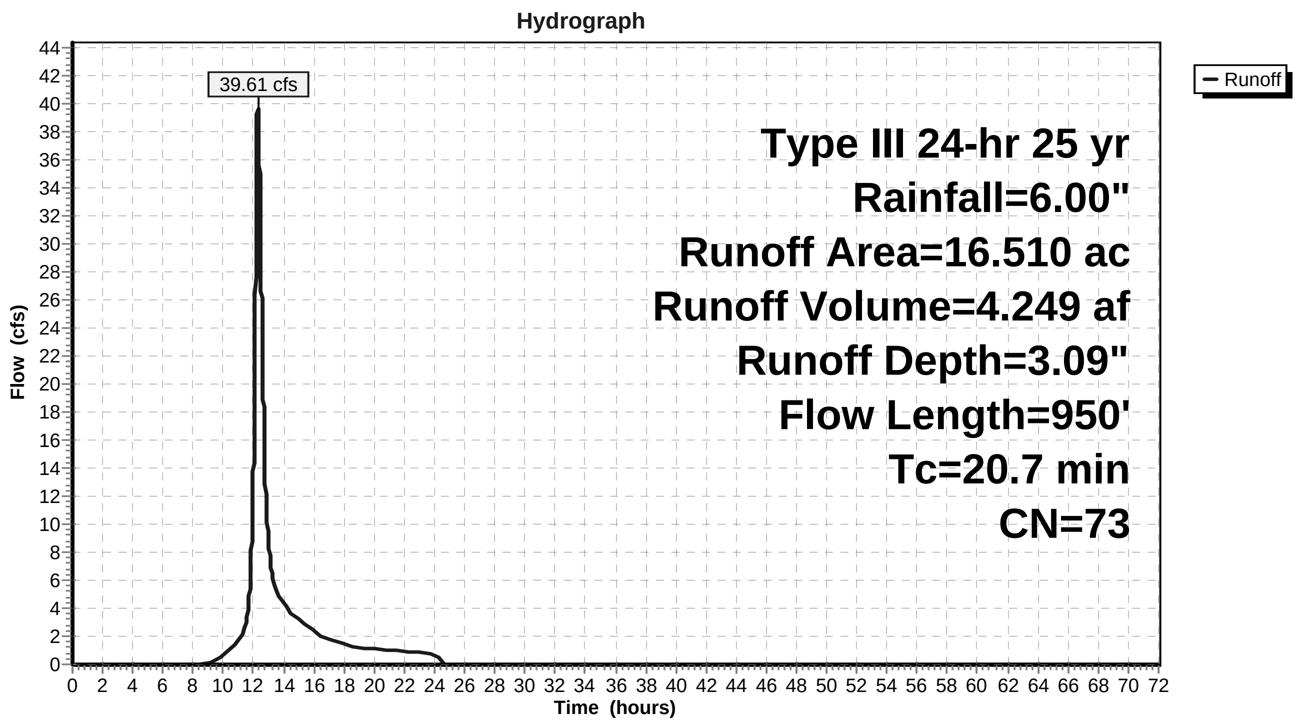
Runoff = 39.61 cfs @ 12.29 hrs, Volume= 4.249 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
16.510	73	Woods, Fair, HSG C
16.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.1	850	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.7	950	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

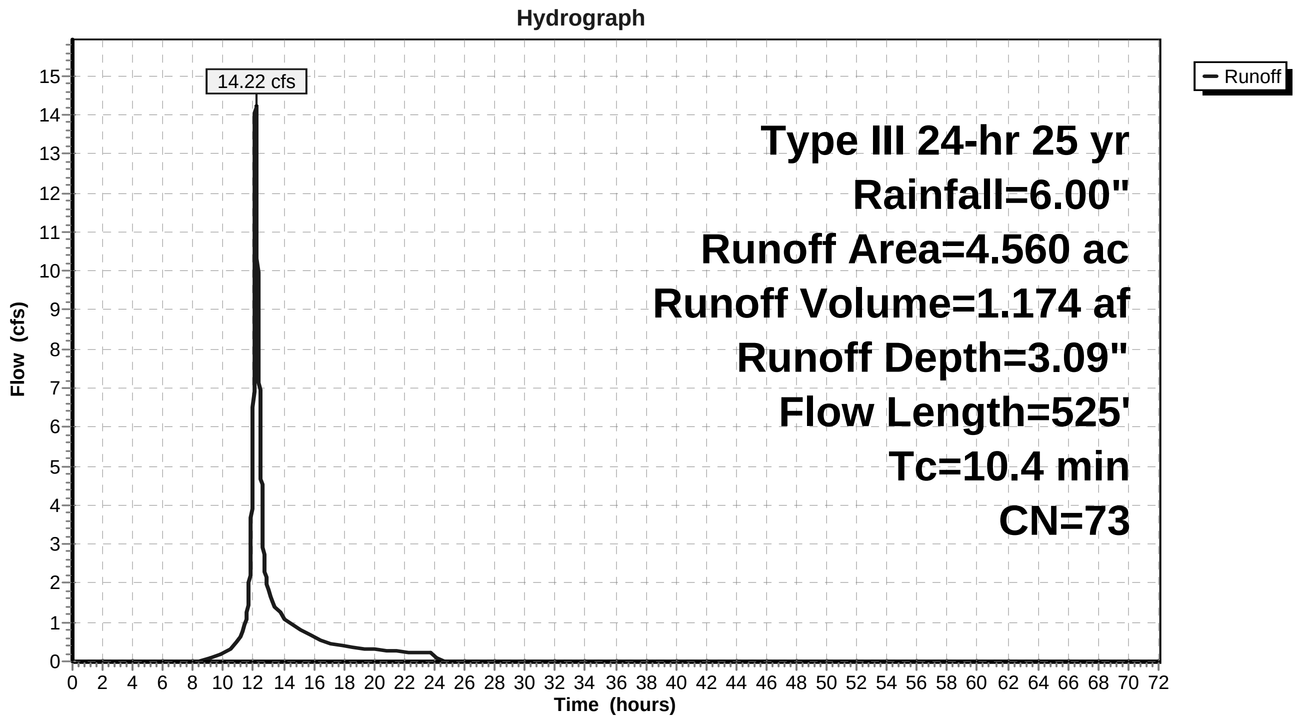
Runoff = 14.22 cfs @ 12.15 hrs, Volume= 1.174 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
4.560	73	Woods, Fair, HSG C
4.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	425	0.0880	4.78		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.4	525	Total			

Subcatchment 2b:



Summary for Subcatchment 2c:

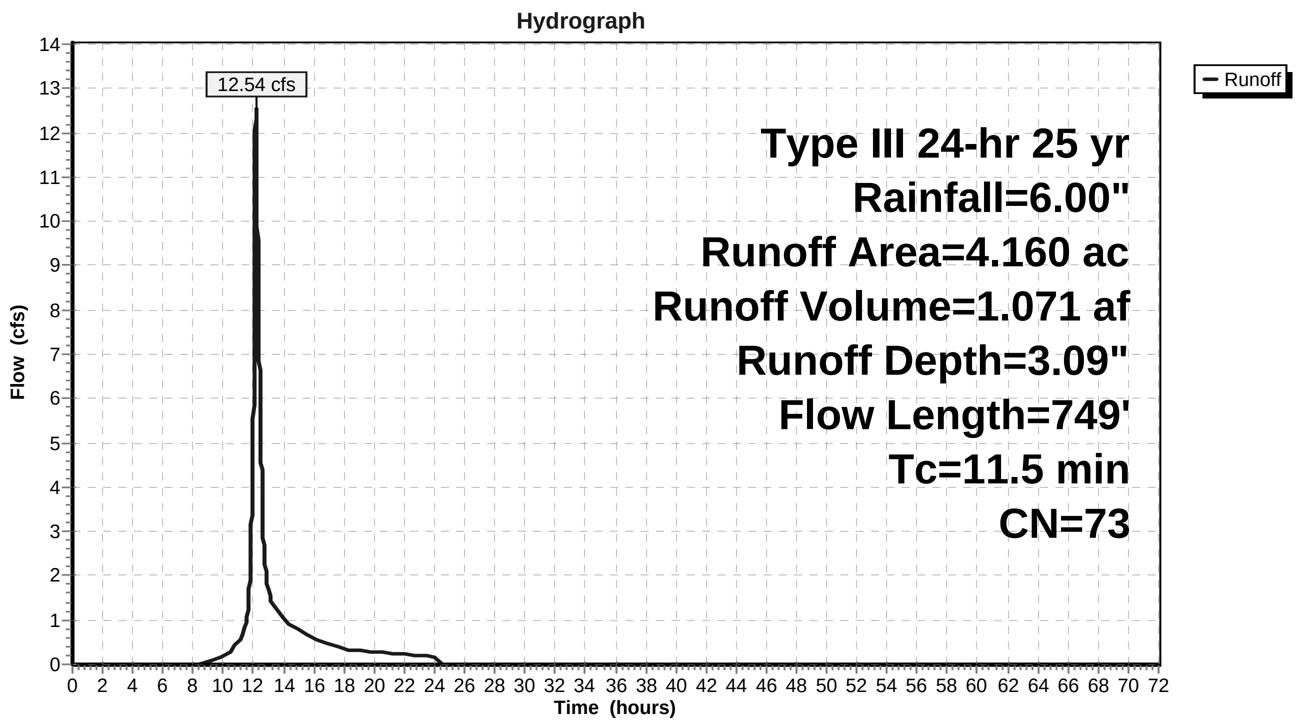
Runoff = 12.54 cfs @ 12.16 hrs, Volume= 1.071 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
4.160	73	Woods, Fair, HSG C
4.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	649	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	749	Total			

Subcatchment 2c:



Summary for Subcatchment 2d:

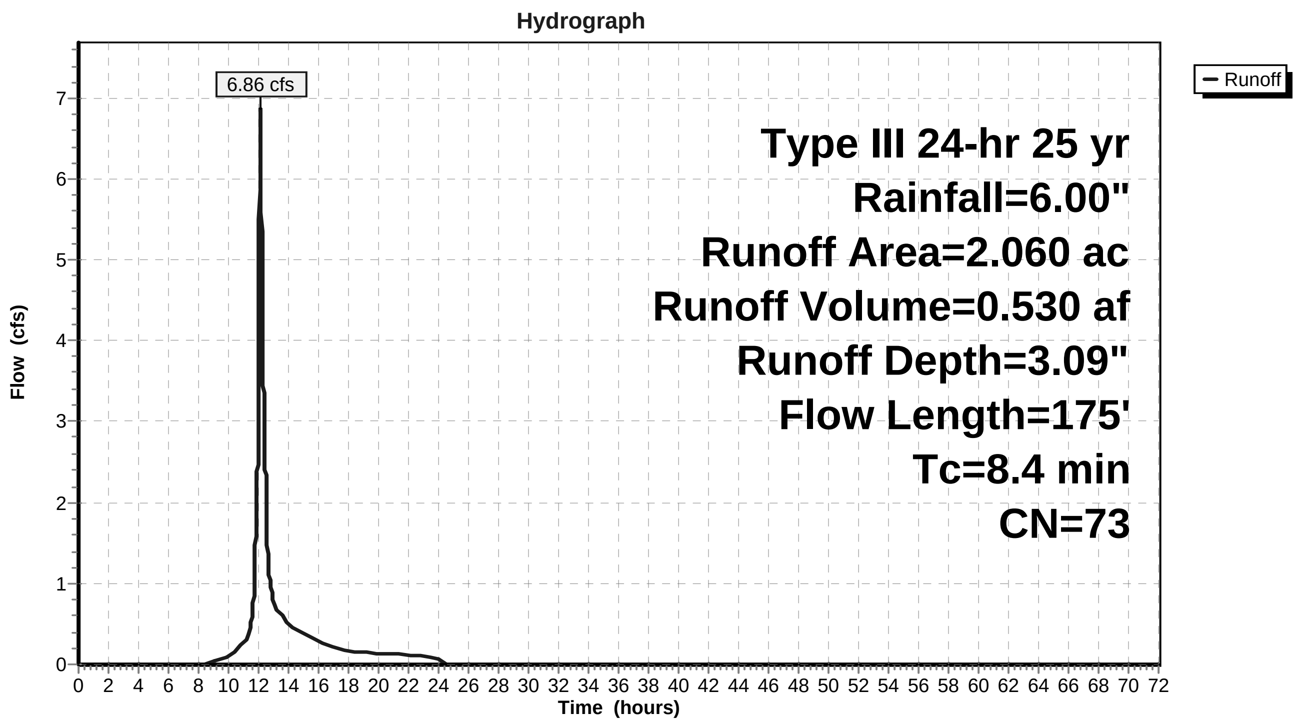
Runoff = 6.86 cfs @ 12.12 hrs, Volume= 0.530 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
2.060	73	Woods, Fair, HSG C
2.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.1900	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.4000	10.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.4	175	Total			

Subcatchment 2d:



Summary for Subcatchment 2e:

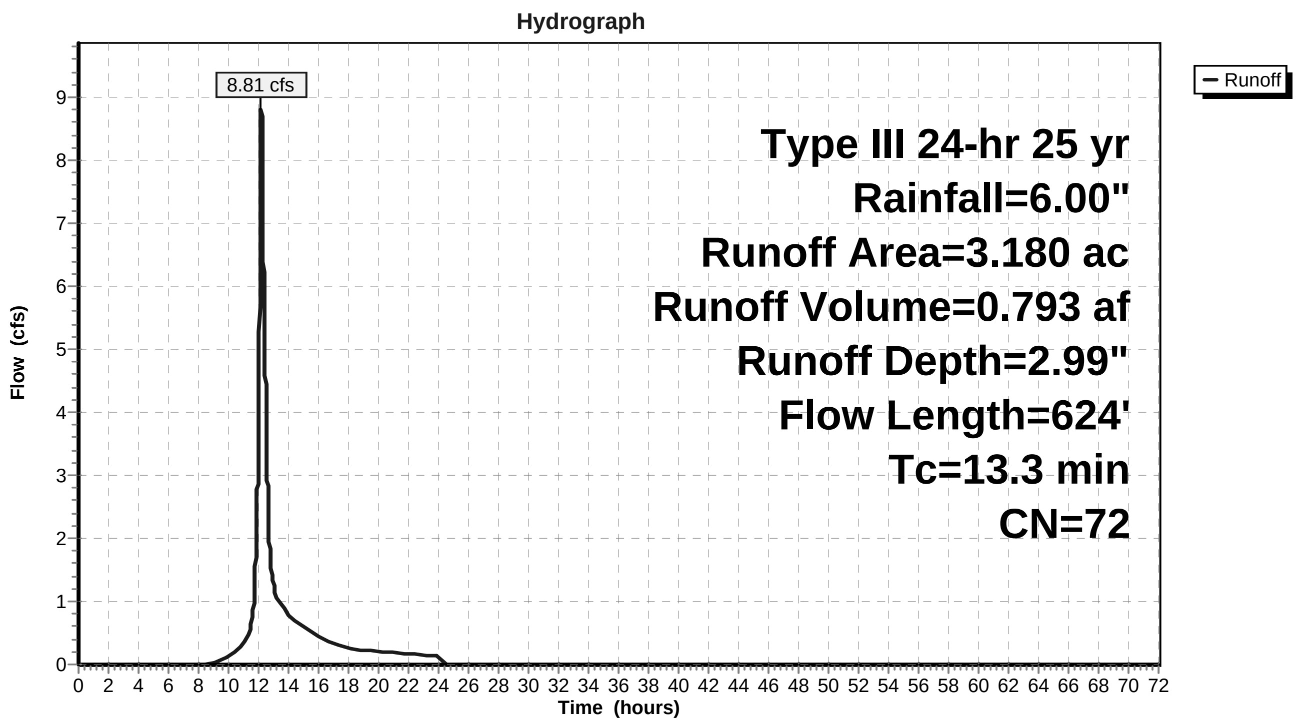
Runoff = 8.81 cfs @ 12.19 hrs, Volume= 0.793 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
2.410	73	Woods, Fair, HSG C
0.770	70	Brush, Fair, HSG C
3.180	72	Weighted Average
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	524	0.0490	3.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.3	624	Total			

Subcatchment 2e:

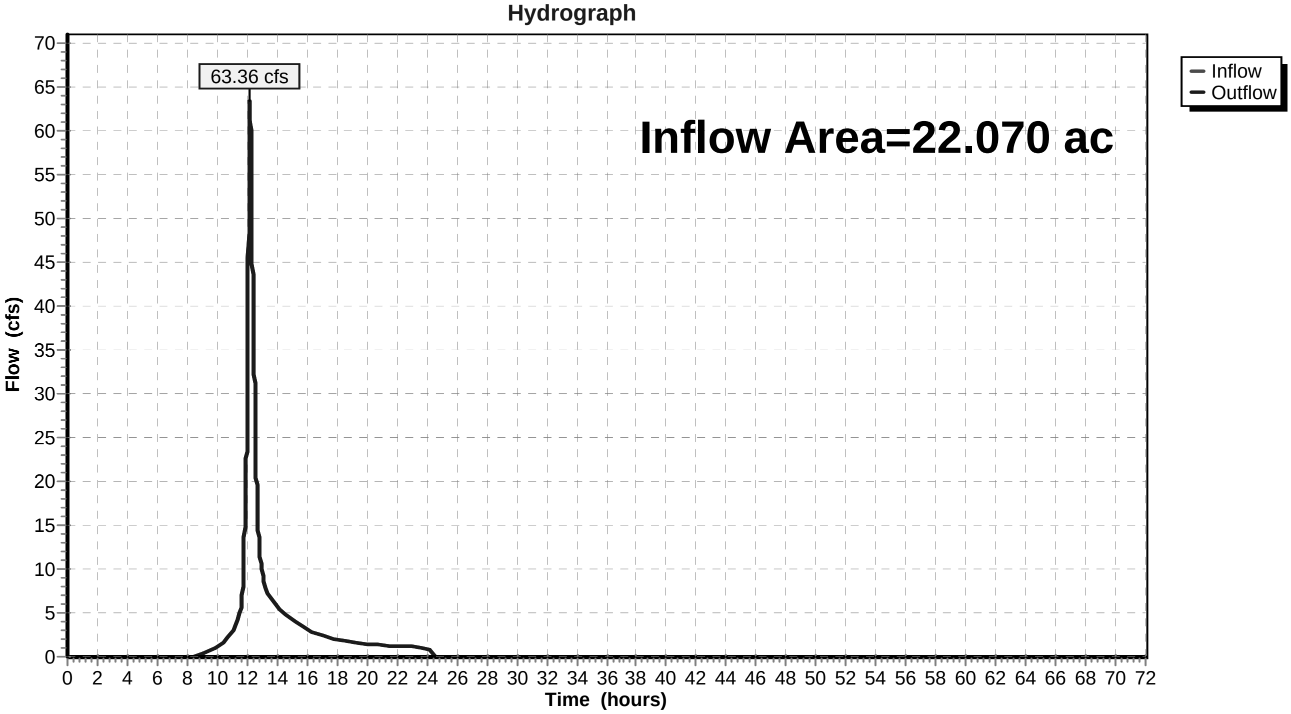


Summary for Reach dp1:

Inflow Area =	22.070 ac,	4.67% Impervious,	Inflow Depth = 3.19"	for 25 yr event	
Inflow =	63.36 cfs @	12.18 hrs,	Volume=	5.875 af	
Outflow =	63.36 cfs @	12.18 hrs,	Volume=	5.875 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

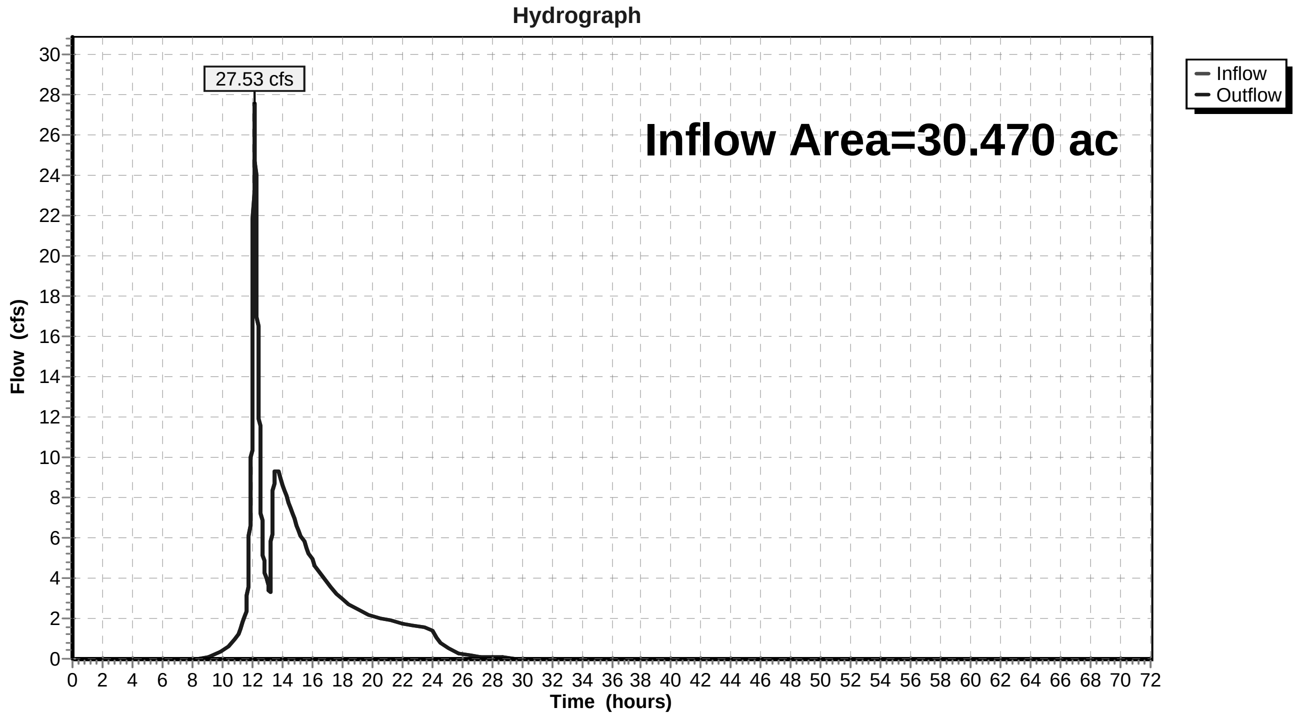


Summary for Reach dp2:

Inflow Area = 30.470 ac, 0.00% Impervious, Inflow Depth = 1.92" for 25 yr event
Inflow = 27.53 cfs @ 12.16 hrs, Volume= 4.884 af
Outflow = 27.53 cfs @ 12.16 hrs, Volume= 4.884 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



Summary for Pond P-2a:

Inflow Area = 16.510 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25 yr event
Inflow = 39.61 cfs @ 12.29 hrs, Volume= 4.249 af
Outflow = 5.63 cfs @ 13.38 hrs, Volume= 2.193 af, Atten= 86%, Lag= 65.1 min
Primary = 5.63 cfs @ 13.38 hrs, Volume= 2.193 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.63' @ 13.38 hrs Surf.Area= 84,138 sf Storage= 104,226 cf

Plug-Flow detention time= 288.8 min calculated for 2.193 af (52% of inflow)
Center-of-Mass det. time= 171.9 min (1,016.7 - 844.8)

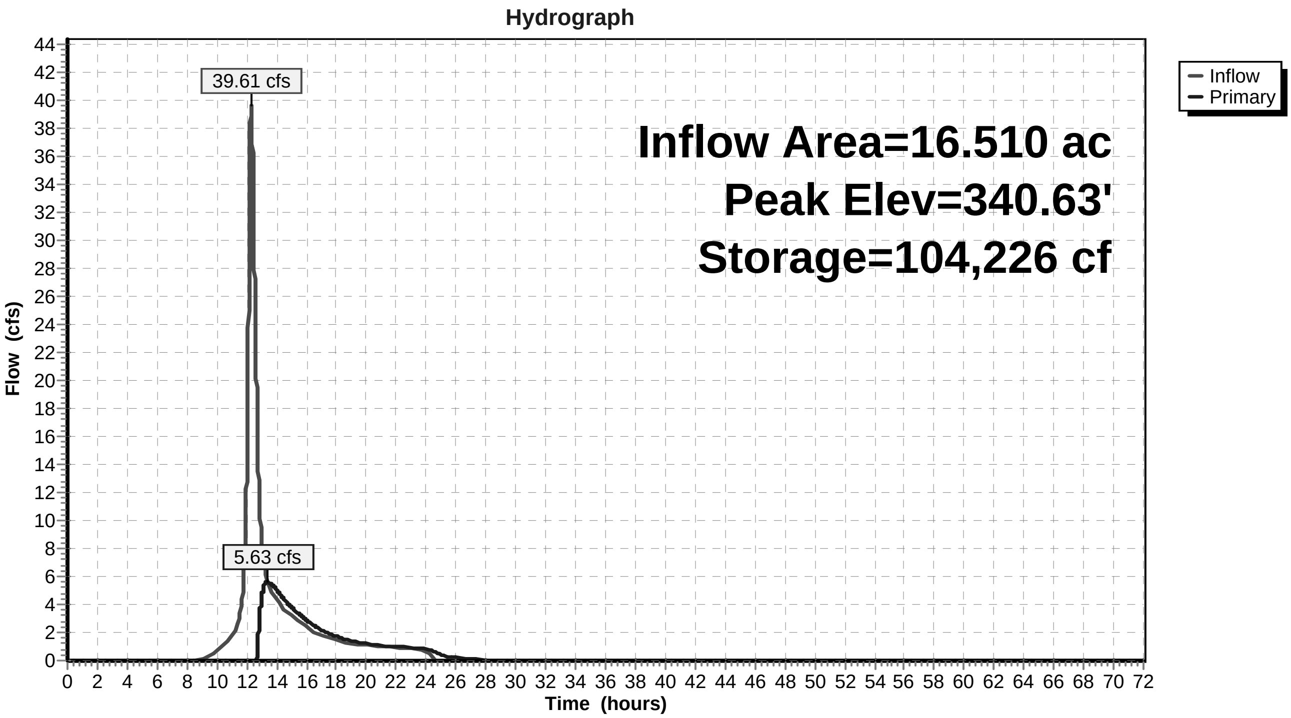
Volume	Invert	Avail.Storage	Storage Description
#1	338.15'	237,745 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
338.15	2,500	389.0	0	0	2,500
340.00	73,051	1,452.0	54,923	54,923	158,241
342.00	111,095	1,581.0	182,822	237,745	189,524

Device	Routing	Invert	Outlet Devices
#1	Primary	340.45'	**28.0' long x 60.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=5.63 cfs @ 13.38 hrs HW=340.63' TW=311.08' (Dynamic Tailwater)
1=Broad-Crested Rectangular Weir (Weir Controls 5.63 cfs @ 1.13 fps)

Pond P-2a:


Hydrograph
39.61 cfs
5.63 cfs
Inflow
Primary
Inflow Area=16.510 ac
Peak Elev=340.63'
Storage=104,226 cf
Flow (cfs)
Time (hours)

Summary for Pond P-2b:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth = 1.92" for 25 yr event
Inflow = 14.22 cfs @ 12.15 hrs, Volume= 3.367 af
Outflow = 6.73 cfs @ 13.67 hrs, Volume= 2.490 af, Atten= 53%, Lag= 91.4 min
Primary = 6.73 cfs @ 13.67 hrs, Volume= 2.490 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.11' @ 13.67 hrs Surf.Area= 23,559 sf Storage= 41,825 cf

Plug-Flow detention time= 200.5 min calculated for 2.490 af (74% of inflow)
Center-of-Mass det. time= 89.0 min (1,042.5 - 953.4)

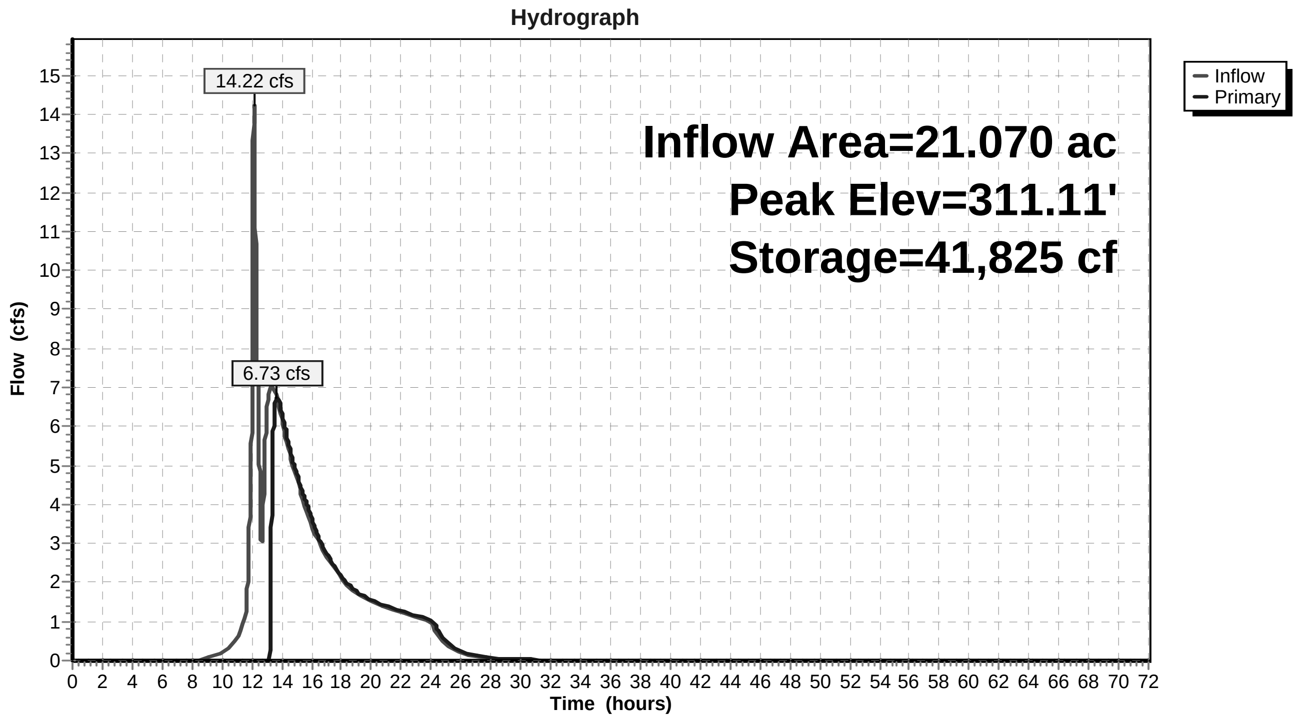
Volume	Invert	Avail.Storage	Storage Description
#1	307.40'	65,773 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

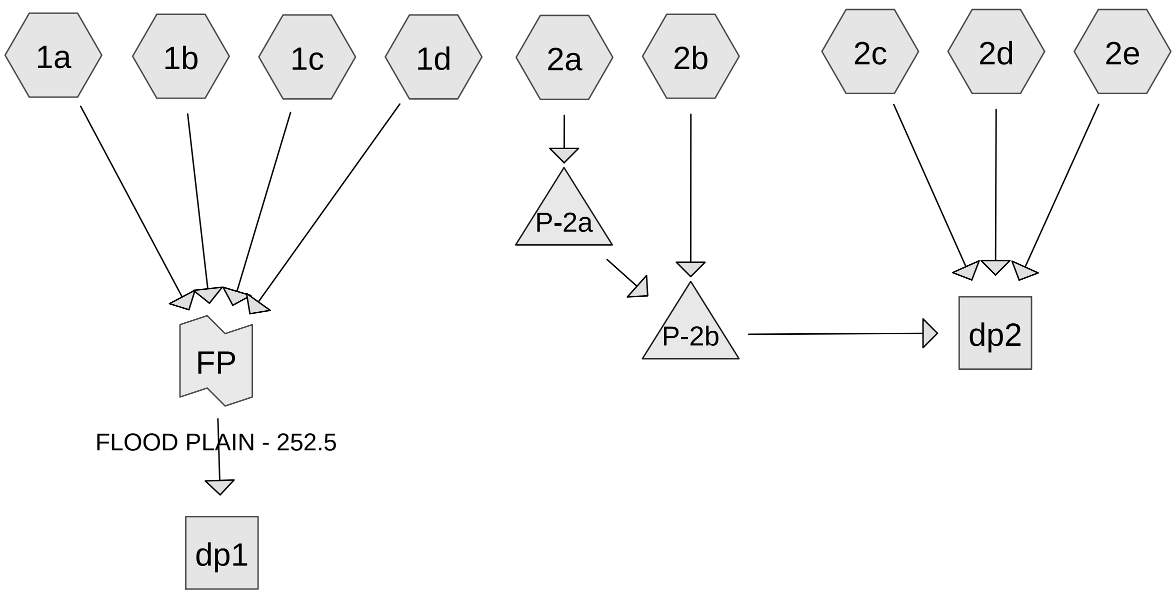
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
307.40	15	5.0	0	0	15
307.50	2,045	190.0	75	75	2,886
308.00	3,538	265.0	1,379	1,453	5,604
310.00	16,389	556.0	18,361	19,814	24,633
312.00	30,274	815.0	45,958	65,773	52,924

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**40.0' long x 30.0' breadth Broad-Crested Rectangular Weir** 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

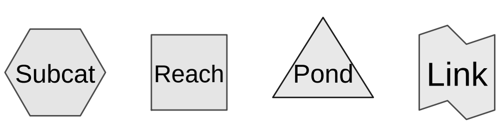
Primary OutFlow Max=6.73 cfs @ 13.67 hrs HW=311.11' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 6.73 cfs @ 1.07 fps)

Pond P-2b:


Hydrograph
14.22 cfs
6.73 cfs
Inflow Area=21.070 ac
Peak Elev=311.11'
Storage=41,825 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72



DESIGN STORM 100R - FLOODPLAIN @ EL. 252.5



Drainage Diagram for HILLTOP PRE
Prepared by M. GILLESPIE & ASSOC., Printed 2/16/2010

Summary for Subcatchment 1a:

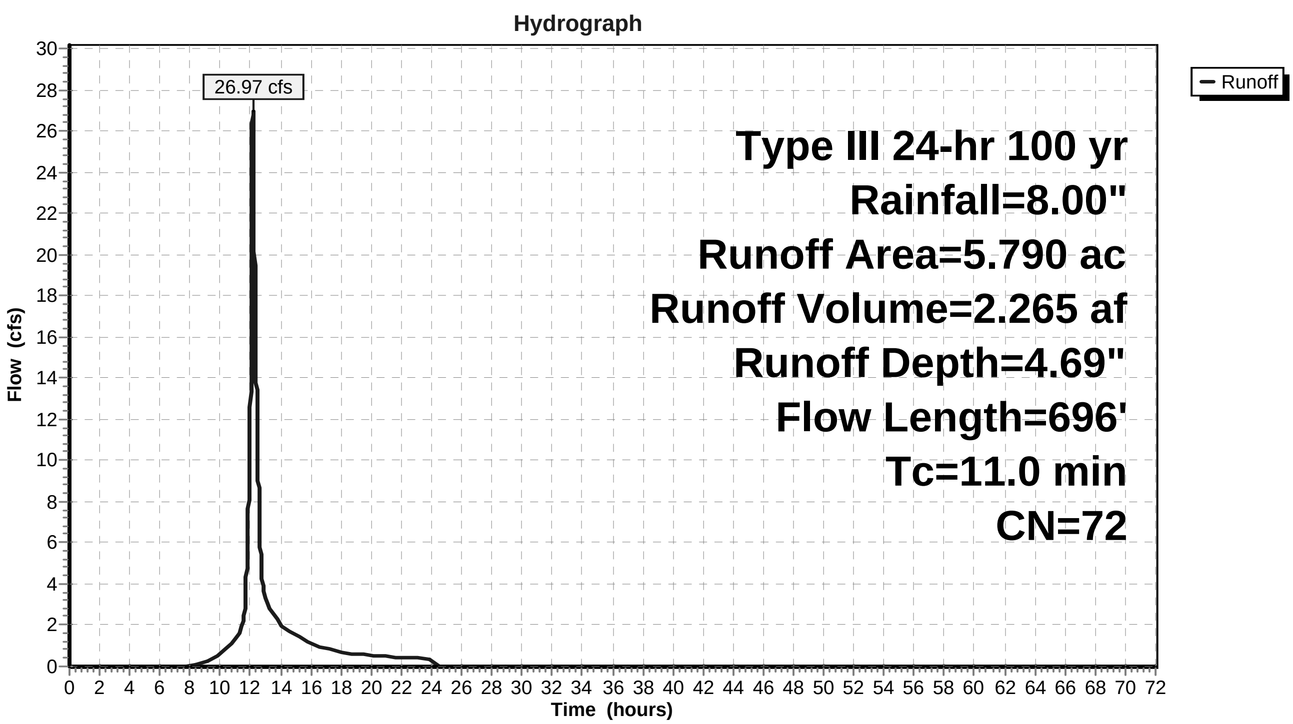
Runoff = 26.97 cfs @ 12.15 hrs, Volume= 2.265 af, Depth= 4.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
4.100	73	Woods, Fair, HSG C
5.790	72	Weighted Average
5.790		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

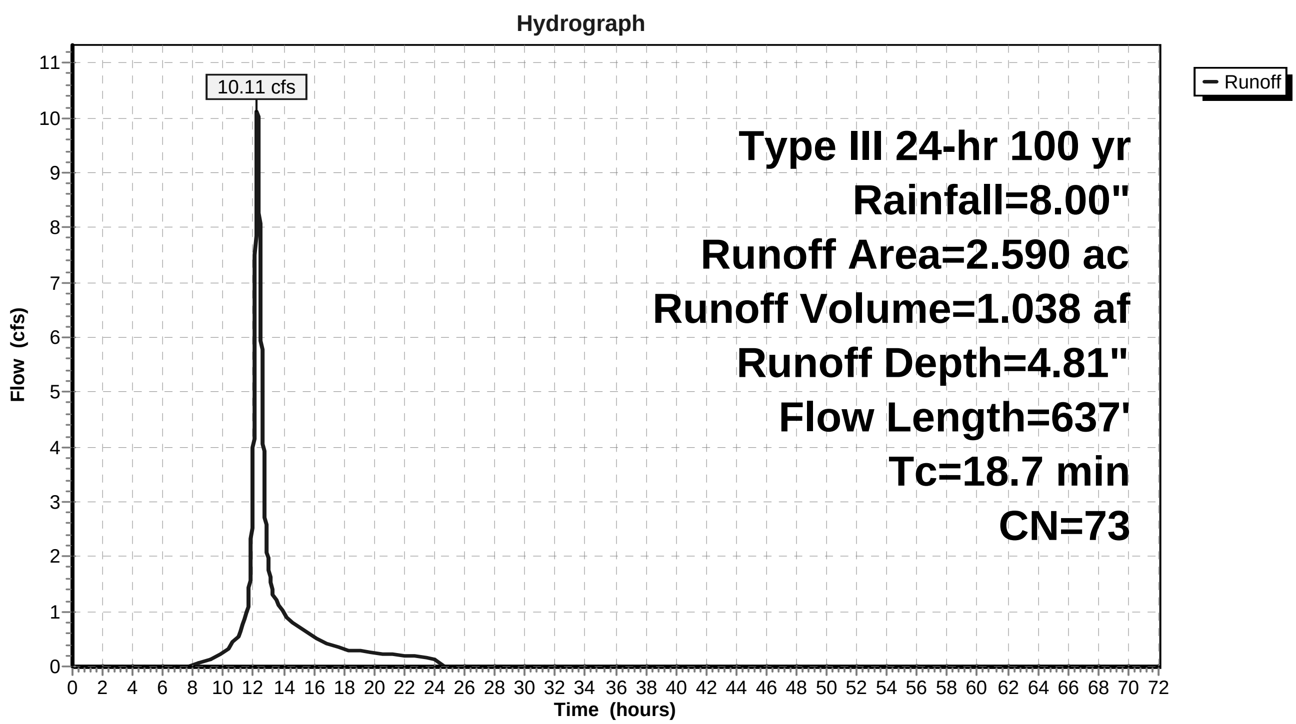
Runoff = 10.11 cfs @ 12.25 hrs, Volume= 1.038 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.060	79	50-75% Grass cover, Fair, HSG C
2.530	73	Woods, Fair, HSG C
2.590	73	Weighted Average
2.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	100	0.0300	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.2	537	0.2200	7.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.7	637	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

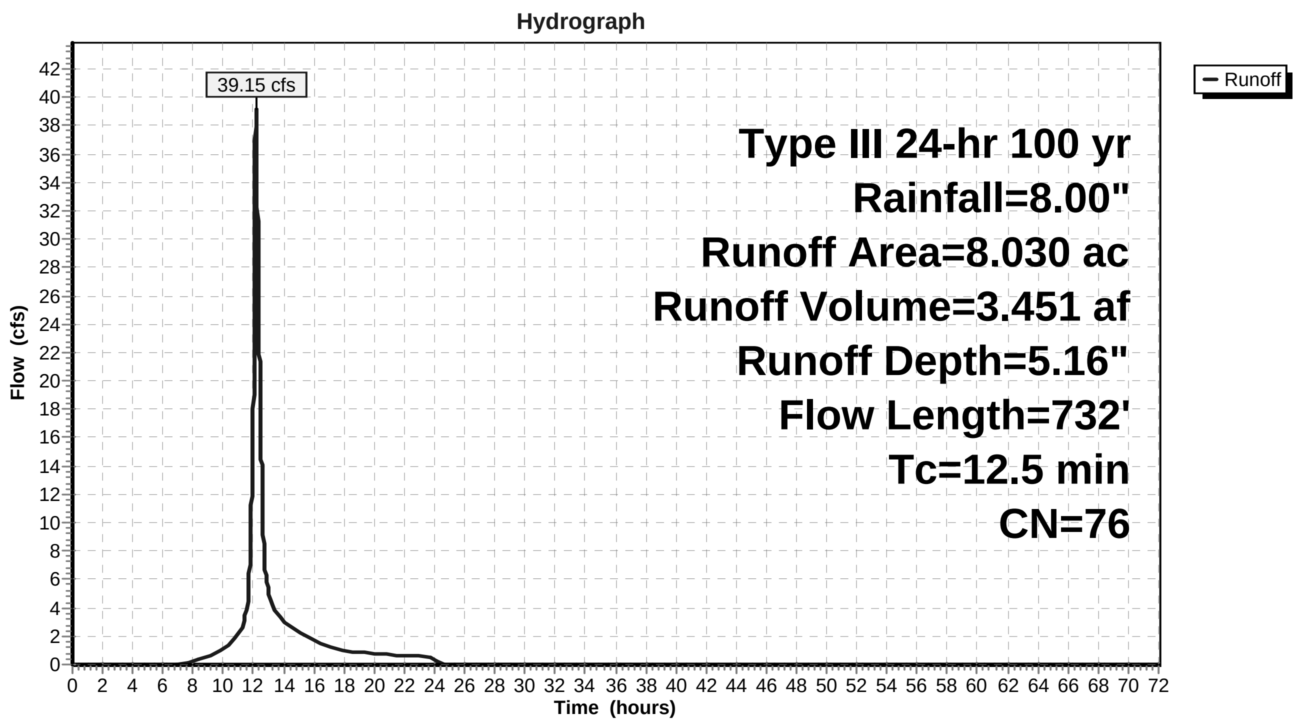
Runoff = 39.15 cfs @ 12.17 hrs, Volume= 3.451 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
6.360	73	Woods, Fair, HSG C
0.880	98	Paved parking, HSG C
0.790	79	50-75% Grass cover, Fair, HSG C
8.030	76	Weighted Average
7.150		89.04% Pervious Area
0.880		10.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	342	0.2740	8.43		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	290	0.0200	4.78	7.17	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=0.50' Z= 2.0 '/' Top.W=4.00' n= 0.022 Earth, clean & straight
12.5	732	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

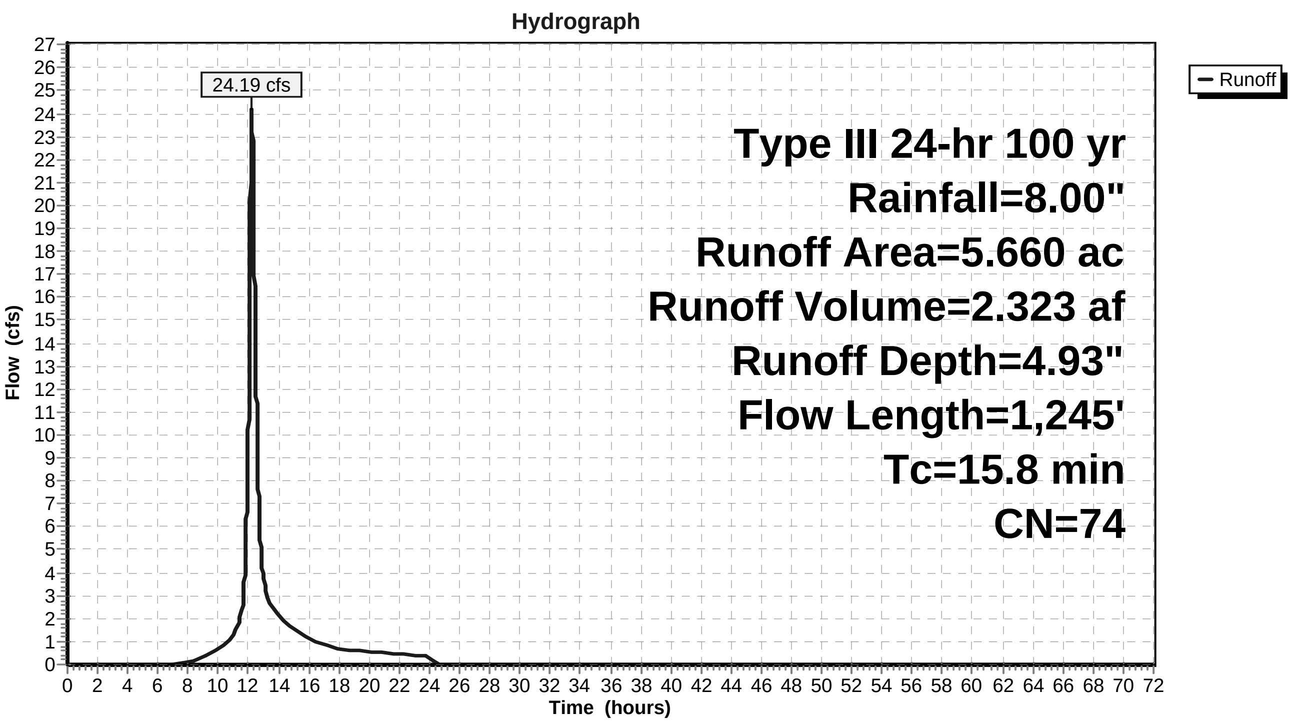
Runoff = 24.19 cfs @ 12.21 hrs, Volume= 2.323 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
5.000	73	Woods, Fair, HSG C
0.150	98	Paved parking, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
5.660	74	Weighted Average
5.510		97.35% Pervious Area
0.150		2.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	100	0.0700	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	767	0.1190	5.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	378	0.0260	5.80	23.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 2.0 '/' Top.W=6.00' n= 0.030 Earth, grassed & winding
15.8	1,245	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

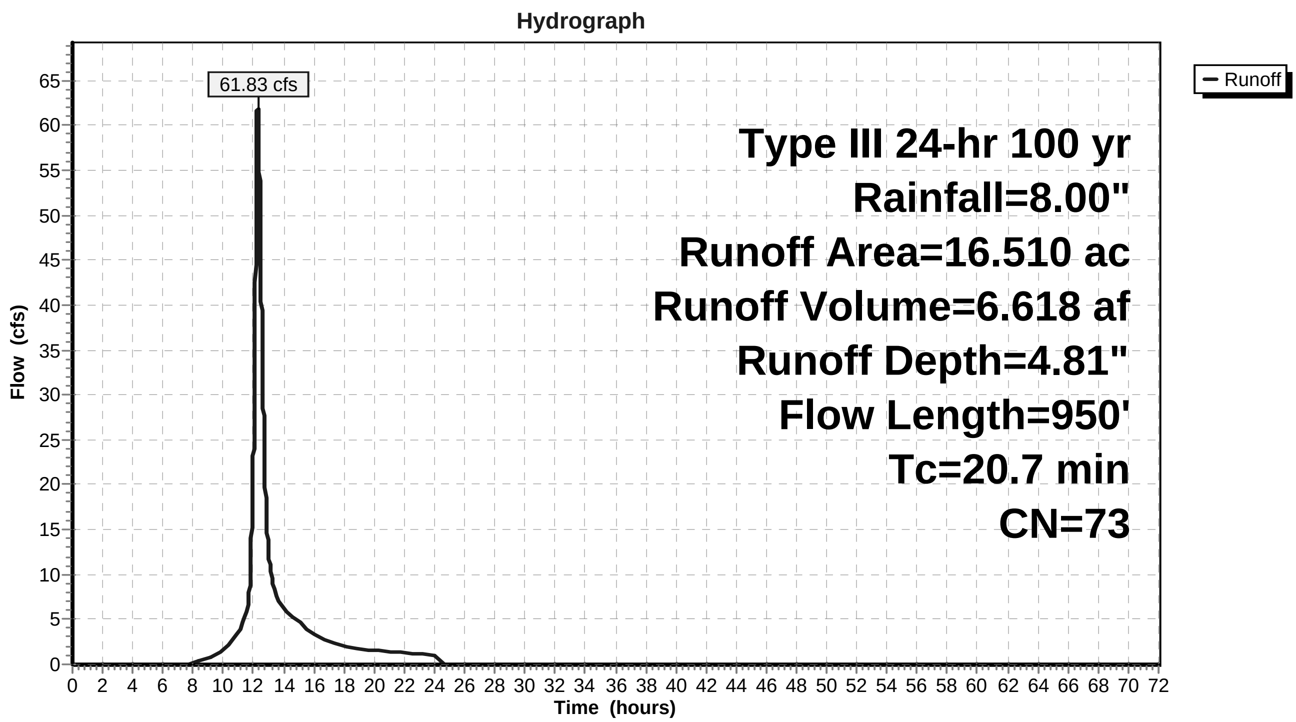
Runoff = 61.83 cfs @ 12.28 hrs, Volume= 6.618 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
16.510	73	Woods, Fair, HSG C
16.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.1	850	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.7	950	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

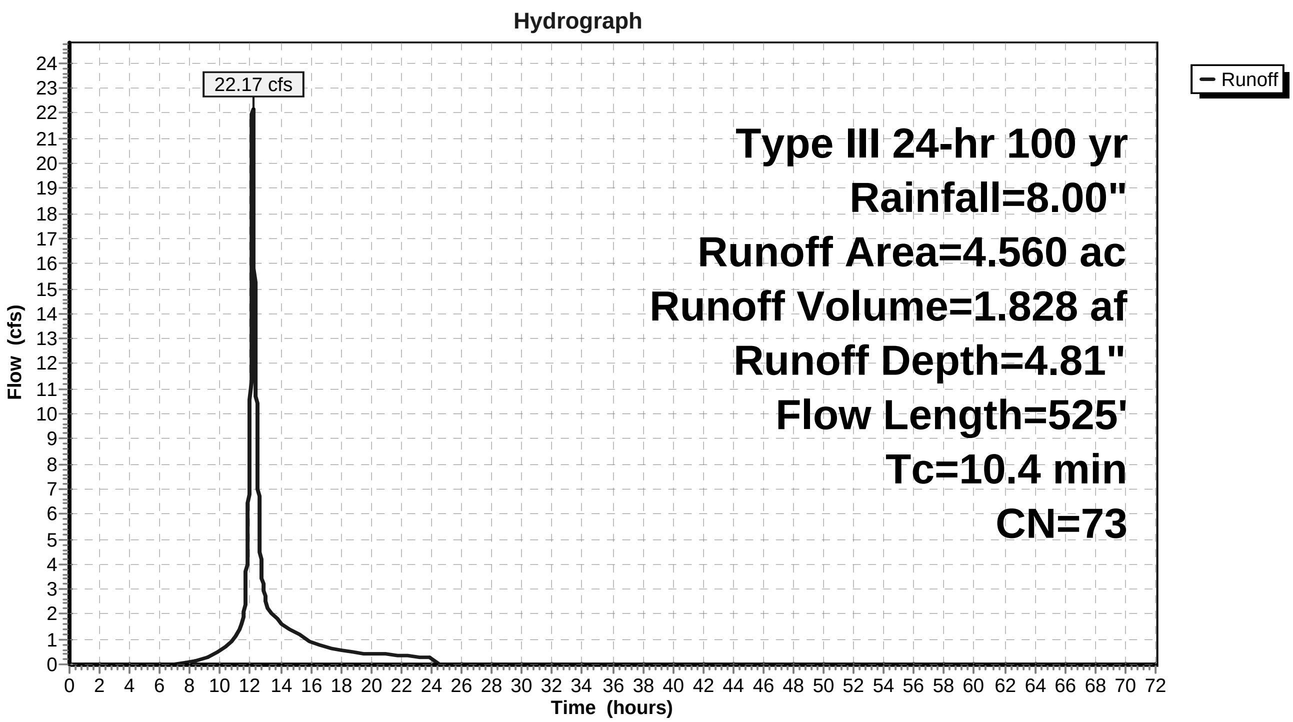
Runoff = 22.17 cfs @ 12.14 hrs, Volume= 1.828 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
4.560	73	Woods, Fair, HSG C
4.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	425	0.0880	4.78		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
10.4	525	Total			

Subcatchment 2b:



Summary for Subcatchment 2c:

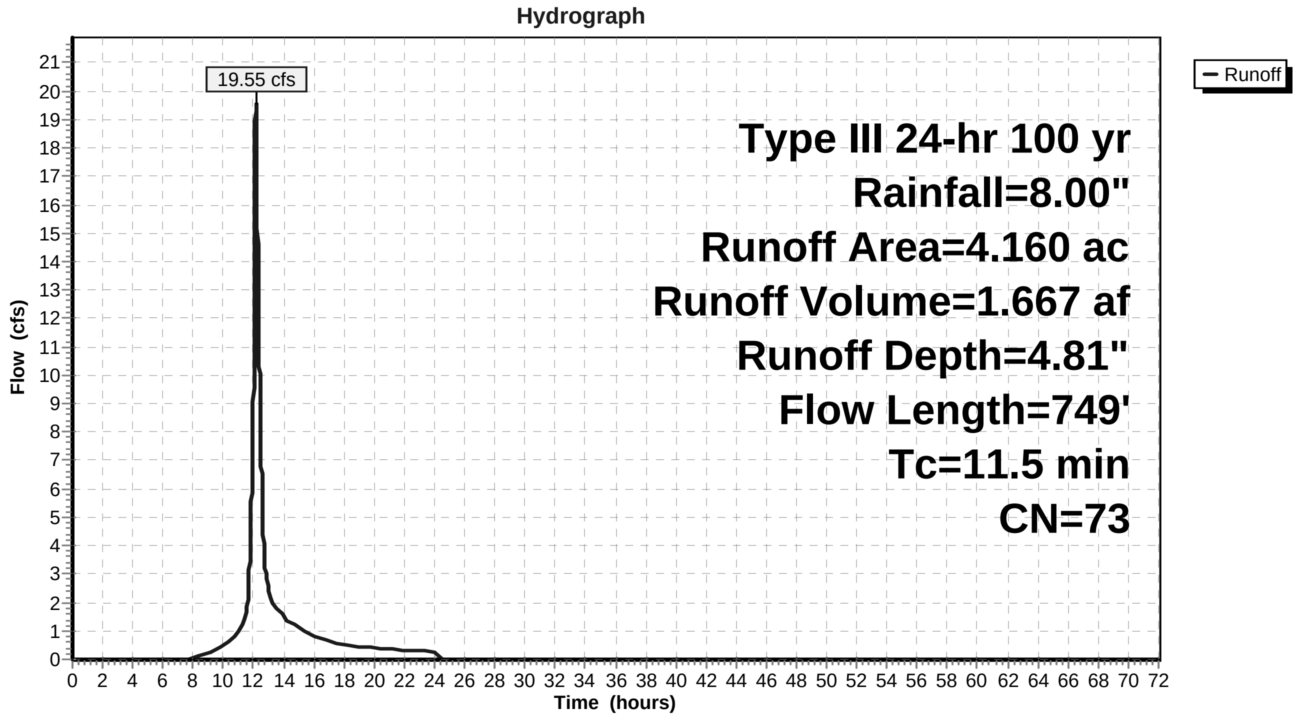
Runoff = 19.55 cfs @ 12.16 hrs, Volume= 1.667 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
4.160	73	Woods, Fair, HSG C
4.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	649	0.0860	4.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	749	Total			

Subcatchment 2c:



Summary for Subcatchment 2d:

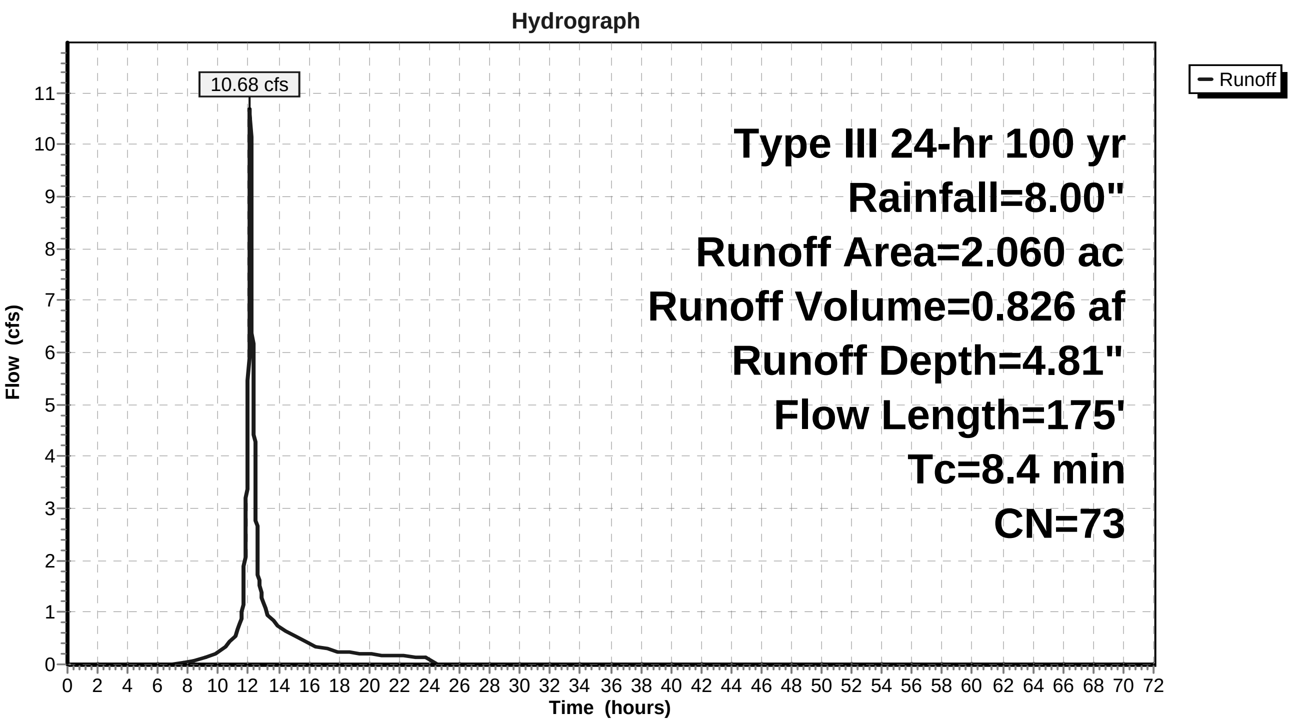
Runoff = 10.68 cfs @ 12.12 hrs, Volume= 0.826 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
2.060	73	Woods, Fair, HSG C
2.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	100	0.1900	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.4000	10.18		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.4	175	Total			

Subcatchment 2d:



Summary for Subcatchment 2e:

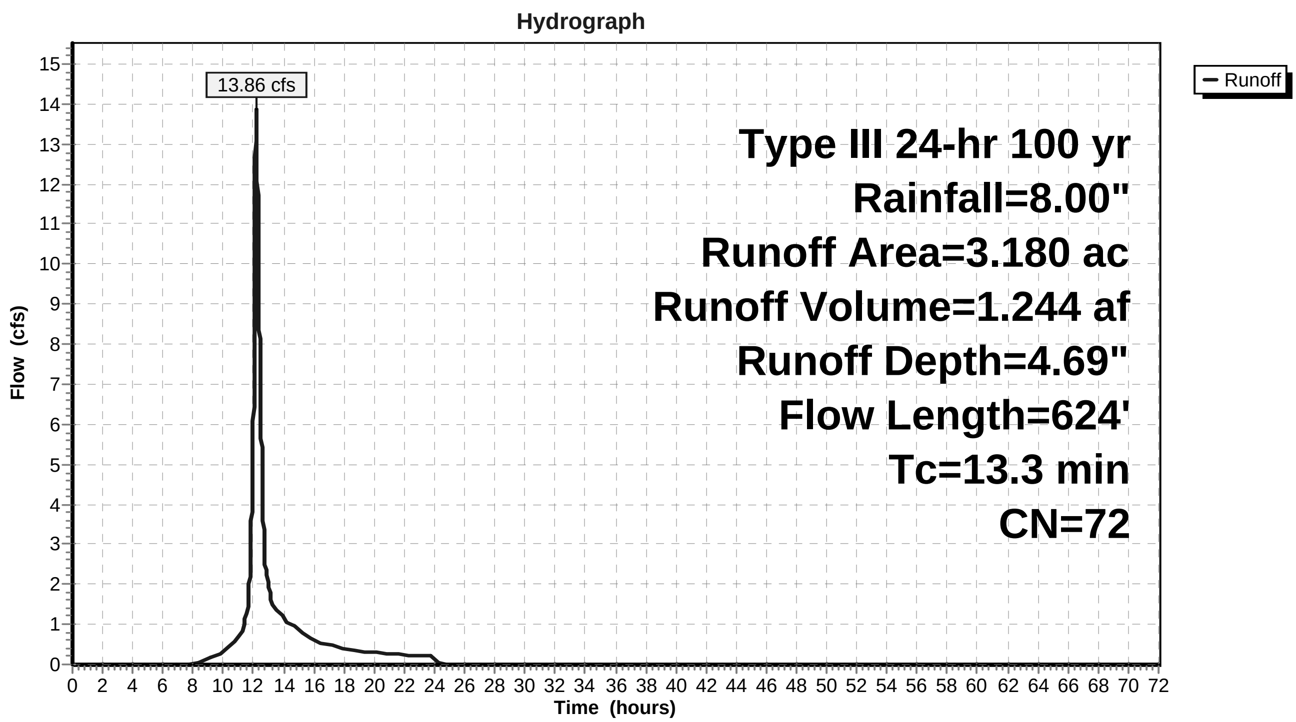
Runoff = 13.86 cfs @ 12.18 hrs, Volume= 1.244 af, Depth= 4.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
2.410	73	Woods, Fair, HSG C
0.770	70	Brush, Fair, HSG C
3.180	72	Weighted Average
3.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.5	524	0.0490	3.56		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
13.3	624	Total			

Subcatchment 2e:

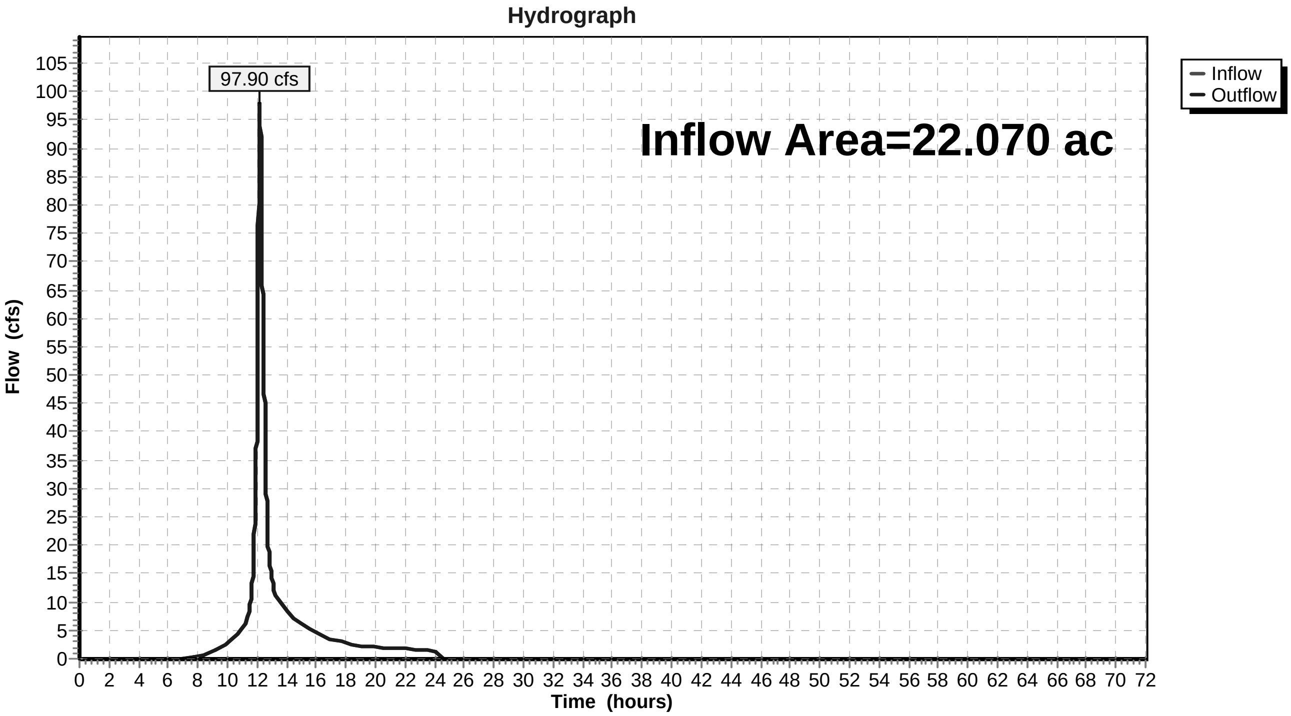


Summary for Reach dp1:

Inflow Area = 22.070 ac, 4.67% Impervious, Inflow Depth = 4.94" for 100 yr event
Inflow = 97.90 cfs @ 12.18 hrs, Volume= 9.078 af
Outflow = 97.90 cfs @ 12.18 hrs, Volume= 9.078 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

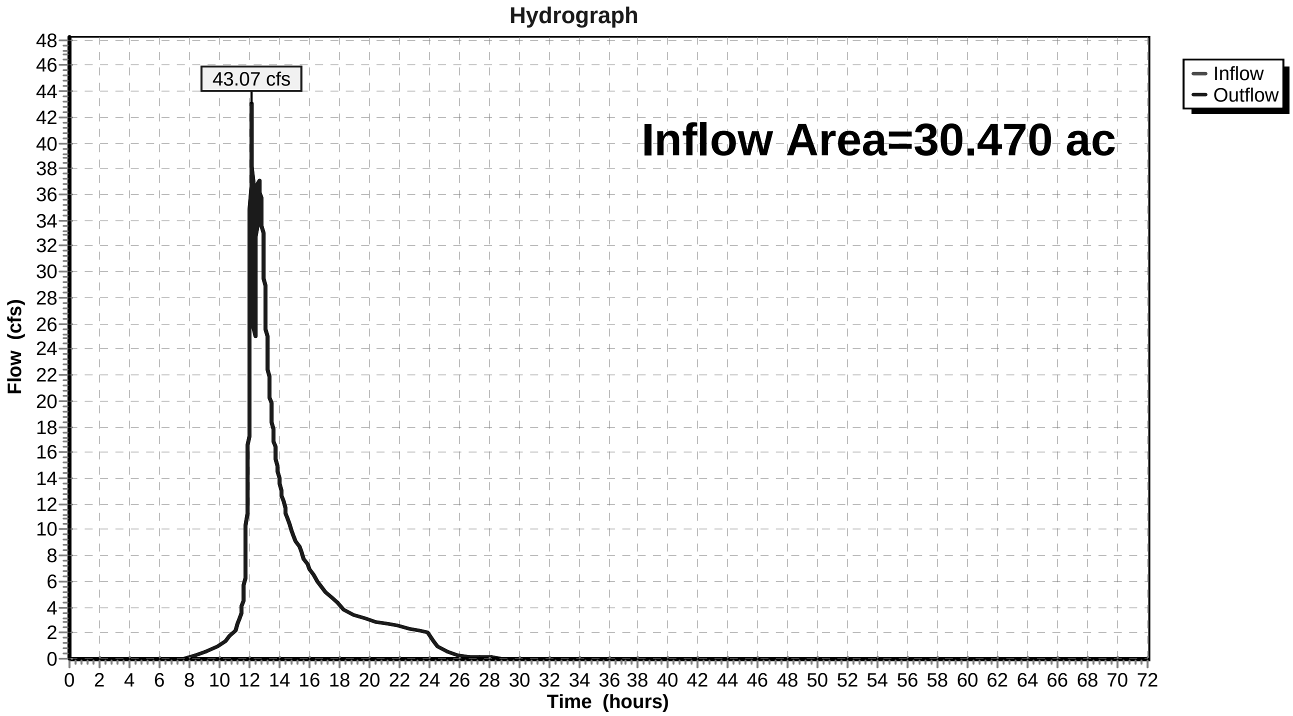


Summary for Reach dp2:

Inflow Area = 30.470 ac, 0.00% Impervious, Inflow Depth = 3.64" for 100 yr event
Inflow = 43.07 cfs @ 12.15 hrs, Volume= 9.250 af
Outflow = 43.07 cfs @ 12.15 hrs, Volume= 9.250 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



Summary for Pond P-2a:

Inflow Area = 16.510 ac, 0.00% Impervious, Inflow Depth = 4.81" for 100 yr event
Inflow = 61.83 cfs @ 12.28 hrs, Volume= 6.618 af
Outflow = 25.26 cfs @ 12.70 hrs, Volume= 4.562 af, Atten= 59%, Lag= 25.0 min
Primary = 25.26 cfs @ 12.70 hrs, Volume= 4.562 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.93' @ 12.70 hrs Surf.Area= 89,782 sf Storage= 130,631 cf

Plug-Flow detention time= 200.7 min calculated for 4.561 af (69% of inflow)
Center-of-Mass det. time= 104.3 min (936.4 - 832.1)

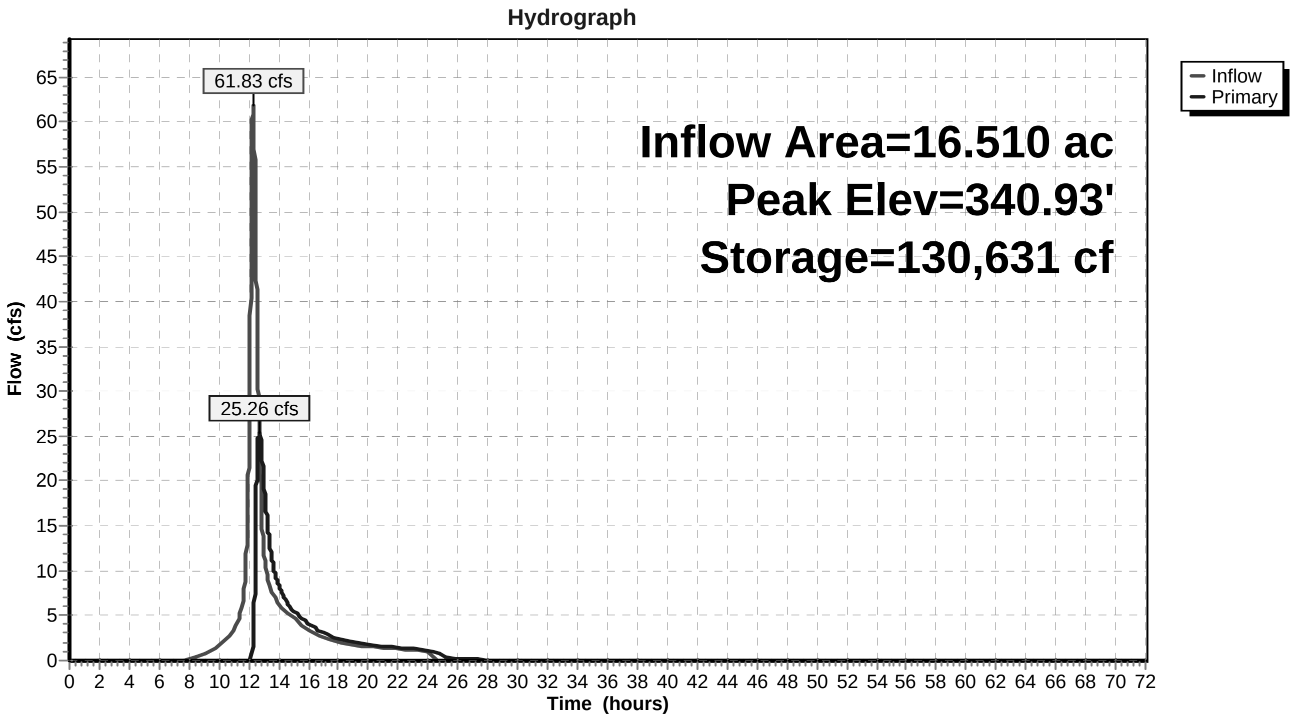
Volume	Invert	Avail.Storage	Storage Description
#1	338.15'	237,745 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
338.15	2,500	389.0	0	0	2,500
340.00	73,051	1,452.0	54,923	54,923	158,241
342.00	111,095	1,581.0	182,822	237,745	189,524

Device	Routing	Invert	Outlet Devices
#1	Primary	340.45'	**28.0' long x 60.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=25.26 cfs @ 12.70 hrs HW=340.93' TW=311.36' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 25.26 cfs @ 1.87 fps)

Pond P-2a:


Hydrograph
61.83 cfs
25.26 cfs
Inflow Area=16.510 ac
Peak Elev=340.93'
Storage=130,631 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72

Summary for Pond P-2b:

Inflow Area = 21.070 ac, 0.00% Impervious, Inflow Depth = 3.64" for 100 yr event
Inflow = 29.32 cfs @ 12.65 hrs, Volume= 6.389 af
Outflow = 28.62 cfs @ 12.74 hrs, Volume= 5.513 af, Atten= 2%, Lag= 5.5 min
Primary = 28.62 cfs @ 12.74 hrs, Volume= 5.513 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.36' @ 12.74 hrs Surf.Area= 25,389 sf Storage= 48,054 cf

Plug-Flow detention time= 108.5 min calculated for 5.513 af (86% of inflow)
Center-of-Mass det. time= 40.6 min (944.4 - 903.8)

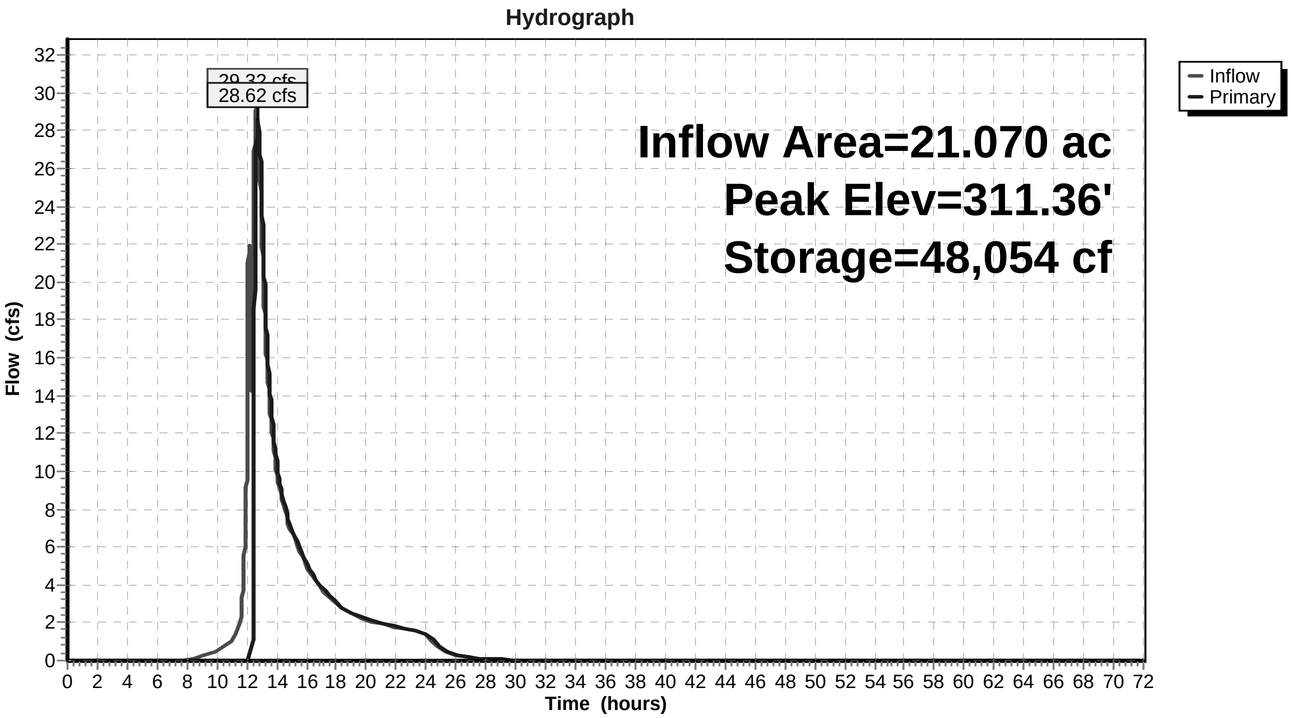
Volume	Invert	Avail.Storage	Storage Description
#1	307.40'	65,773 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
307.40	15	5.0	0	0	15
307.50	2,045	190.0	75	75	2,886
308.00	3,538	265.0	1,379	1,453	5,604
310.00	16,389	556.0	18,361	19,814	24,633
312.00	30,274	815.0	45,958	65,773	52,924

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**40.0' long x 30.0' breadth Broad-Crested Rectangular Weir** 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

Primary OutFlow Max=28.61 cfs @ 12.74 hrs HW=311.36' TW=0.00' (Dynamic Tailwater)
└─**1=Broad-Crested Rectangular Weir** (Weir Controls 28.61 cfs @ 1.73 fps)

Pond P-2b:


Hydrograph
29.32 cfs
28.62 cfs
Inflow
Primary
Inflow Area=21.070 ac
Peak Elev=311.36'
Storage=48,054 cf
Flow (cfs)
Time (hours)

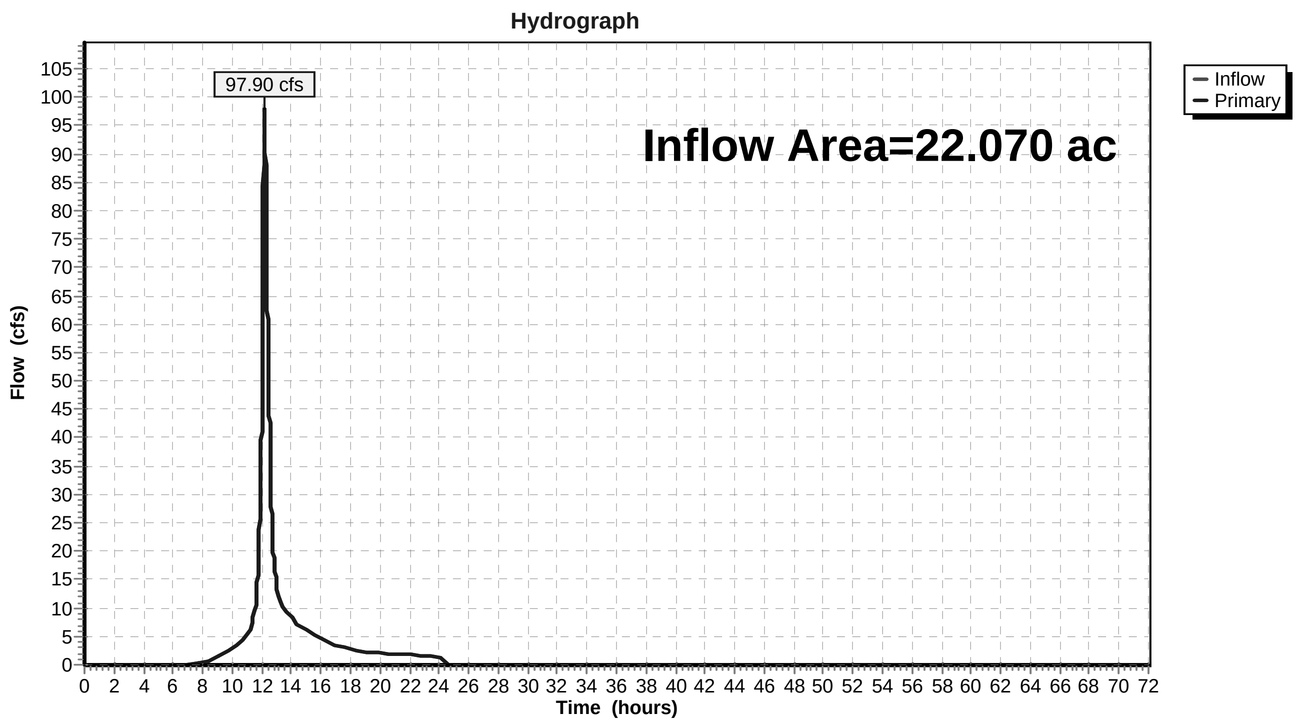
Summary for Link FP: FLOOD PLAIN - 252.5

Inflow Area =	22.070 ac,	4.67% Impervious,	Inflow Depth = 4.94"	for 100 yr event	
Inflow =	97.90 cfs @	12.18 hrs,	Volume=	9.078 af	
Primary =	97.90 cfs @	12.18 hrs,	Volume=	9.078 af,	Atten= 0%, Lag= 0.0 min

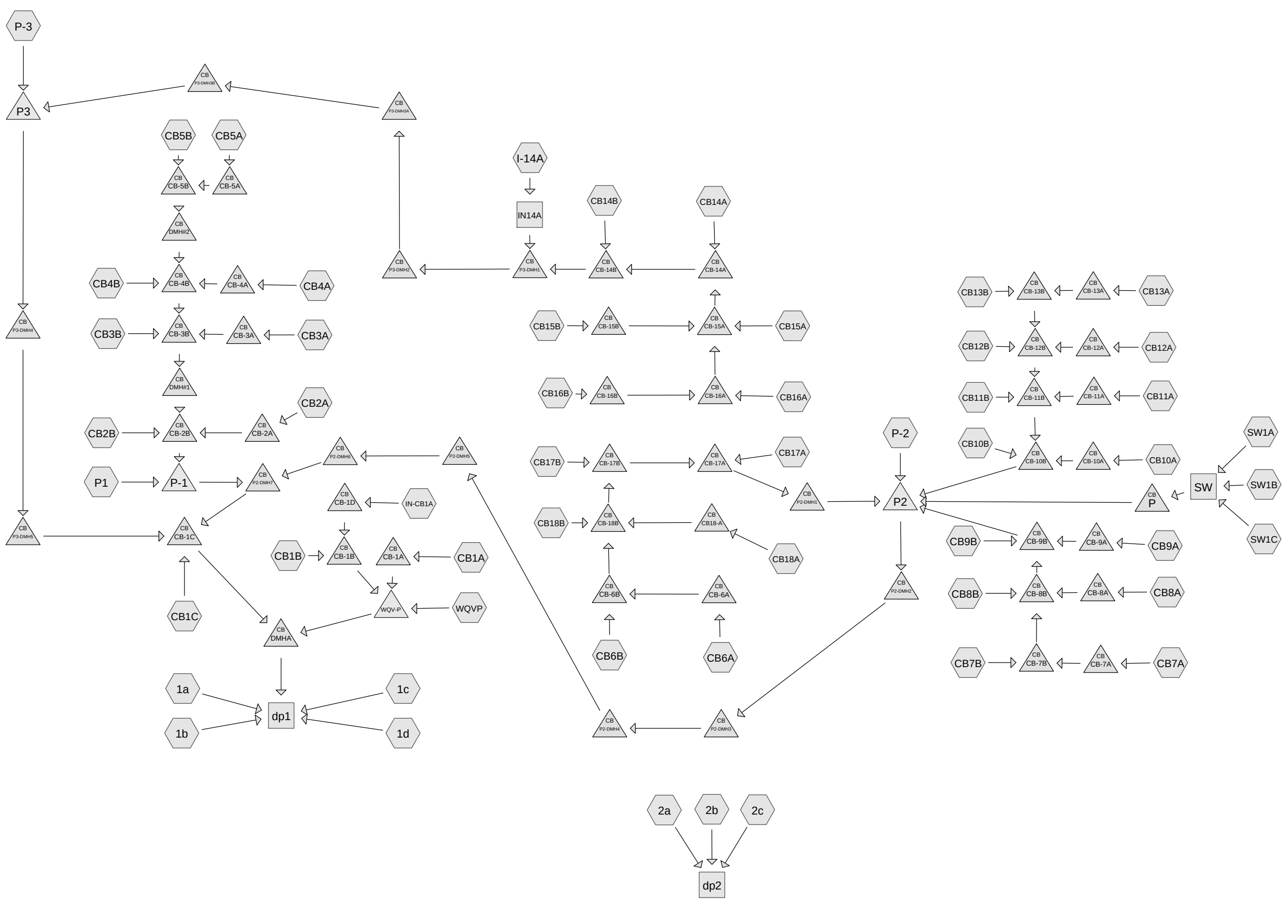
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 252.50'

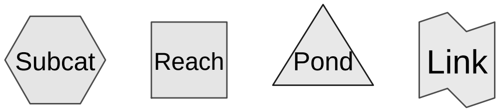
Link FP: FLOOD PLAIN - 252.5



Appendix B
Proposed Drainage Analysis Hydrocad Calculations



DESIGN STORMS 1YR , 2YR, 10YR, AND 25YR - NO FLOODPLAIN



Drainage Diagram for HILLTOP POST

Prepared by M. GILLESPIE & ASSOC., Printed 2/16/2010

HydroCAD® 9.10 s/n 03075 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment 1a:

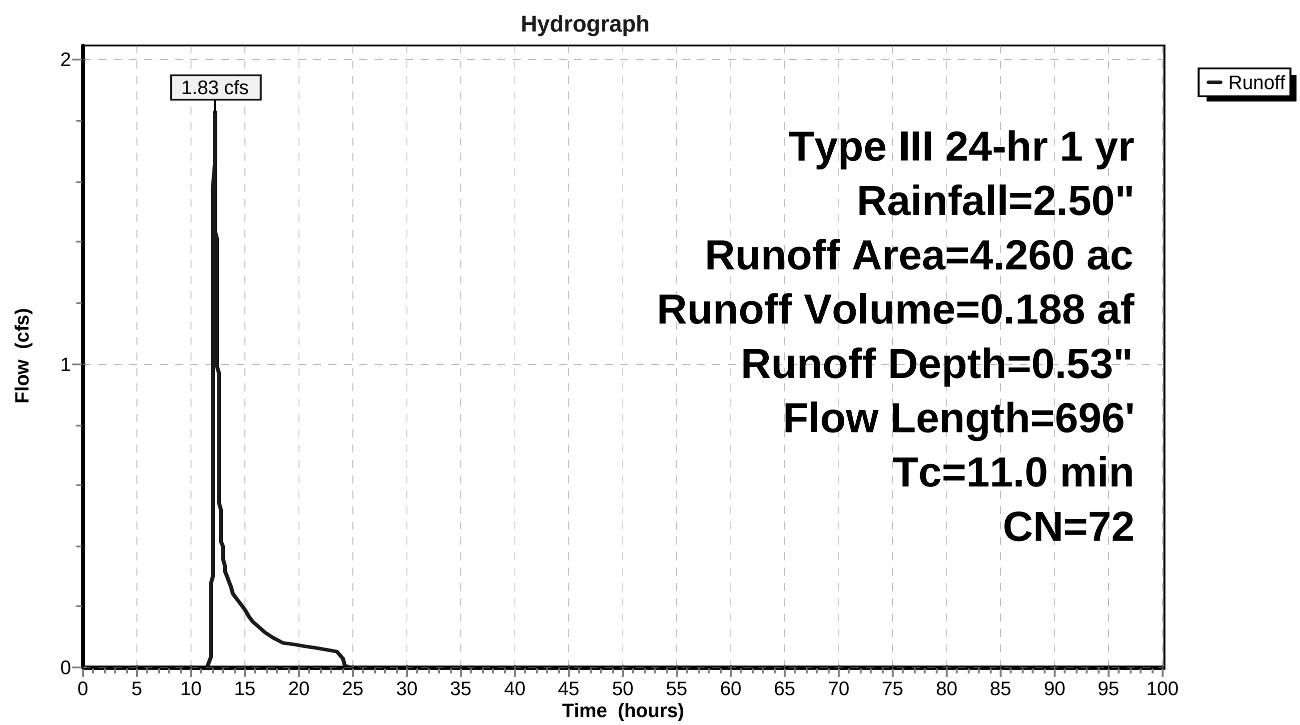
Runoff = 1.83 cfs @ 12.18 hrs, Volume= 0.188 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
2.530	73	Woods, Fair, HSG C
0.040	74	>75% Grass cover, Good, HSG C
4.260	72	Weighted Average
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

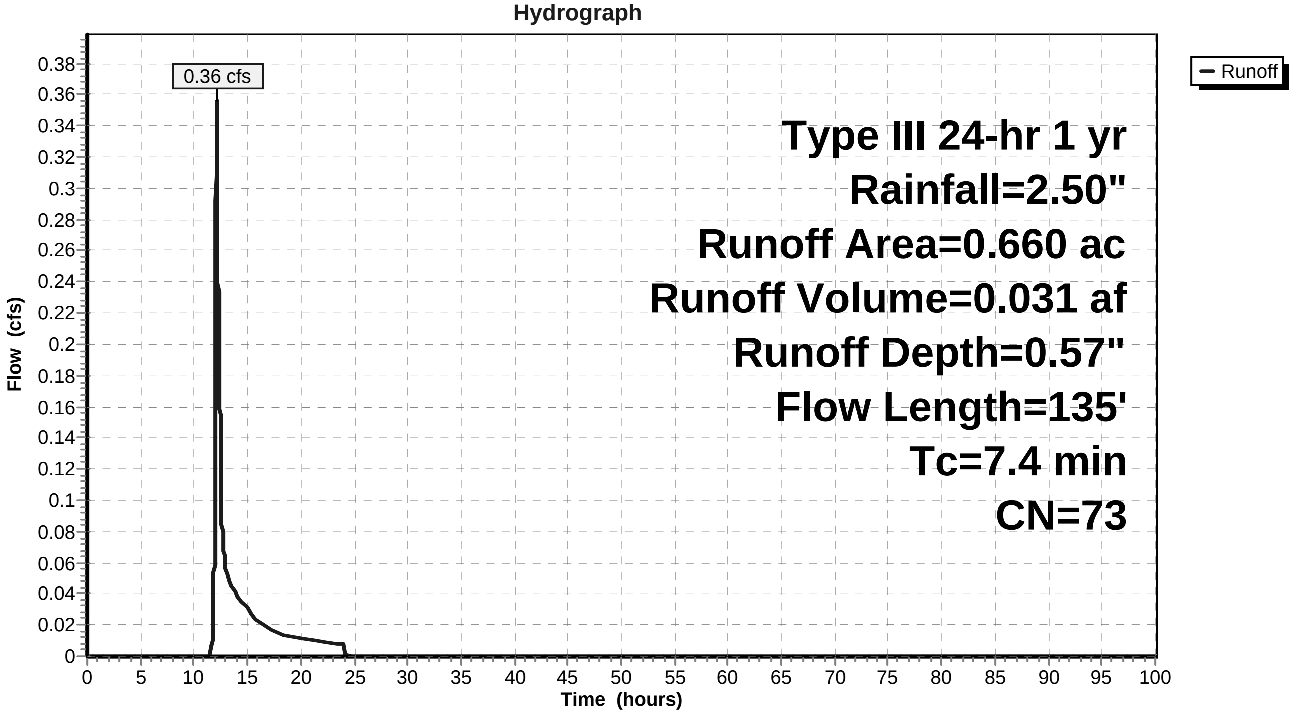
Runoff = 0.36 cfs @ 12.12 hrs, Volume= 0.031 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.350	73	Woods, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.060	70	Brush, Fair, HSG C
0.660	73	Weighted Average
0.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	10	0.3800	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.0	40	0.3800	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	15	0.3800	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	35	0.3800	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	35	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.4	135	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

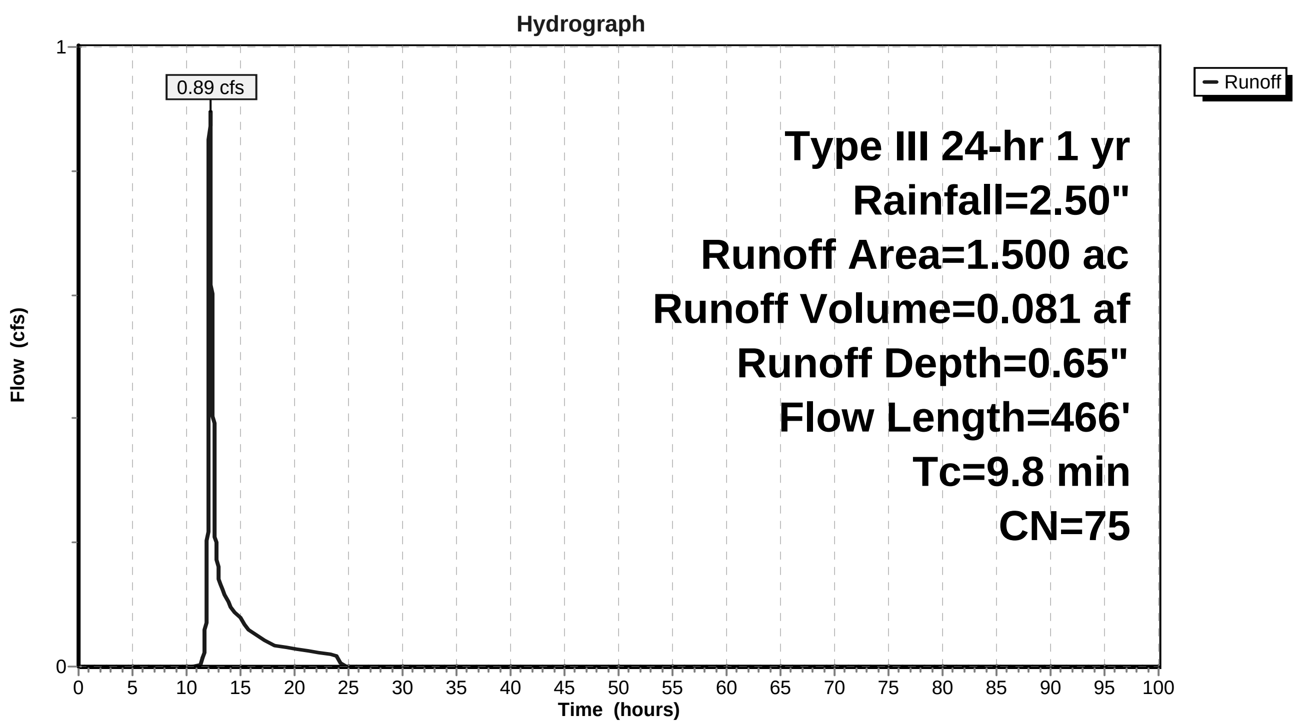
Runoff = 0.89 cfs @ 12.15 hrs, Volume= 0.081 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
1.200	73	Woods, Fair, HSG C
0.100	74	>75% Grass cover, Good, HSG C
0.140	79	50-75% Grass cover, Fair, HSG C
0.060	98	Paved parking & roofs
1.500	75	Weighted Average
1.440		96.00% Pervious Area
0.060		4.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	200	0.2600	8.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	166	0.0150	5.76	15.36	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
9.8	466	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

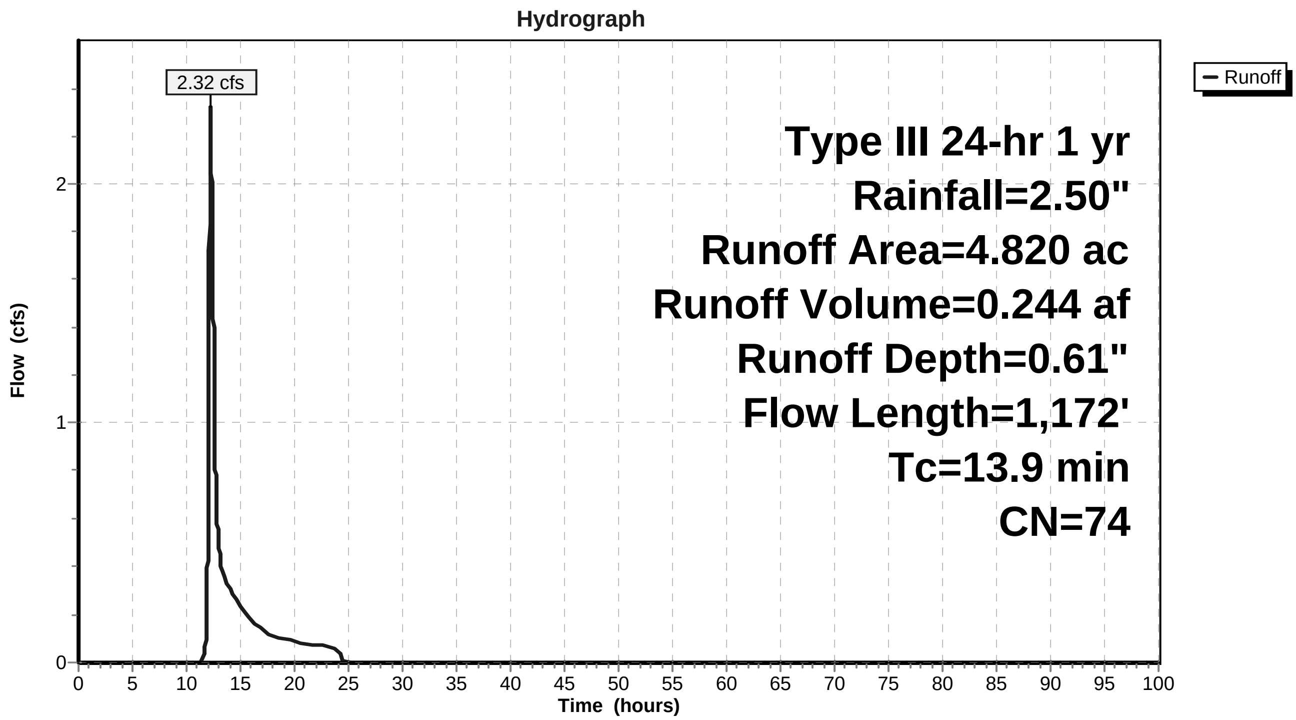
Runoff = 2.32 cfs @ 12.22 hrs, Volume= 0.244 af, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
3.910	73	Woods, Fair, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking & roofs
4.820	74	Weighted Average
4.670		96.89% Pervious Area
0.150		3.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.7	850	0.1040	5.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	222	0.0450	9.97	26.60	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
13.9	1,172	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

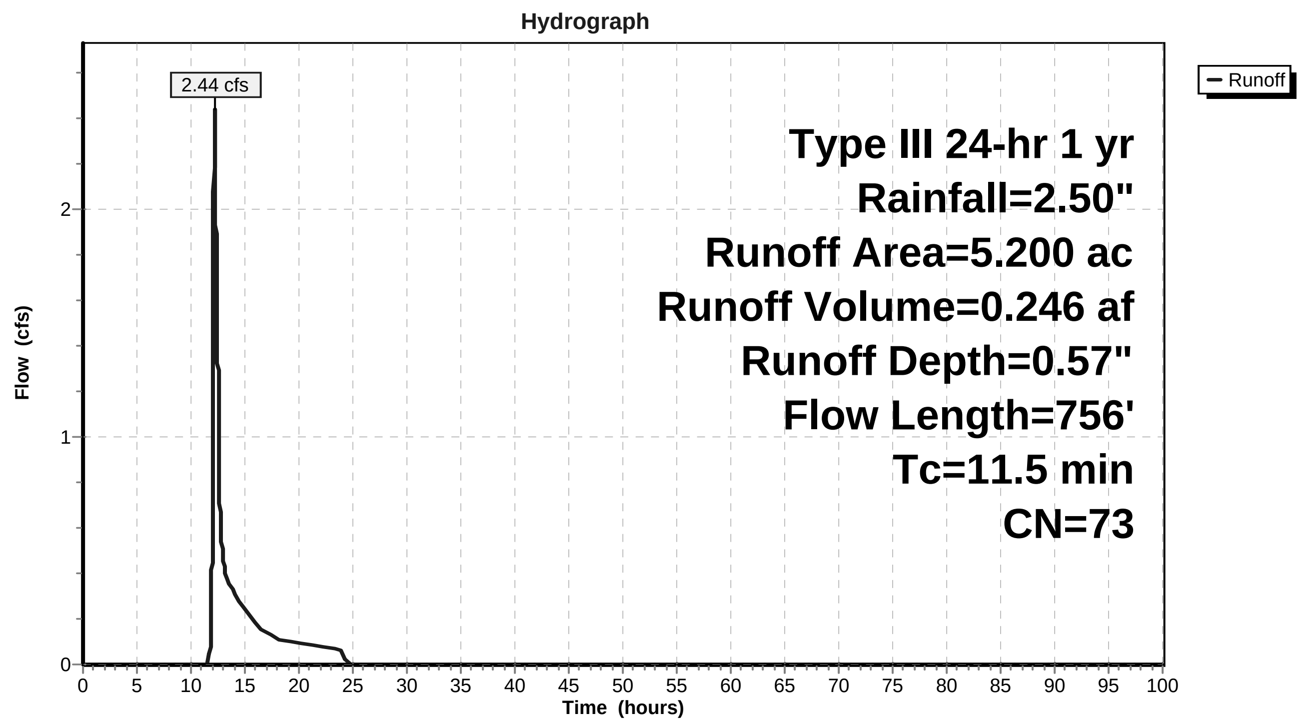
Runoff = 2.44 cfs @ 12.18 hrs, Volume= 0.246 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
4.160	73	Woods, Fair, HSG C
5.200	73	Weighted Average
5.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	656	0.0910	4.86		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	756	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

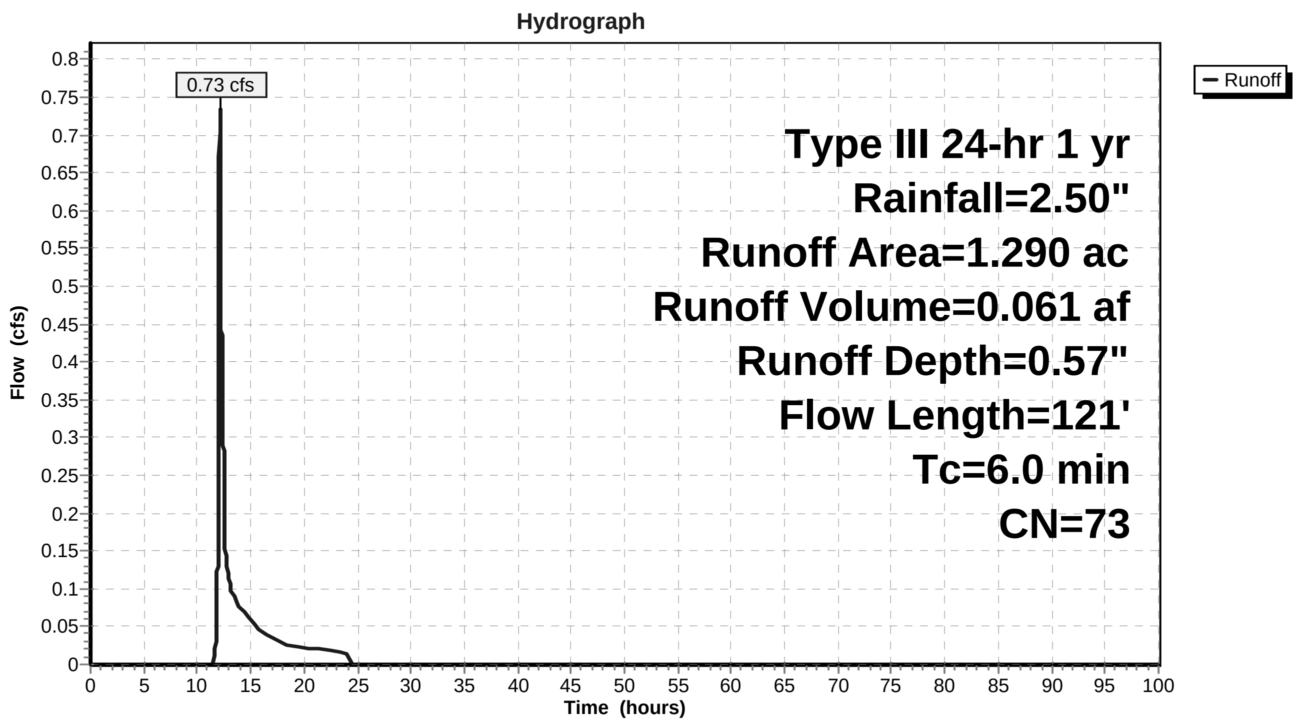
Runoff = 0.73 cfs @ 12.10 hrs, Volume= 0.061 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.610	74	>75% Grass cover, Good, HSG C
0.680	73	Woods, Fair, HSG C
1.290	73	Weighted Average
1.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	100	0.3300	0.37		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.1	21	0.1420	6.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.5	121	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2b:



Summary for Subcatchment 2c:

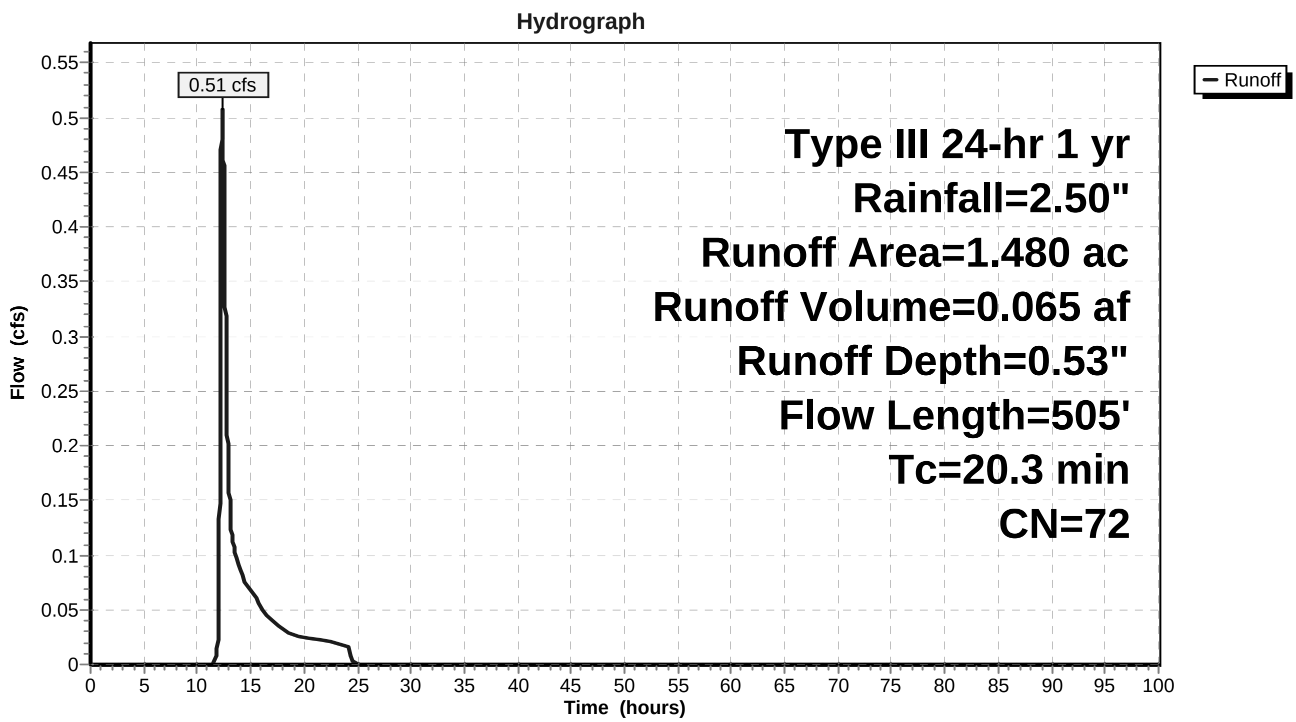
Runoff = 0.51 cfs @ 12.34 hrs, Volume= 0.065 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.800	73	Woods, Fair, HSG C
0.680	70	Brush, Fair, HSG C
1.480	72	Weighted Average
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0250	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	405	0.0790	4.53		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.3	505	Total			

Subcatchment 2c:



Summary for Subcatchment CB10A:

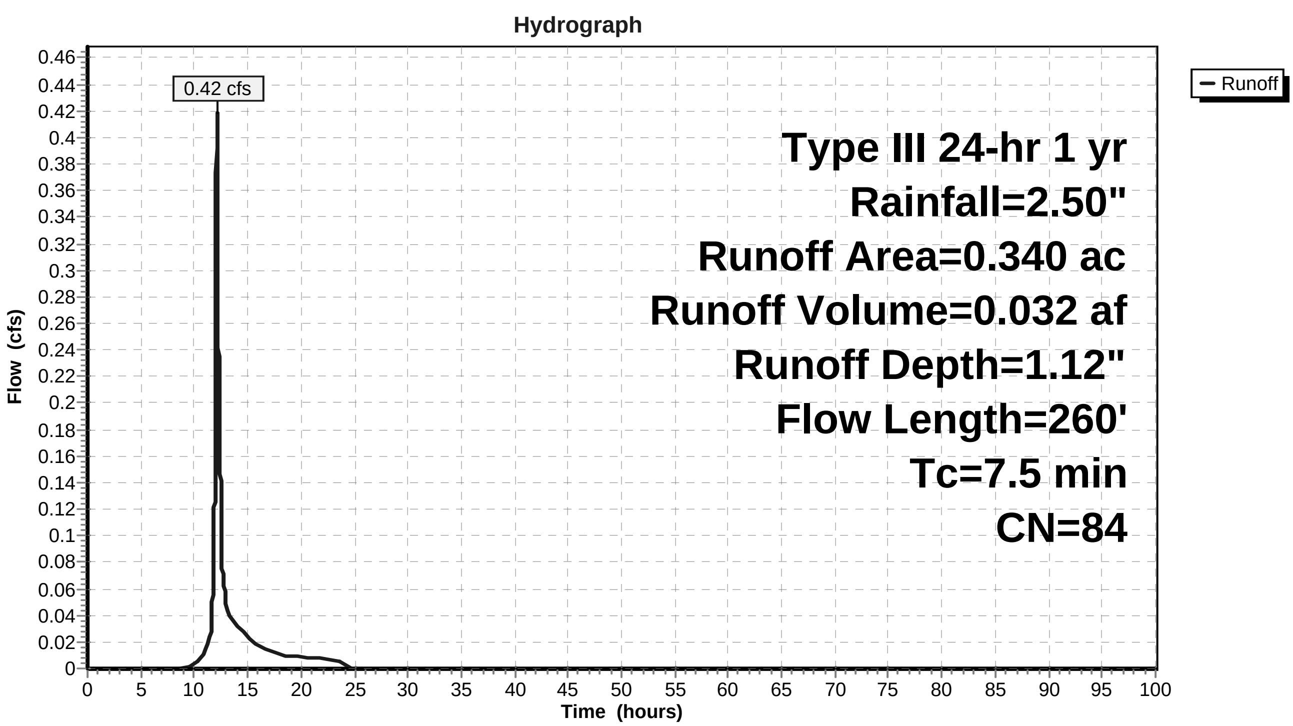
Runoff = 0.42 cfs @ 12.11 hrs, Volume= 0.032 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.200	74	>75% Grass cover, Good, HSG C
0.340	84	Weighted Average
0.200		58.82% Pervious Area
0.140		41.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0600	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.6	40	0.0200	1.20		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	160	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	260	Total			

Subcatchment CB10A:



Summary for Subcatchment CB10B:

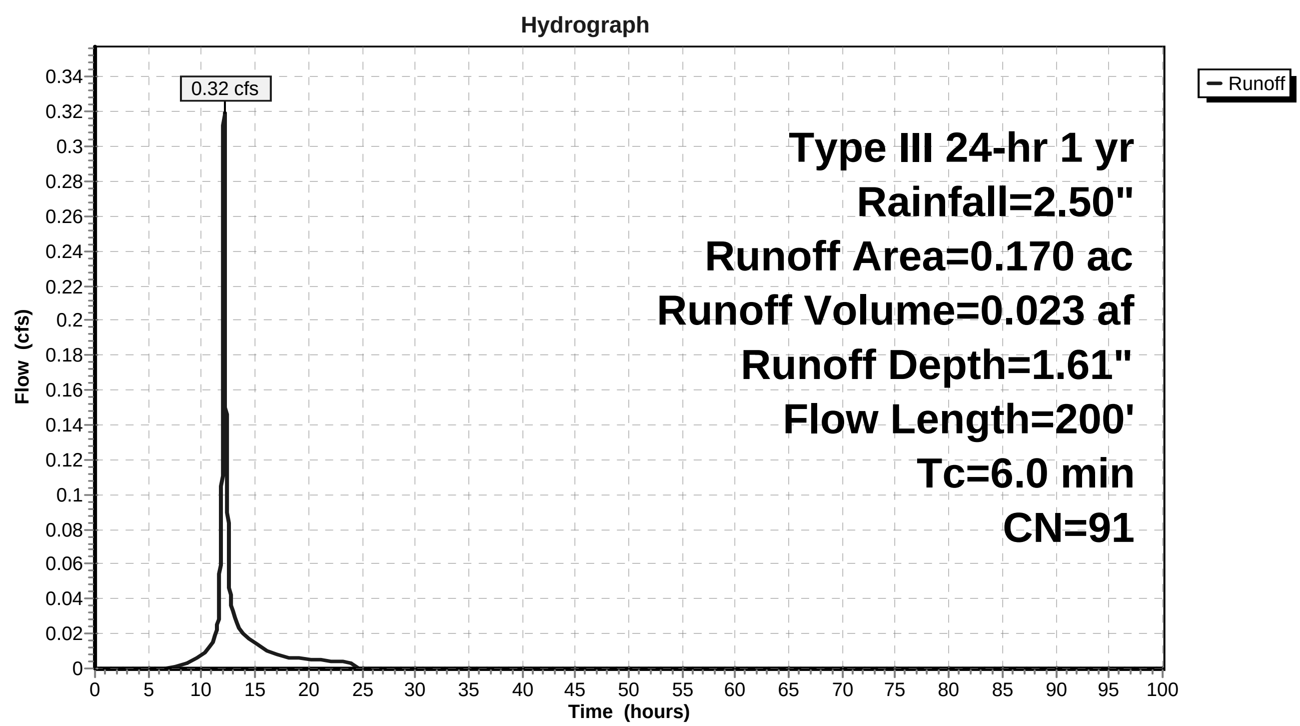
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.120	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.170	91	Weighted Average
0.050		29.41% Pervious Area
0.120		70.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	80	0.0100	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	100	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB10B:



Summary for Subcatchment CB11A:

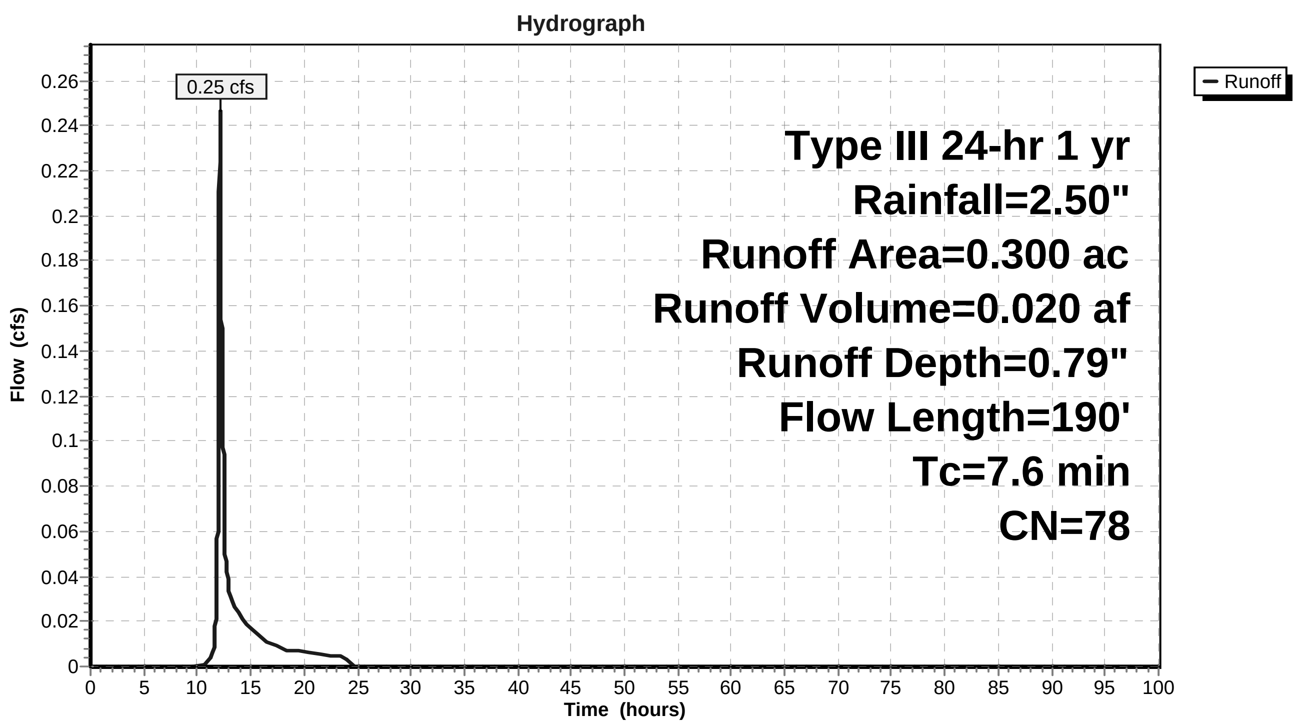
Runoff = 0.25 cfs @ 12.12 hrs, Volume= 0.020 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.300	78	Weighted Average
0.250		83.33% Pervious Area
0.050		16.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	15	0.2500	8.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	75	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.6	190	Total			

Subcatchment CB11A:



Summary for Subcatchment CB11B:

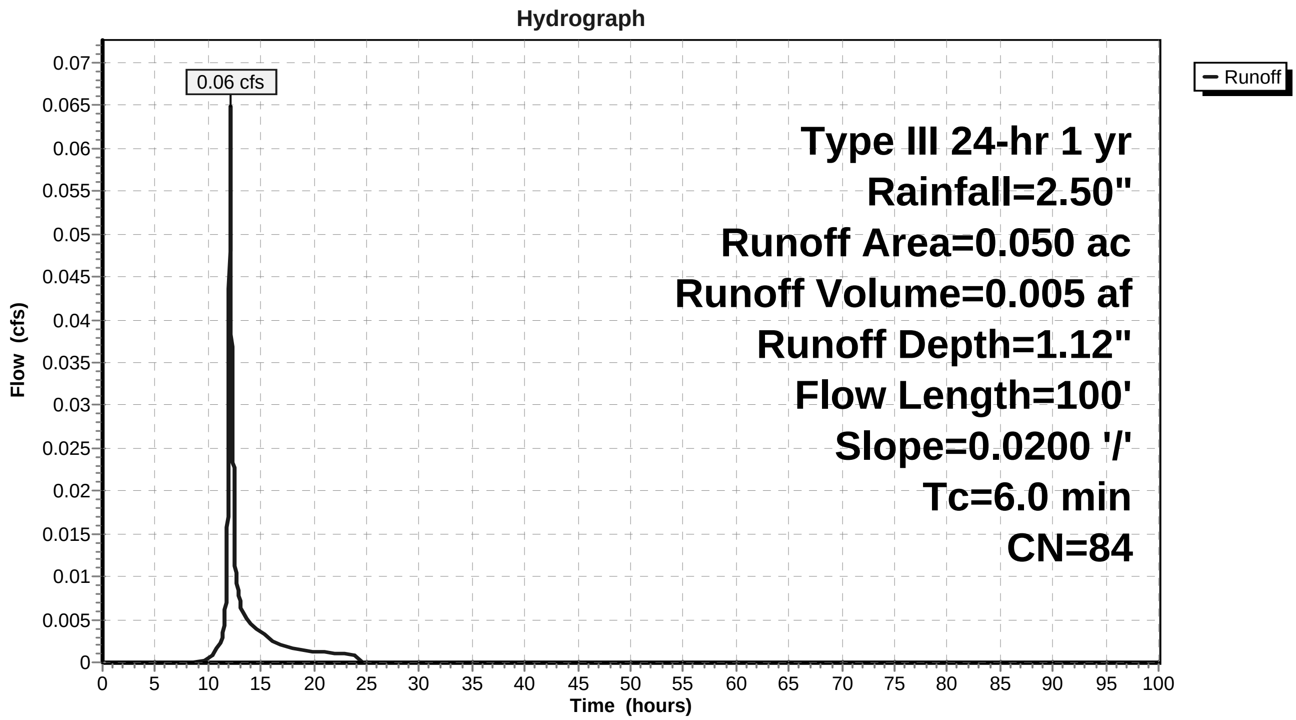
Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.030	74	>75% Grass cover, Good, HSG C
0.050	84	Weighted Average
0.030		60.00% Pervious Area
0.020		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.2	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB11B:



Summary for Subcatchment CB12A:

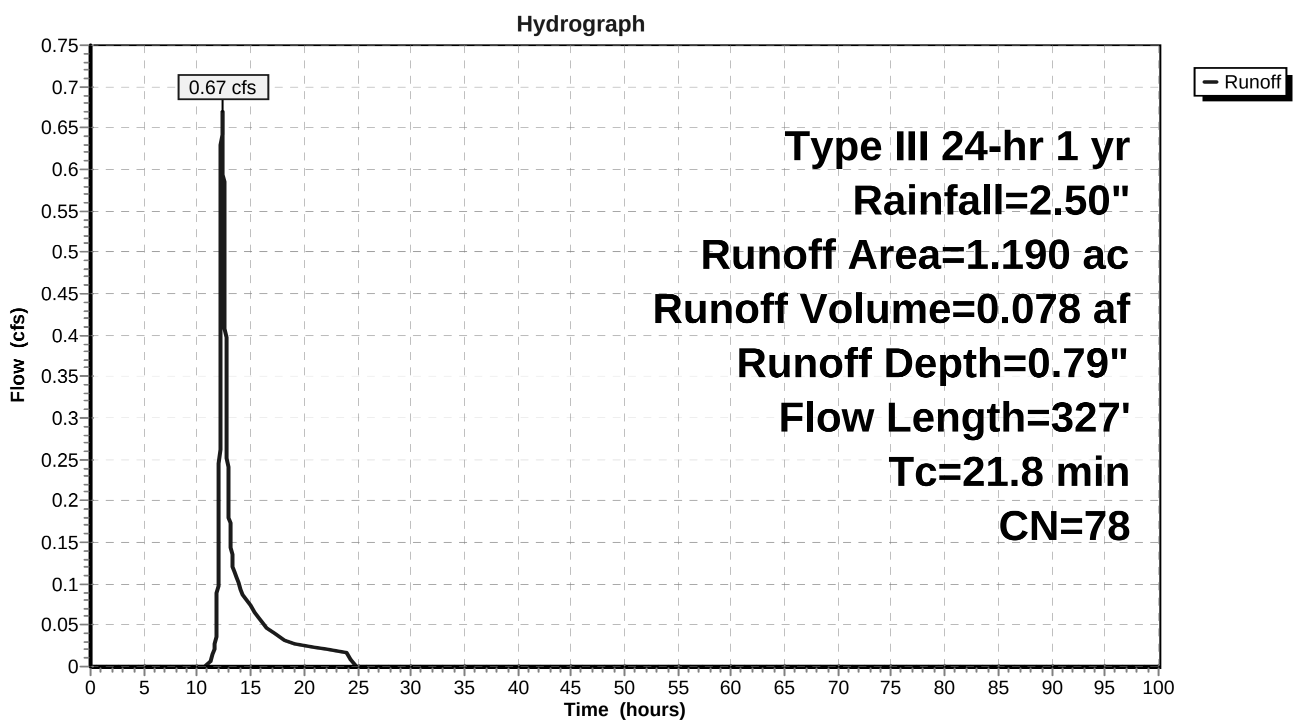
Runoff = 0.67 cfs @ 12.33 hrs, Volume= 0.078 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.590	74	>75% Grass cover, Good, HSG C
0.400	73	Woods, Fair, HSG C
1.190	78	Weighted Average
0.990		83.19% Pervious Area
0.200		16.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	70	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.2	30	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	177	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.8	327	Total			

Subcatchment CB12A:



Summary for Subcatchment CB12B:

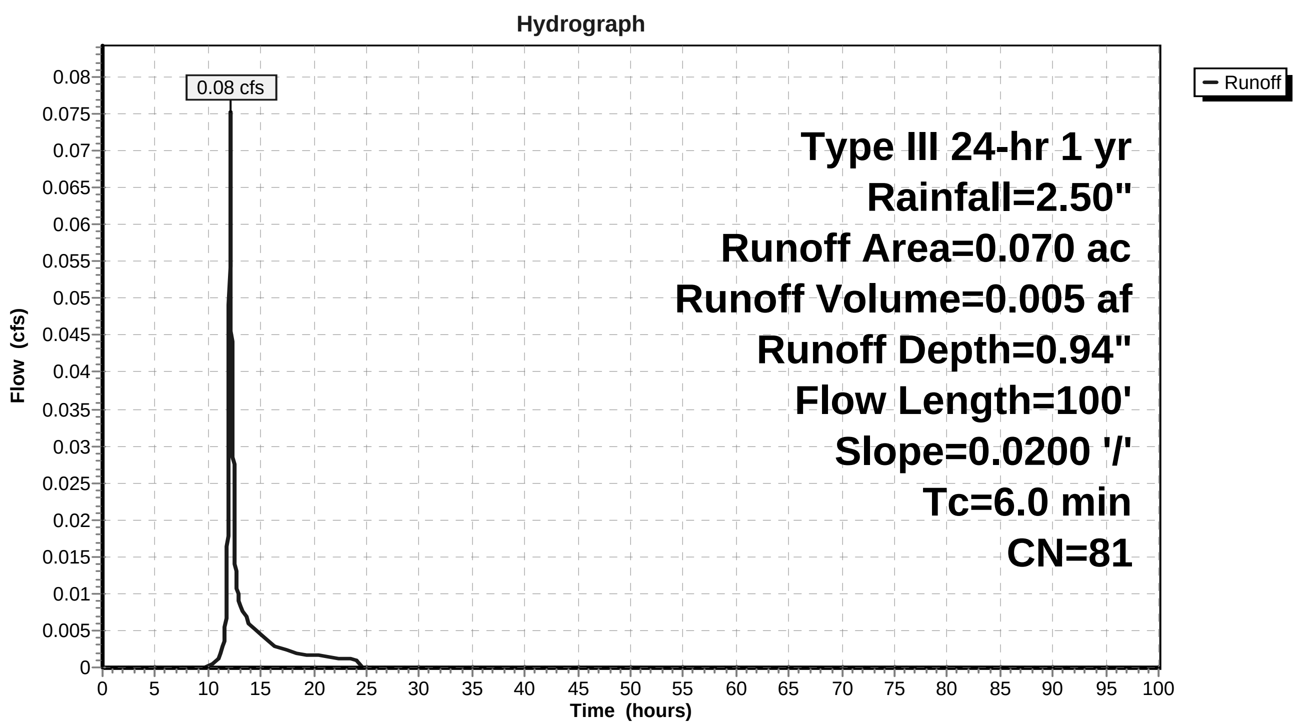
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.005 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB12B:



Summary for Subcatchment CB13A:

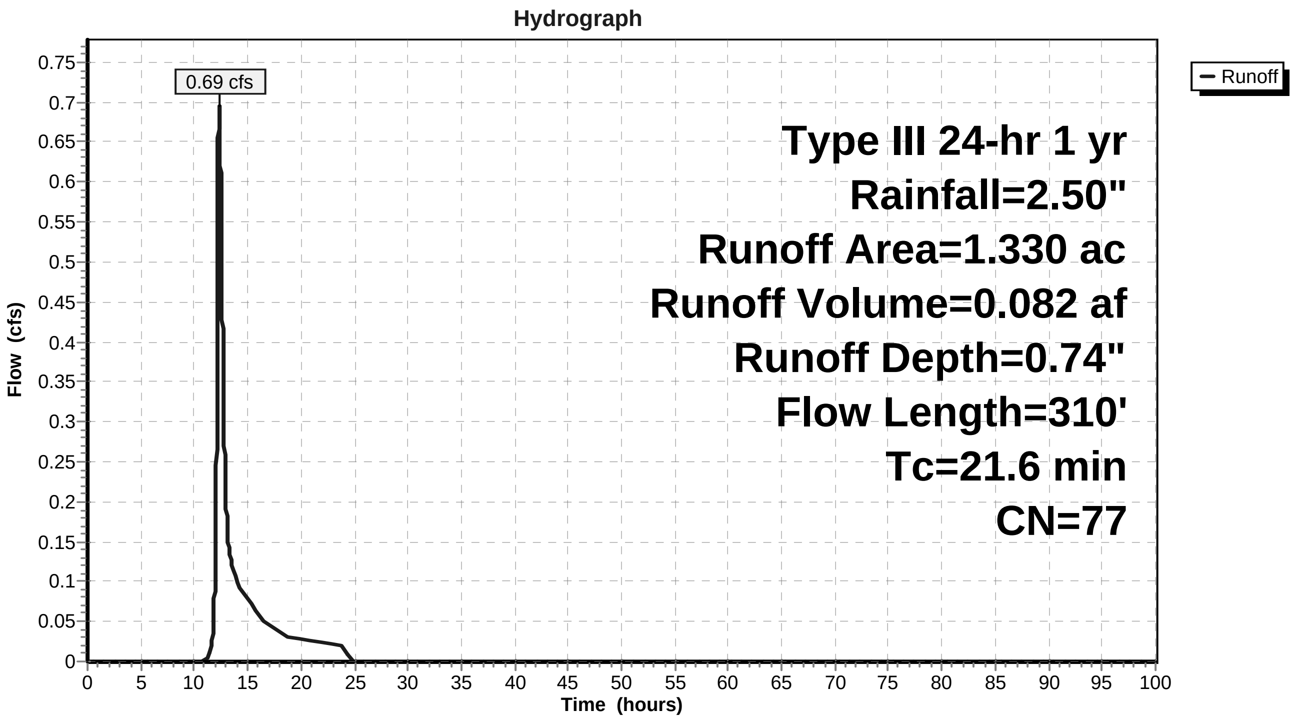
Runoff = 0.69 cfs @ 12.33 hrs, Volume= 0.082 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.500	73	Woods, Fair, HSG C
0.630	74	>75% Grass cover, Good, HSG C
1.330	77	Weighted Average
1.130		84.96% Pervious Area
0.200		15.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	90	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	120	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.6	310	Total			

Subcatchment CB13A:



Summary for Subcatchment CB13B:

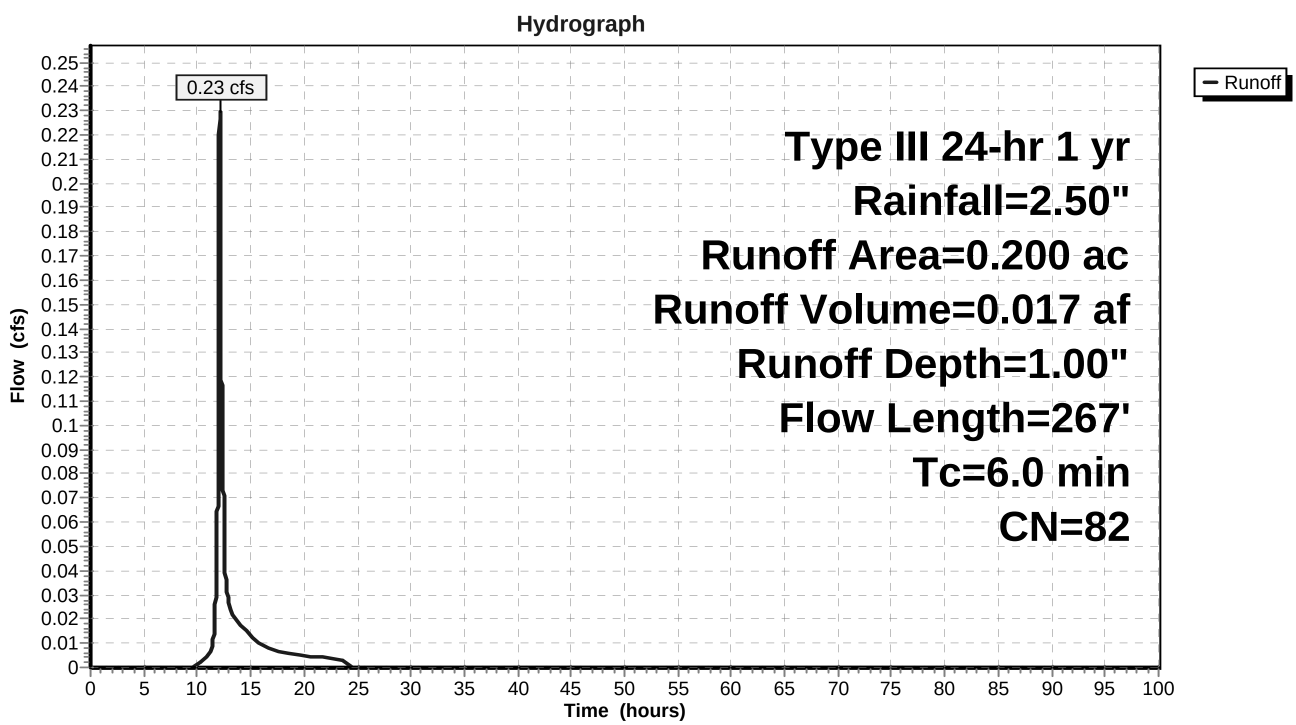
Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 1.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.200	82	Weighted Average
0.130		65.00% Pervious Area
0.070		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
2.0	247	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.3	267	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB13B:



Summary for Subcatchment CB14A:

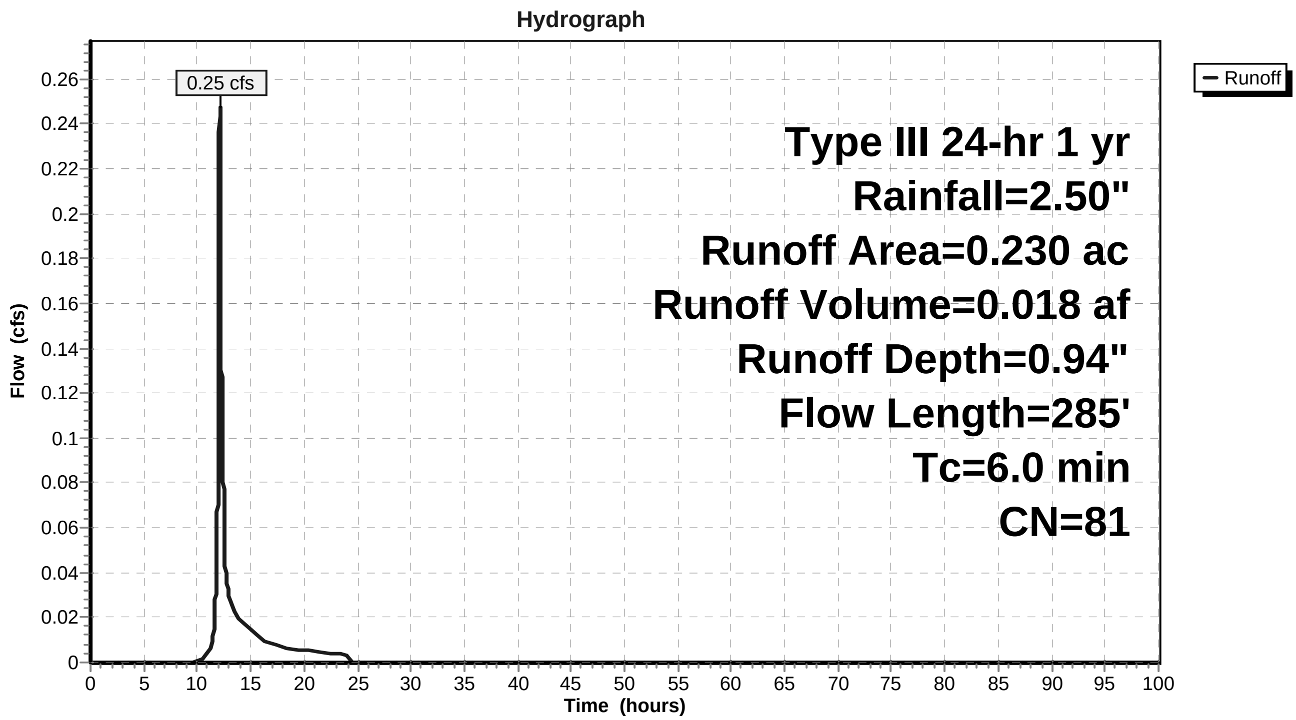
Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.160	74	>75% Grass cover, Good, HSG C
0.230	81	Weighted Average
0.160		69.57% Pervious Area
0.070		30.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14A:



Summary for Subcatchment CB14B:

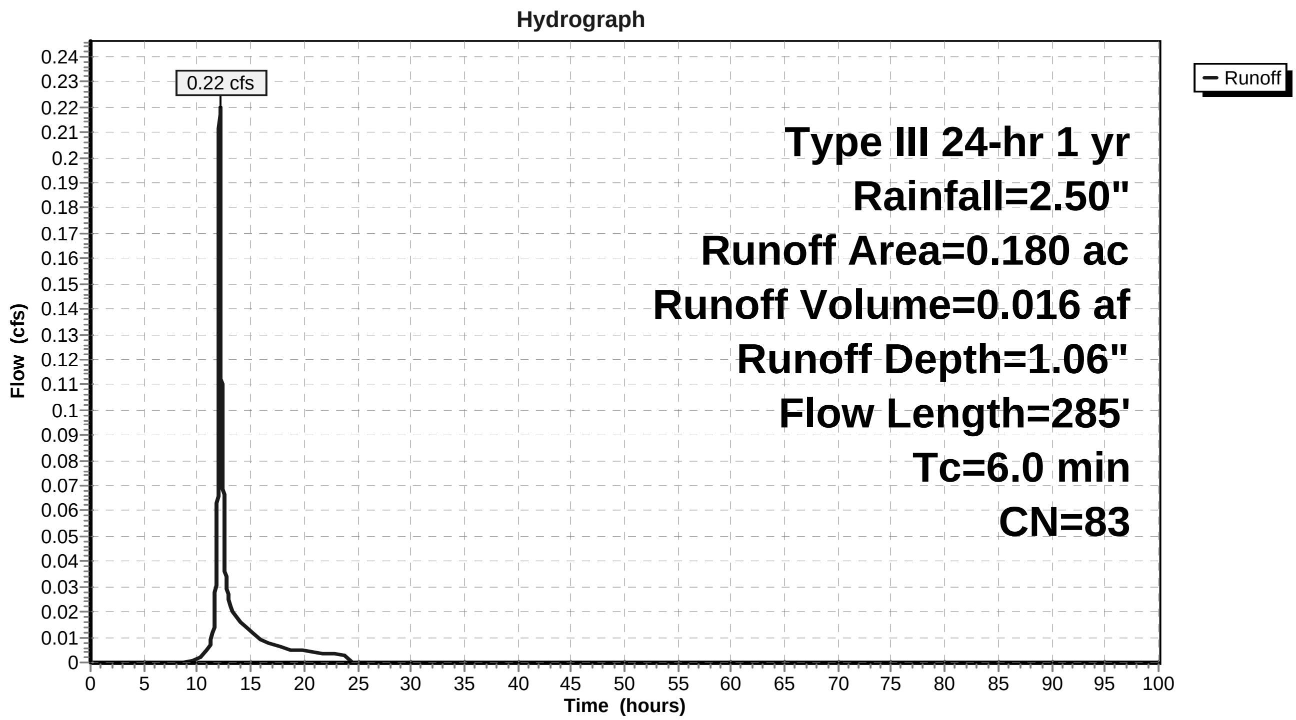
Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 1.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.110	74	>75% Grass cover, Good, HSG C
0.180	83	Weighted Average
0.110		61.11% Pervious Area
0.070		38.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14B:



Summary for Subcatchment CB15A:

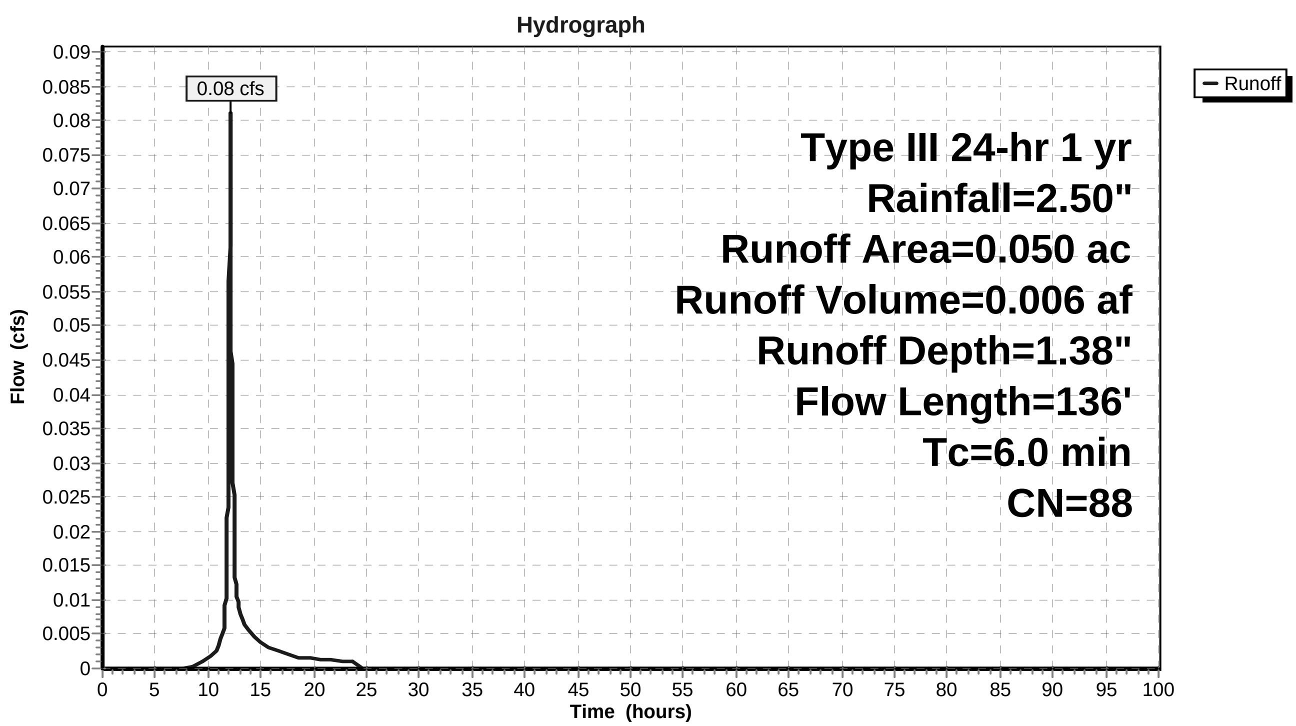
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15A:



Summary for Subcatchment CB15B:

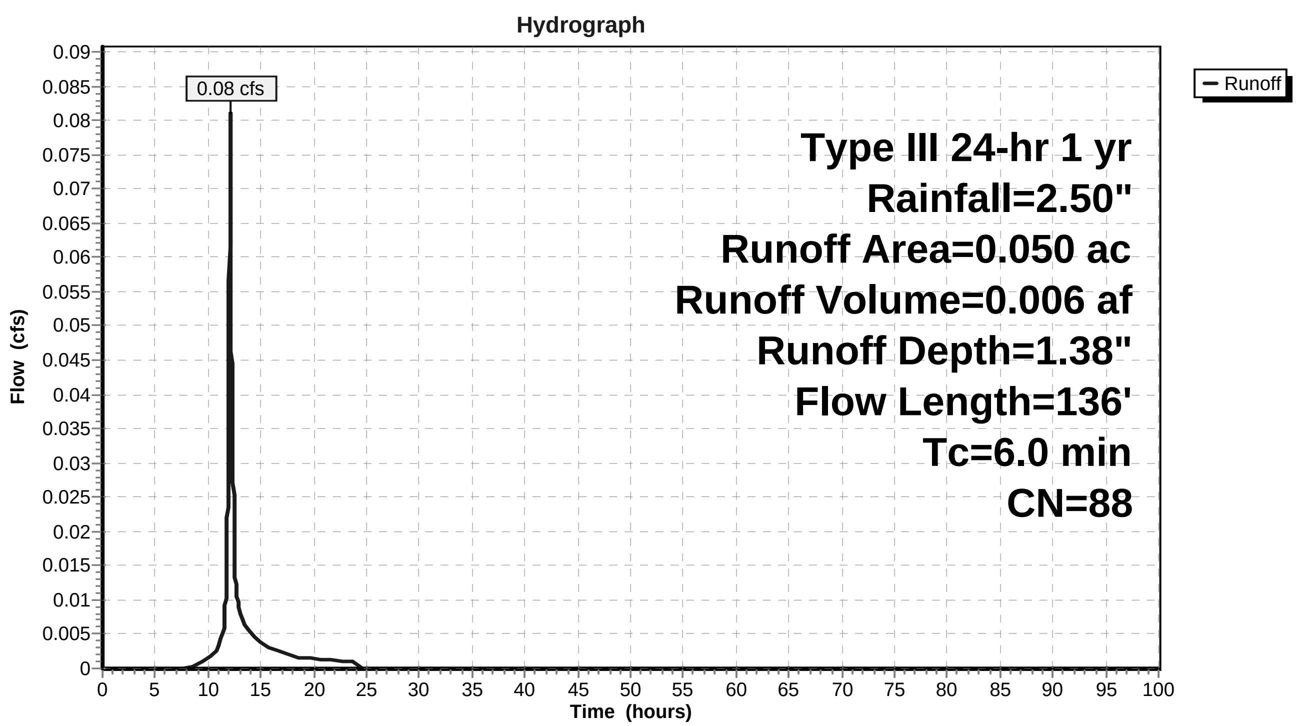
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15B:



Summary for Subcatchment CB16A:

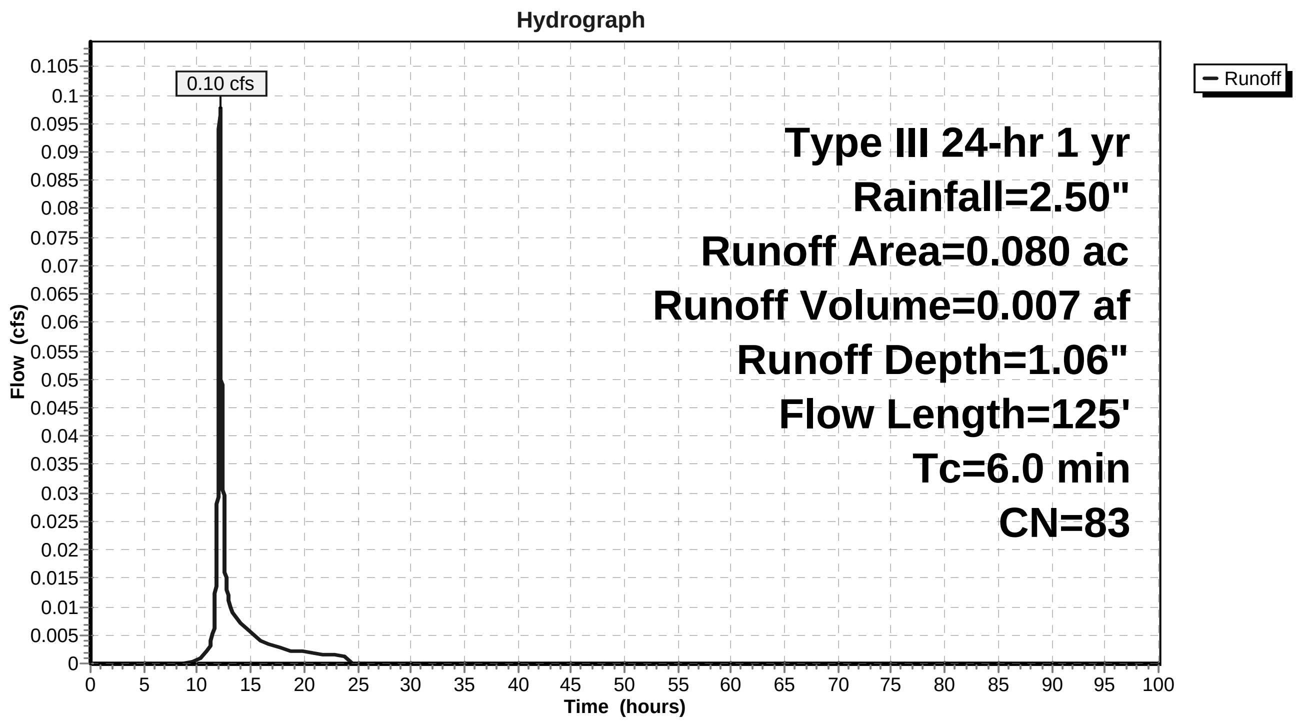
Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af, Depth= 1.06"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.080	83	Weighted Average
0.050		62.50% Pervious Area
0.030		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16A:



Summary for Subcatchment CB16B:

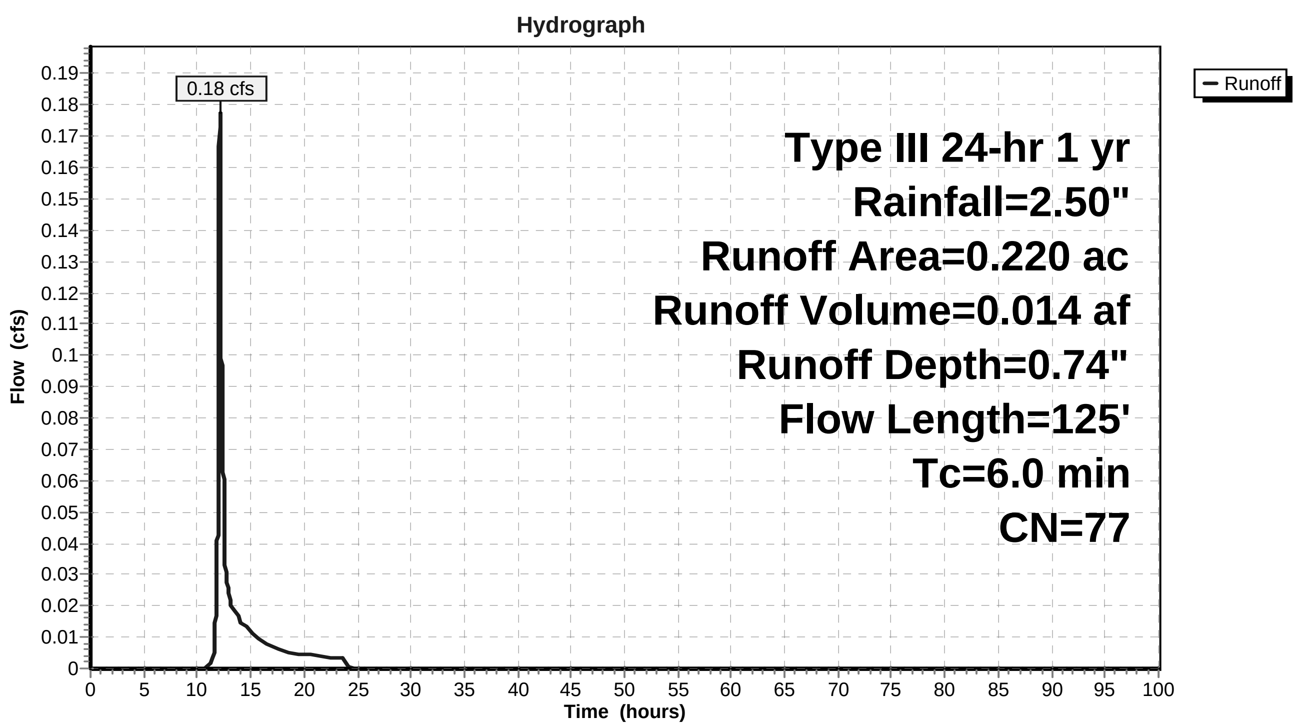
Runoff = 0.18 cfs @ 12.10 hrs, Volume= 0.014 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.190	74	>75% Grass cover, Good, HSG C
0.220	77	Weighted Average
0.190		86.36% Pervious Area
0.030		13.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16B:



Summary for Subcatchment CB17A:

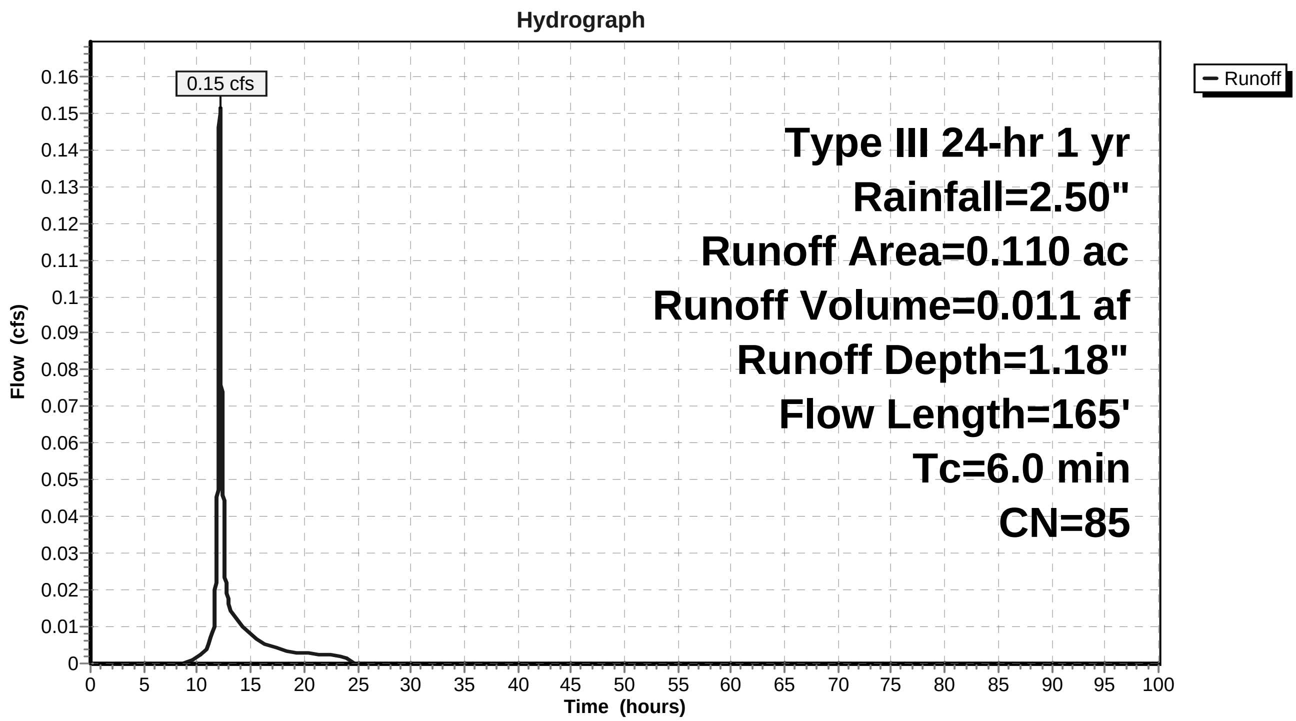
Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.011 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.110	85	Weighted Average
0.060		54.55% Pervious Area
0.050		45.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17A:



Summary for Subcatchment CB17B:

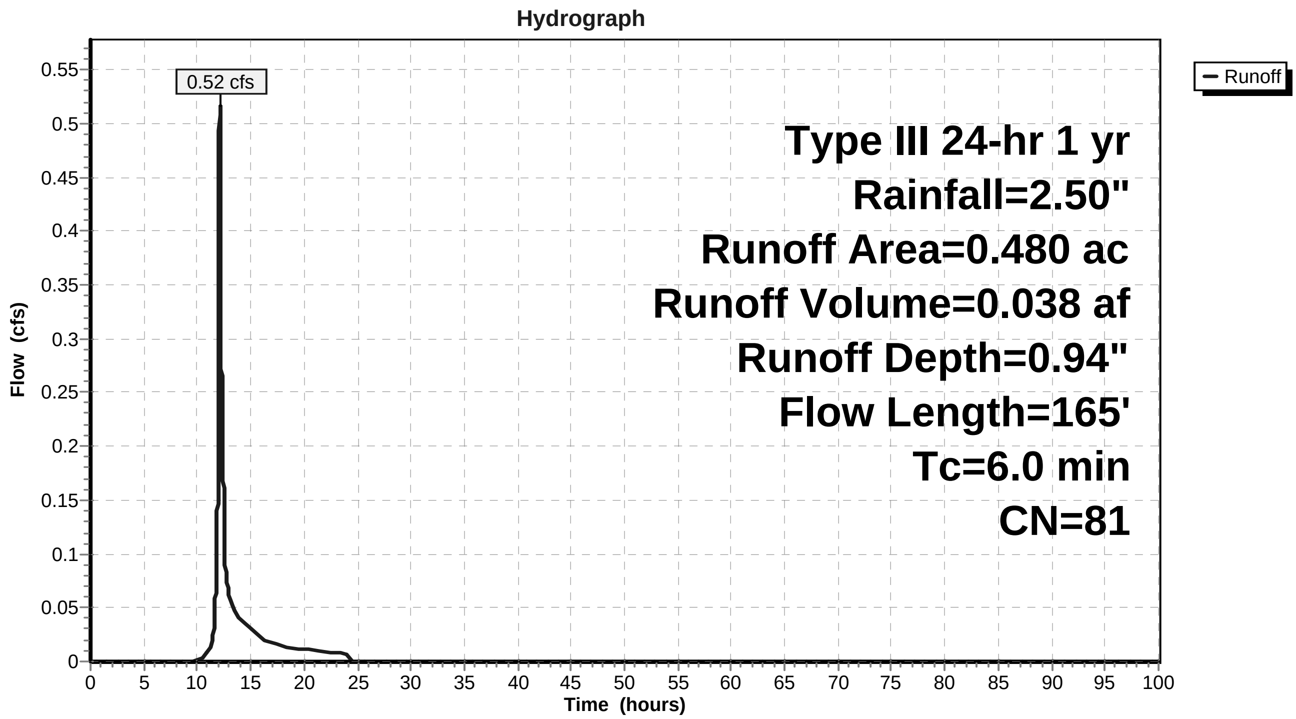
Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.100	73	Woods, Fair, HSG C
0.240	74	>75% Grass cover, Good, HSG C
0.480	81	Weighted Average
0.340		70.83% Pervious Area
0.140		29.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17B:



Summary for Subcatchment CB18A:

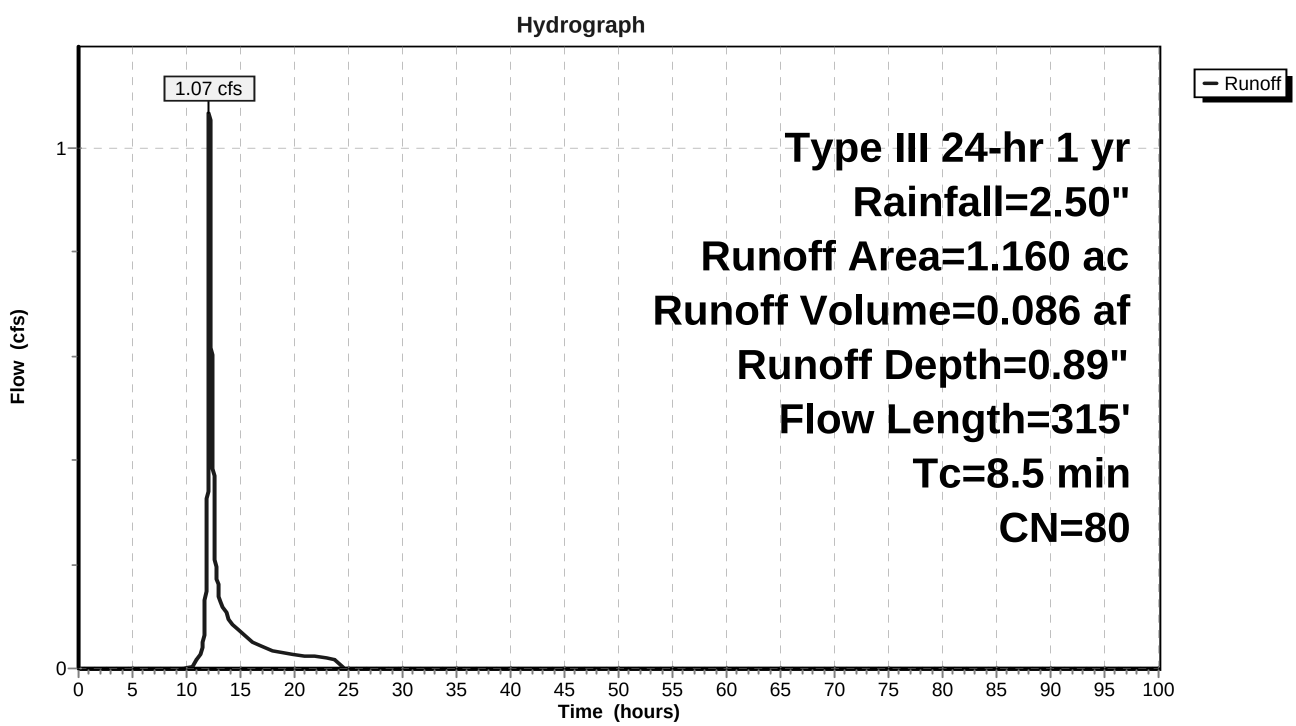
Runoff = 1.07 cfs @ 12.13 hrs, Volume= 0.086 af, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.310	98	Paved parking & roofs
0.850	74	>75% Grass cover, Good, HSG C
1.160	80	Weighted Average
0.850		73.28% Pervious Area
0.310		26.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	130	0.0400	3.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	85	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	315	Total			

Subcatchment CB18A:



Summary for Subcatchment CB18B:

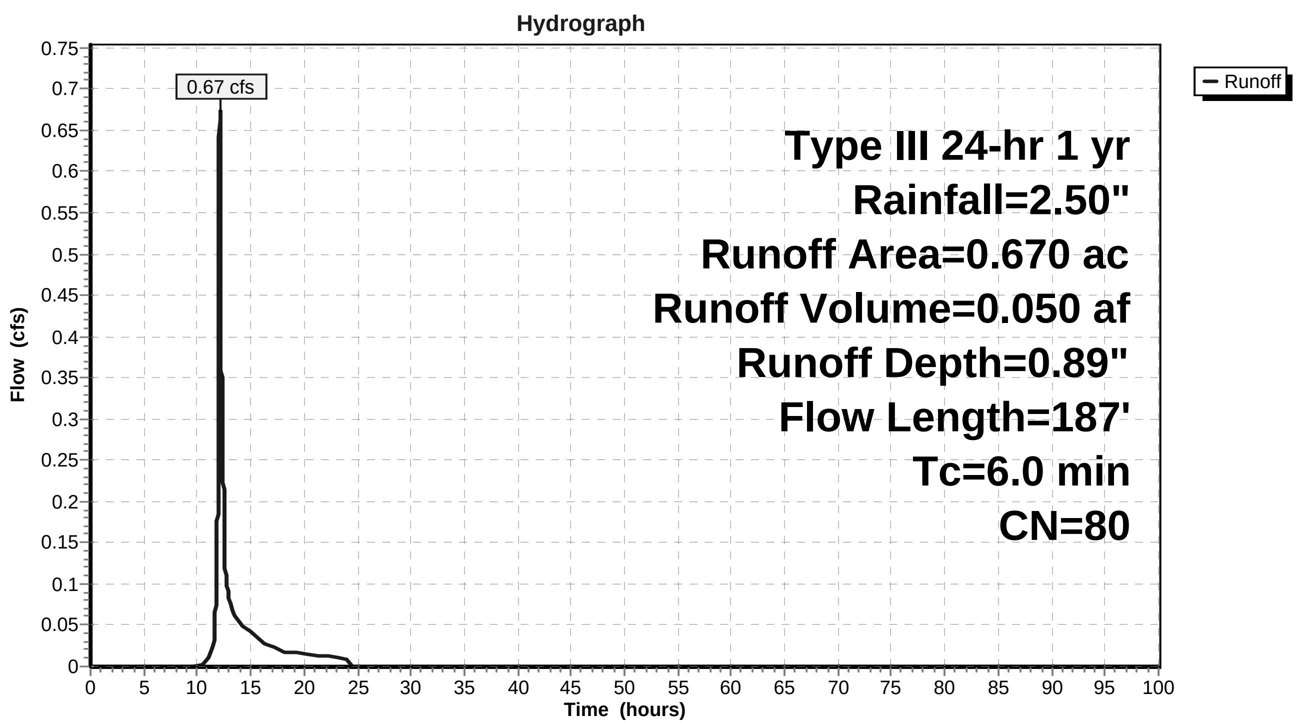
Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.050 af, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.170	98	Paved parking & roofs
0.050	73	Woods, Fair, HSG C
0.450	74	>75% Grass cover, Good, HSG C
0.670	80	Weighted Average
0.500		74.63% Pervious Area
0.170		25.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	87	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	187	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB18B:



Summary for Subcatchment CB1A:

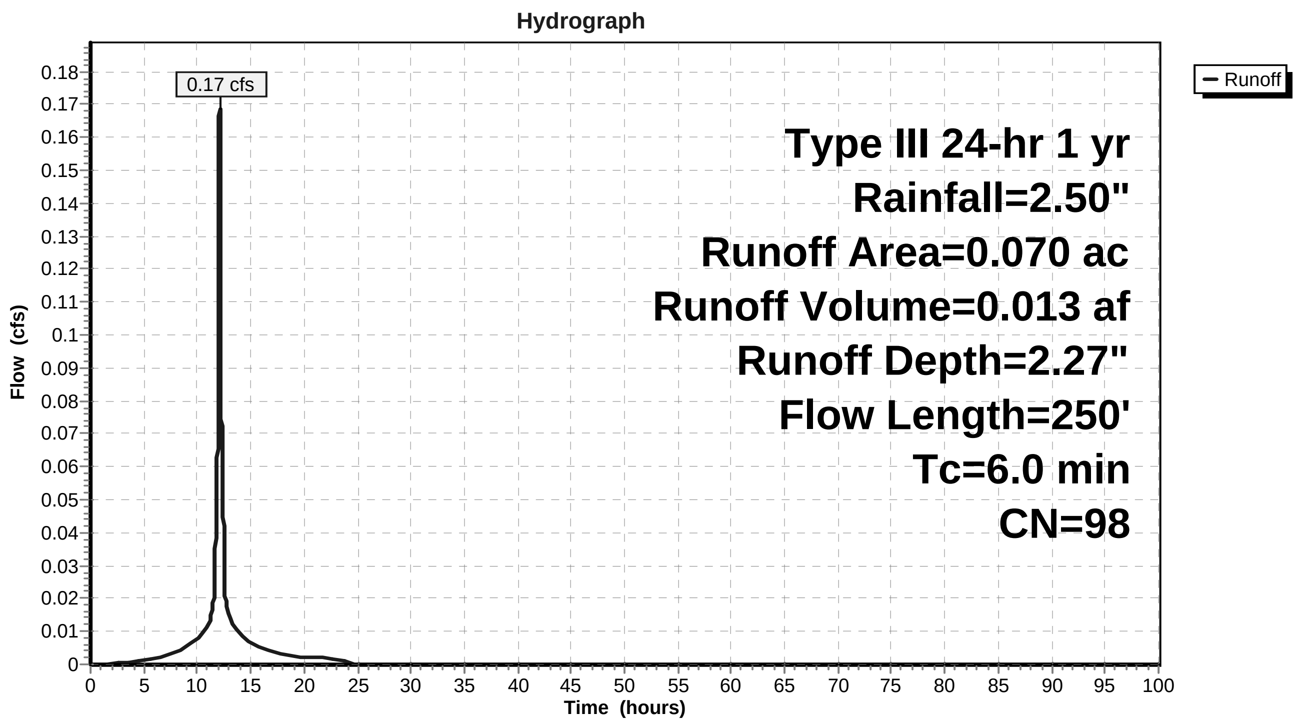
Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1A:



Summary for Subcatchment CB1B:

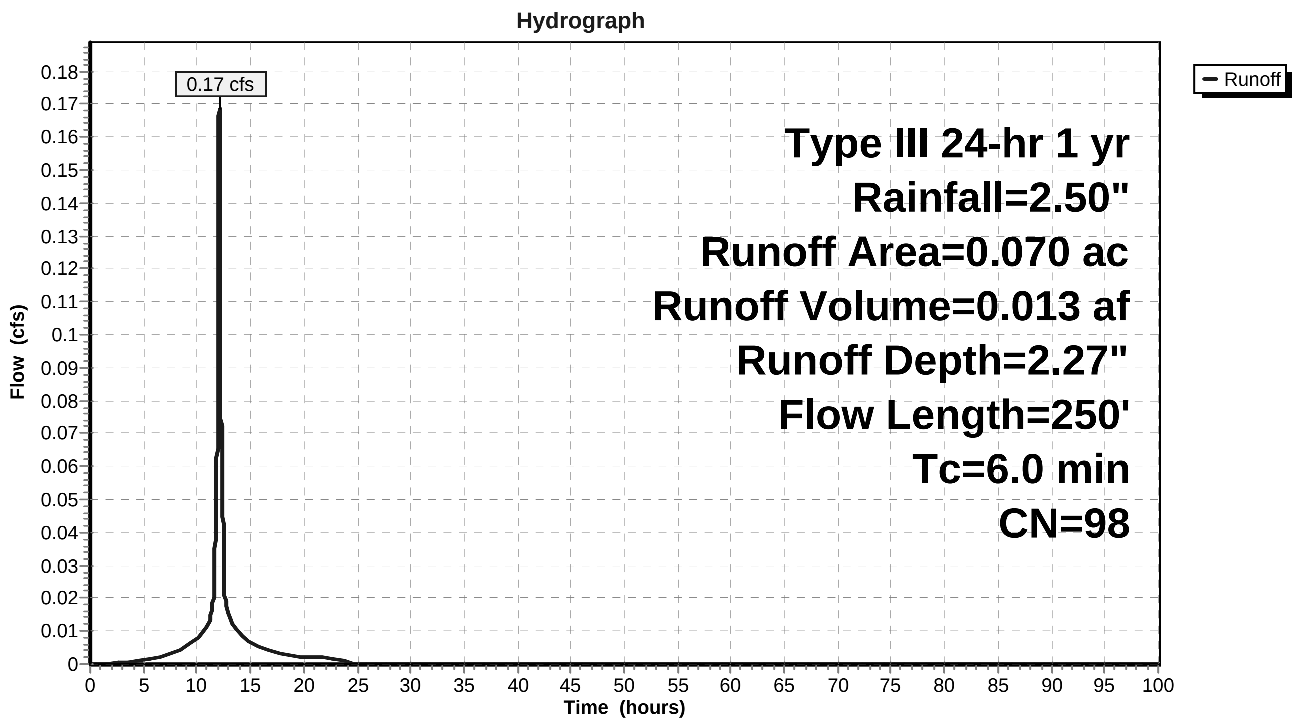
Runoff = 0.17 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1B:



Summary for Subcatchment CB1C:

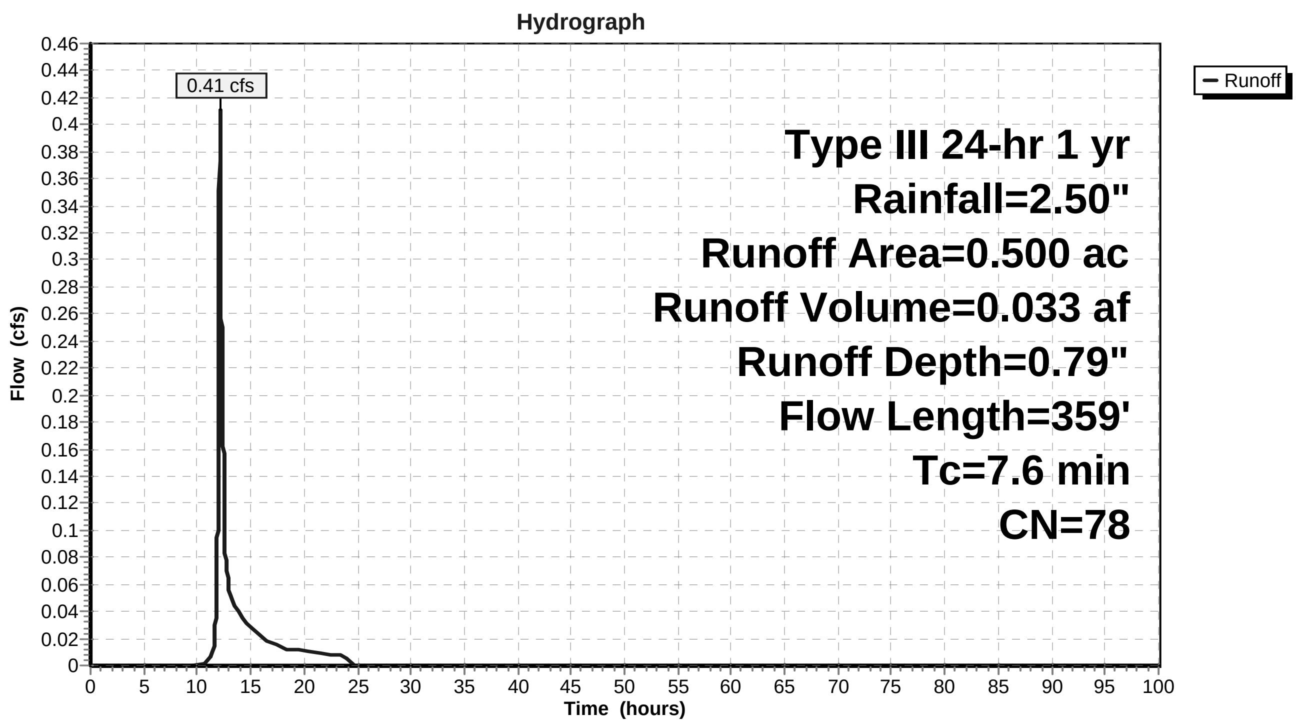
Runoff = 0.41 cfs @ 12.12 hrs, Volume= 0.033 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.020	89	Gravel roads, HSG C
0.080	98	Paved parking & roofs
0.300	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.500	78	Weighted Average
0.420		84.00% Pervious Area
0.080		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.2600	0.34		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	259	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	359	Total			

Subcatchment CB1C:



Summary for Subcatchment CB2A:

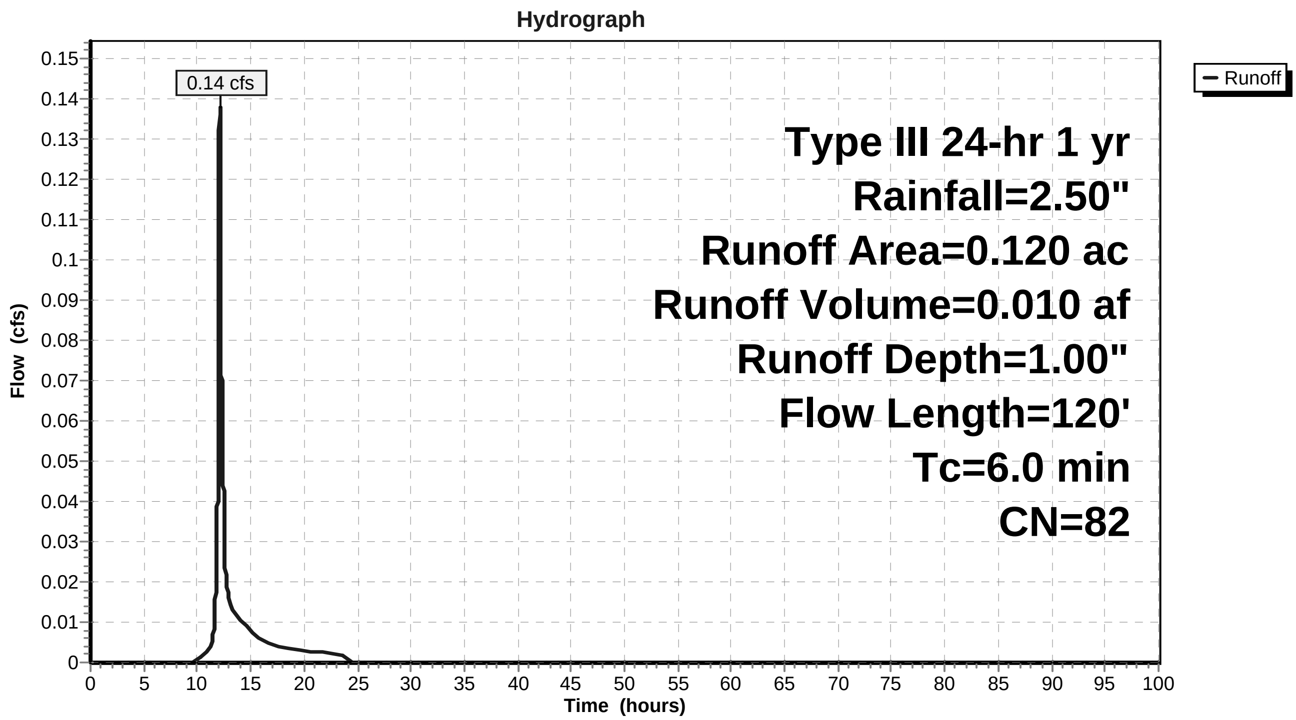
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 1.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.080	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.120	82	Weighted Average
0.080		66.67% Pervious Area
0.040		33.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2A:



Summary for Subcatchment CB2B:

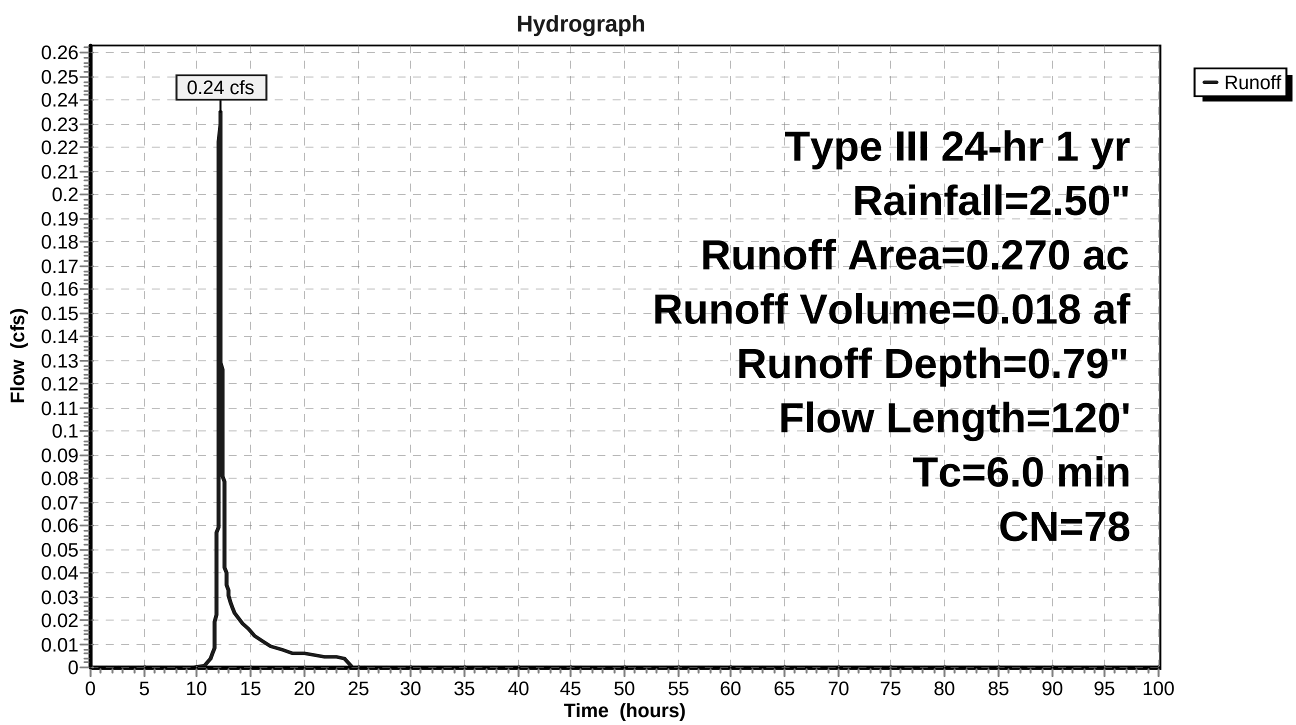
Runoff = 0.24 cfs @ 12.10 hrs, Volume= 0.018 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.270	78	Weighted Average
0.230		85.19% Pervious Area
0.040		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2B:



Summary for Subcatchment CB3A:

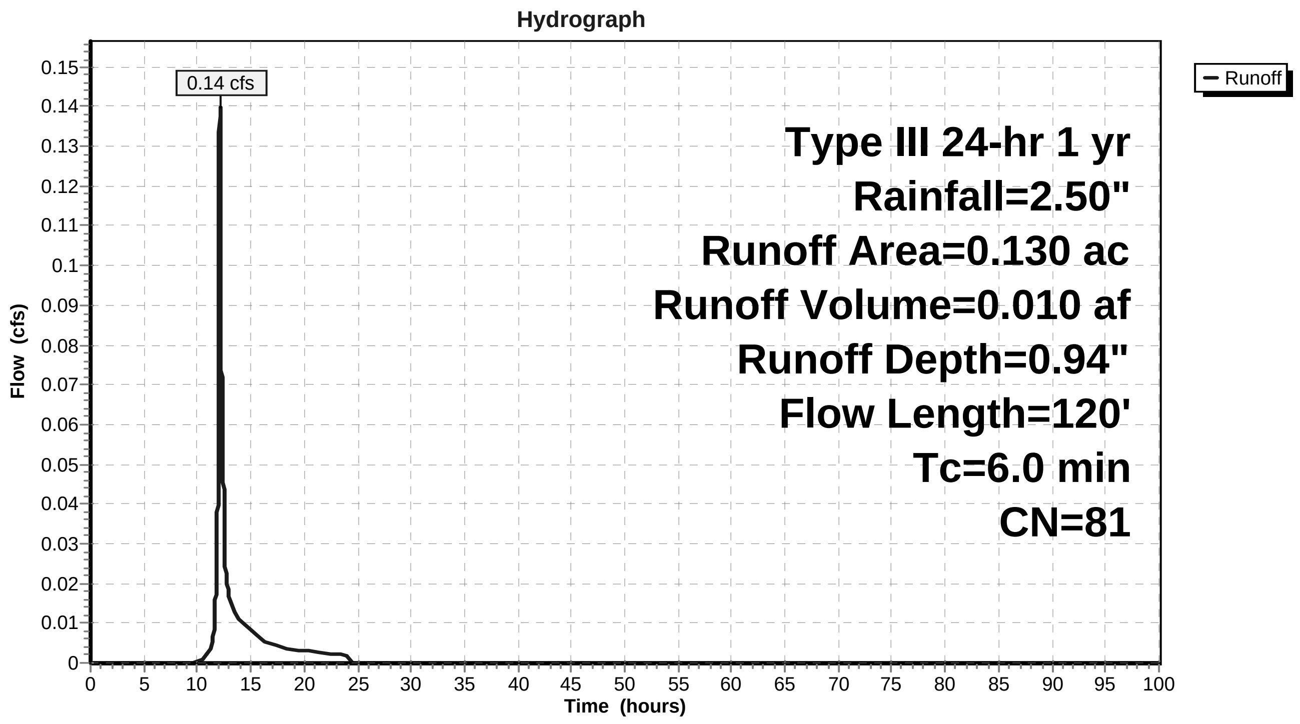
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.090	74	>75% Grass cover, Good, HSG C
0.130	81	Weighted Average
0.090		69.23% Pervious Area
0.040		30.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	100	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3A:



Summary for Subcatchment CB3B:

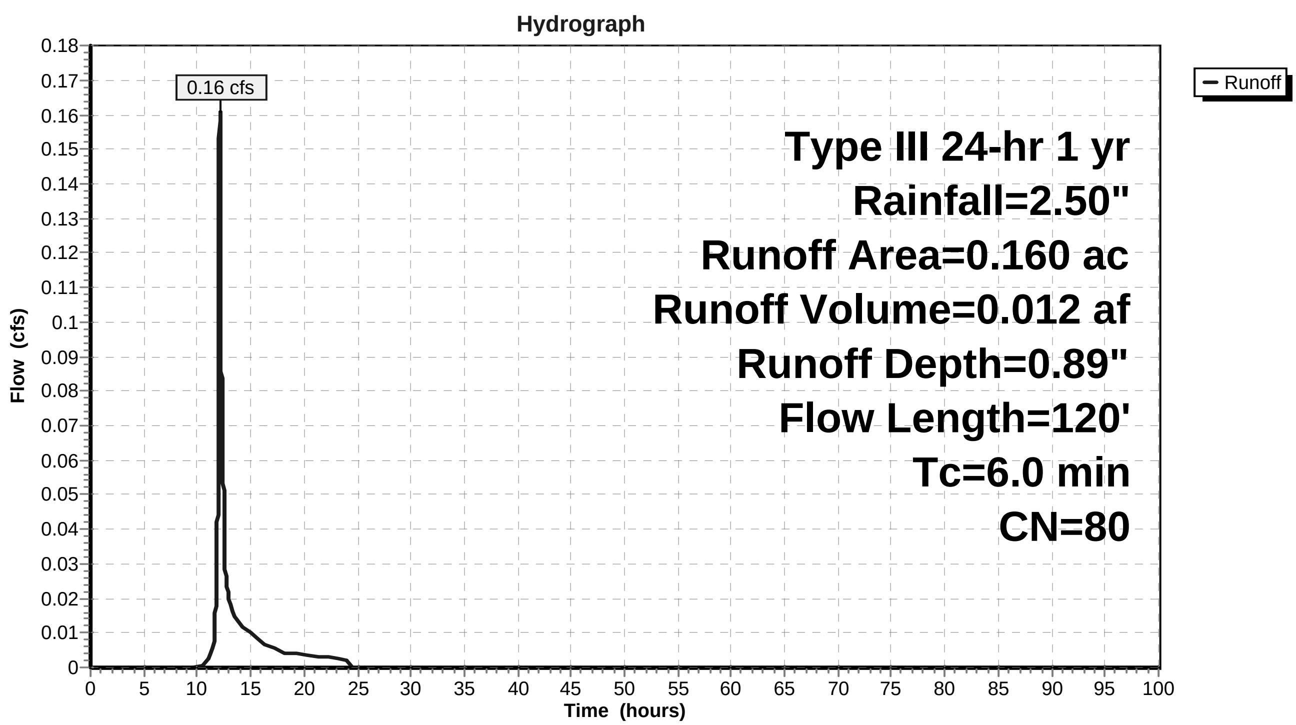
Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.120	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.160	80	Weighted Average
0.120		75.00% Pervious Area
0.040		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3B:



Summary for Subcatchment CB4A:

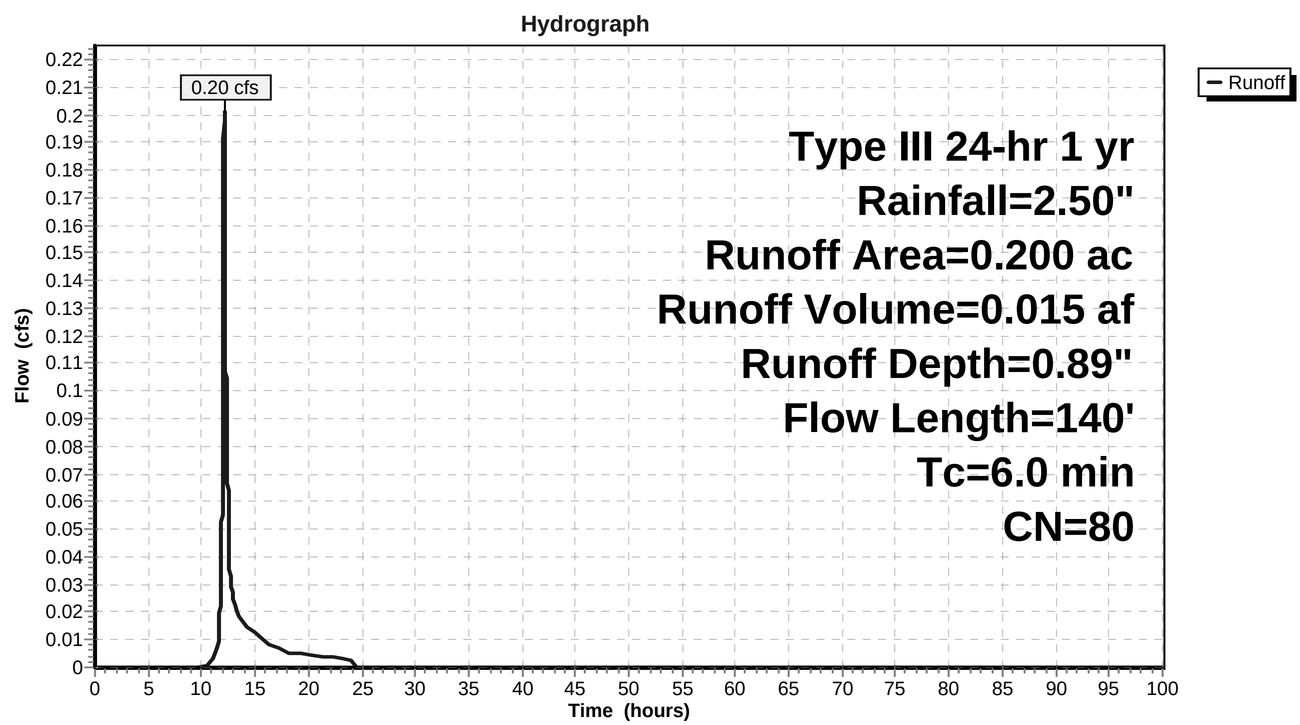
Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.200	80	Weighted Average
0.150		75.00% Pervious Area
0.050		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4A:



Summary for Subcatchment CB4B:

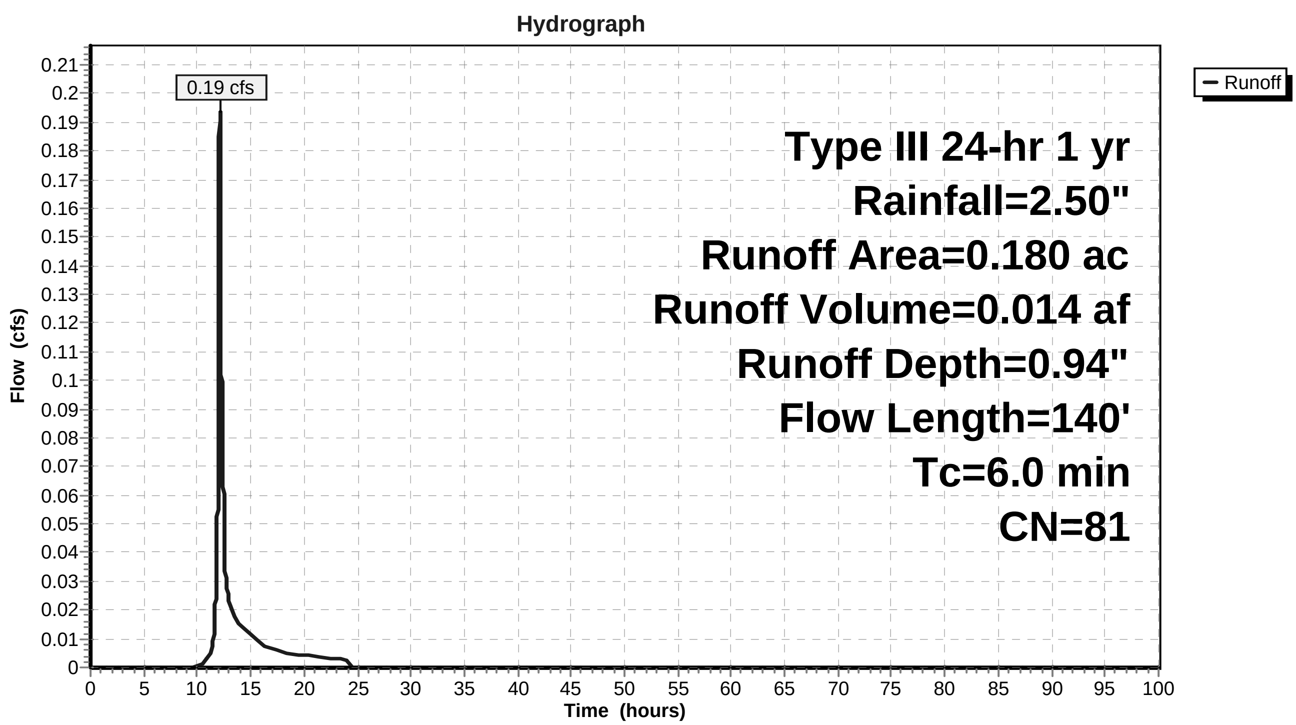
Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.180	81	Weighted Average
0.130		72.22% Pervious Area
0.050		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4B:



Summary for Subcatchment CB5A:

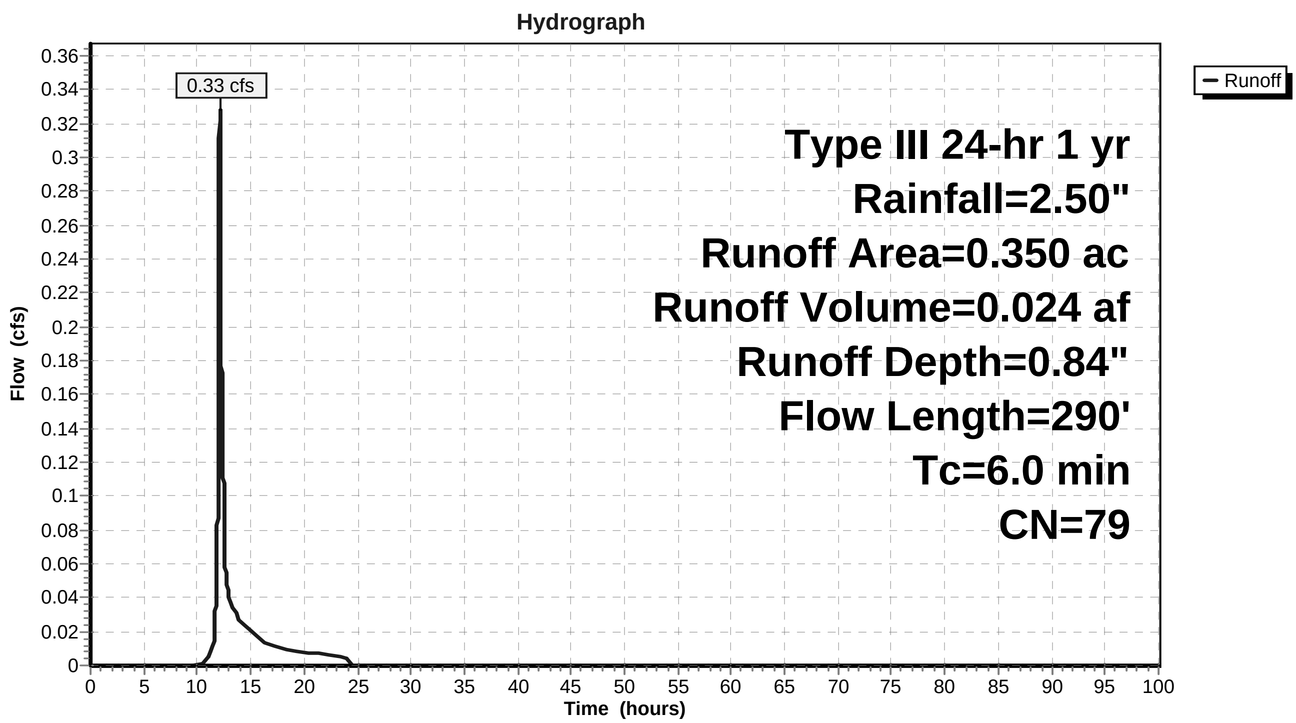
Runoff = 0.33 cfs @ 12.10 hrs, Volume= 0.024 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.140	73	Woods, Fair, HSG C
0.350	79	Weighted Average
0.270		77.14% Pervious Area
0.080		22.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	270	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	290	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5A:



Summary for Subcatchment CB5B:

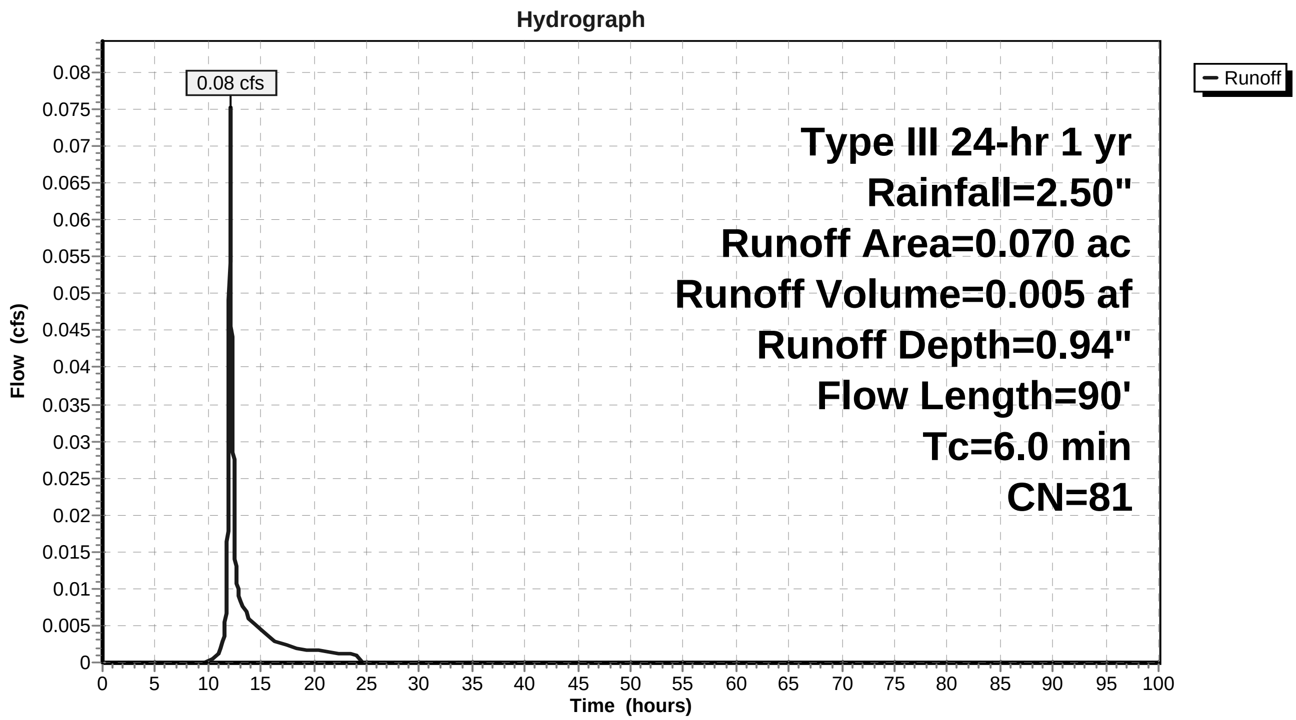
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.005 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.050	74	>75% Grass cover, Good, HSG C
0.020	98	Paved parking & roofs
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	70	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	90	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5B:



Summary for Subcatchment CB6A:

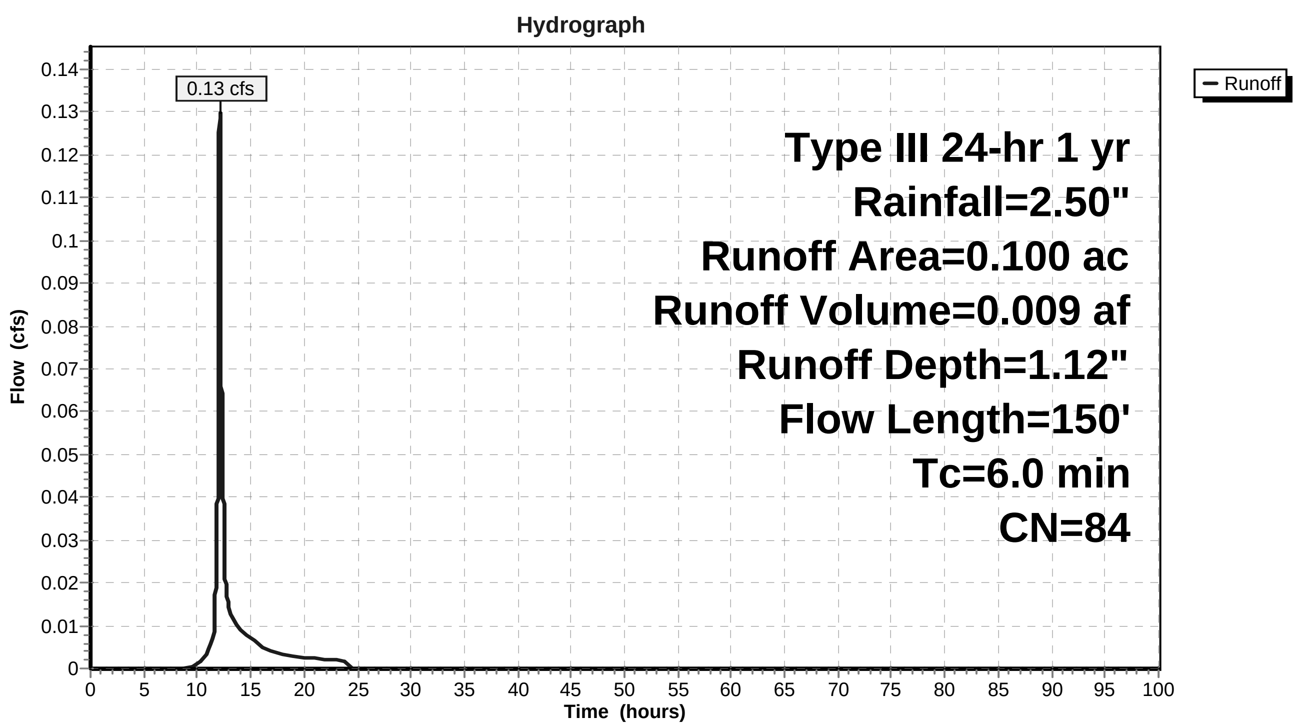
Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.7	80	0.0500	1.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6A:



Summary for Subcatchment CB6B:

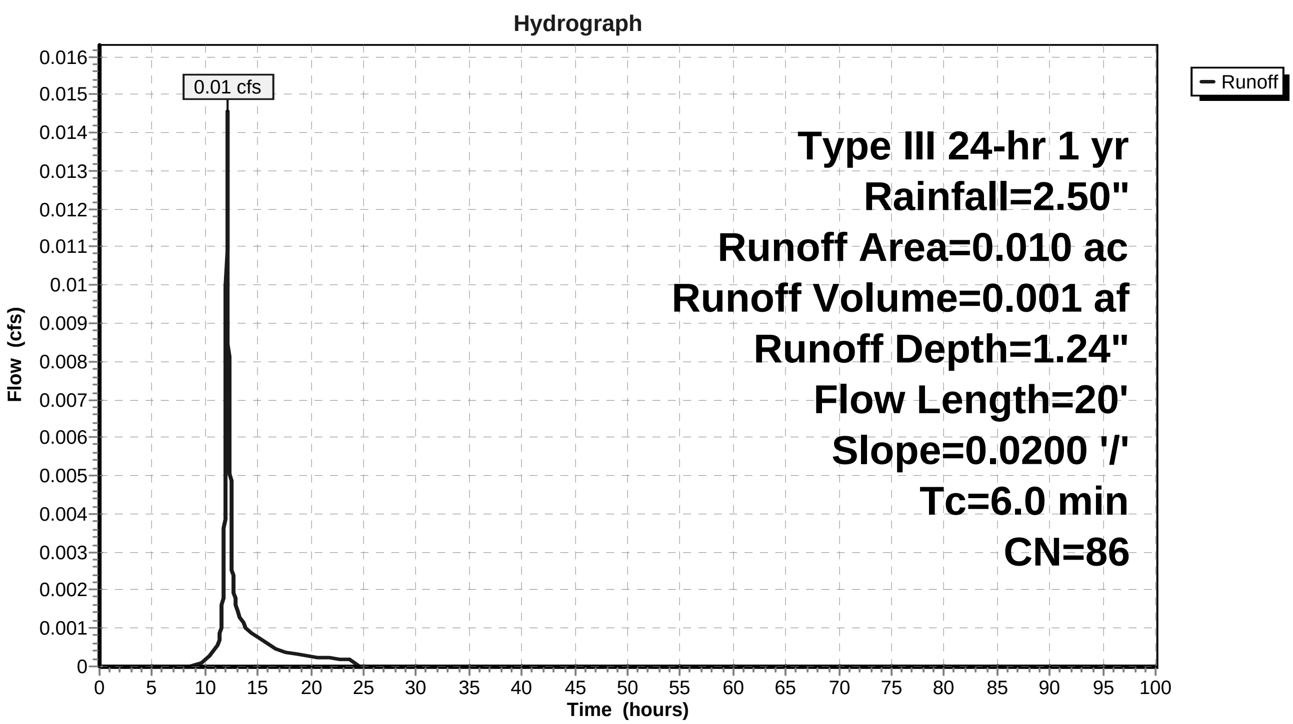
Runoff = 0.01 cfs @ 12.09 hrs, Volume= 0.001 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.005	74	>75% Grass cover, Good, HSG C
0.005	98	Paved parking & roofs
0.010	86	Weighted Average
0.005		50.00% Pervious Area
0.005		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6B:



Summary for Subcatchment CB7A:

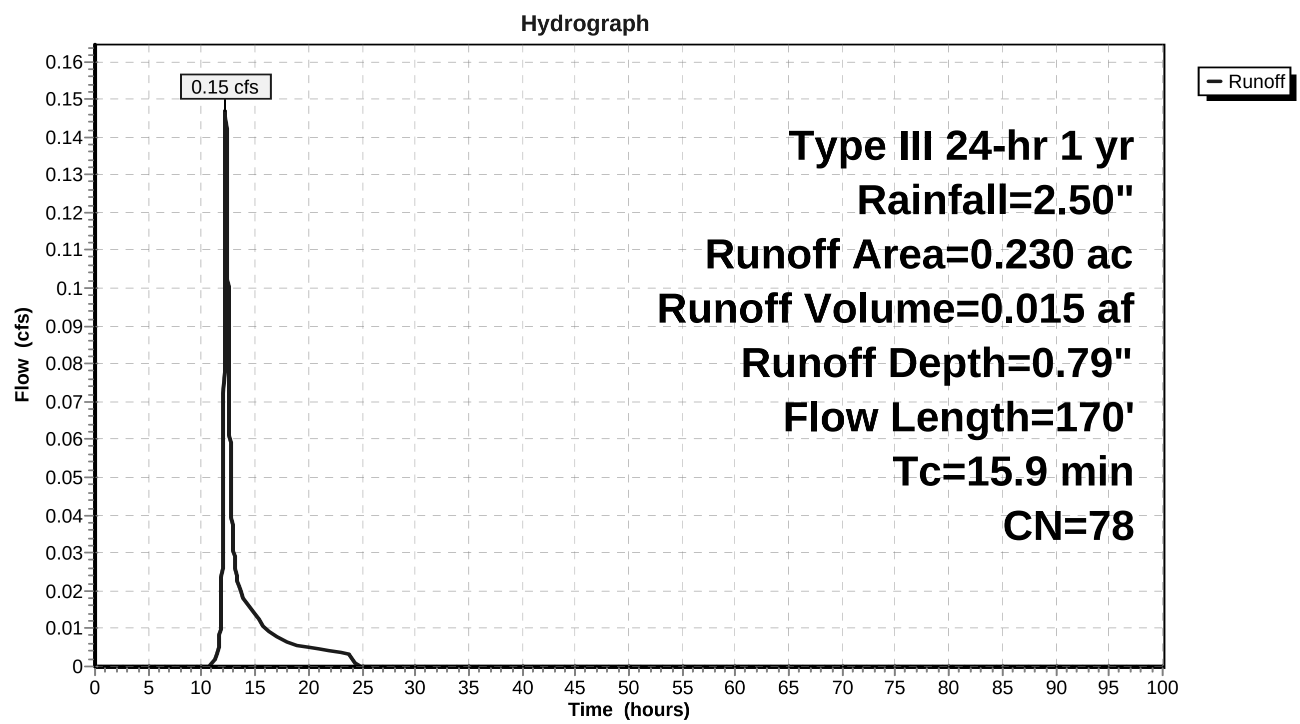
Runoff = 0.15 cfs @ 12.24 hrs, Volume= 0.015 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.130	73	Woods, Fair, HSG C
0.060	74	>75% Grass cover, Good, HSG C
0.230	78	Weighted Average
0.190		82.61% Pervious Area
0.040		17.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	30	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	40	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.9	170	Total			

Subcatchment CB7A:



Summary for Subcatchment CB7B:

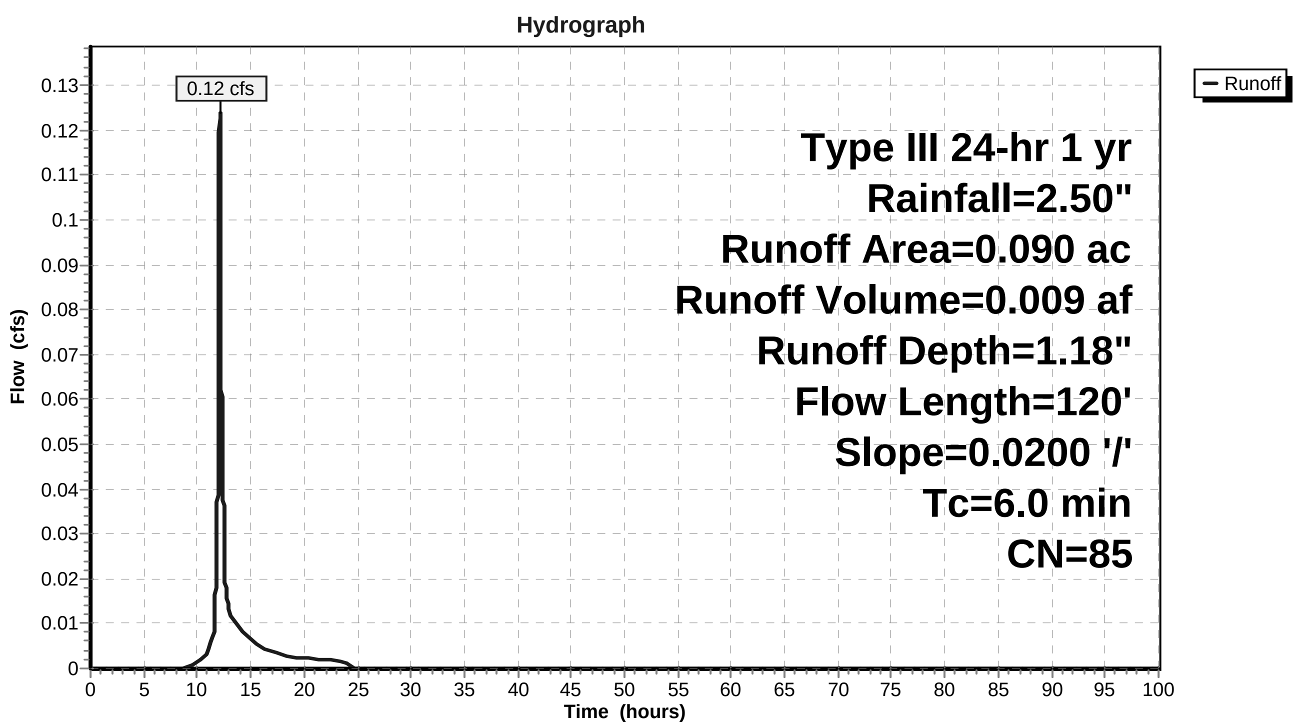
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.090	85	Weighted Average
0.050		55.56% Pervious Area
0.040		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB7B:



Summary for Subcatchment CB8A:

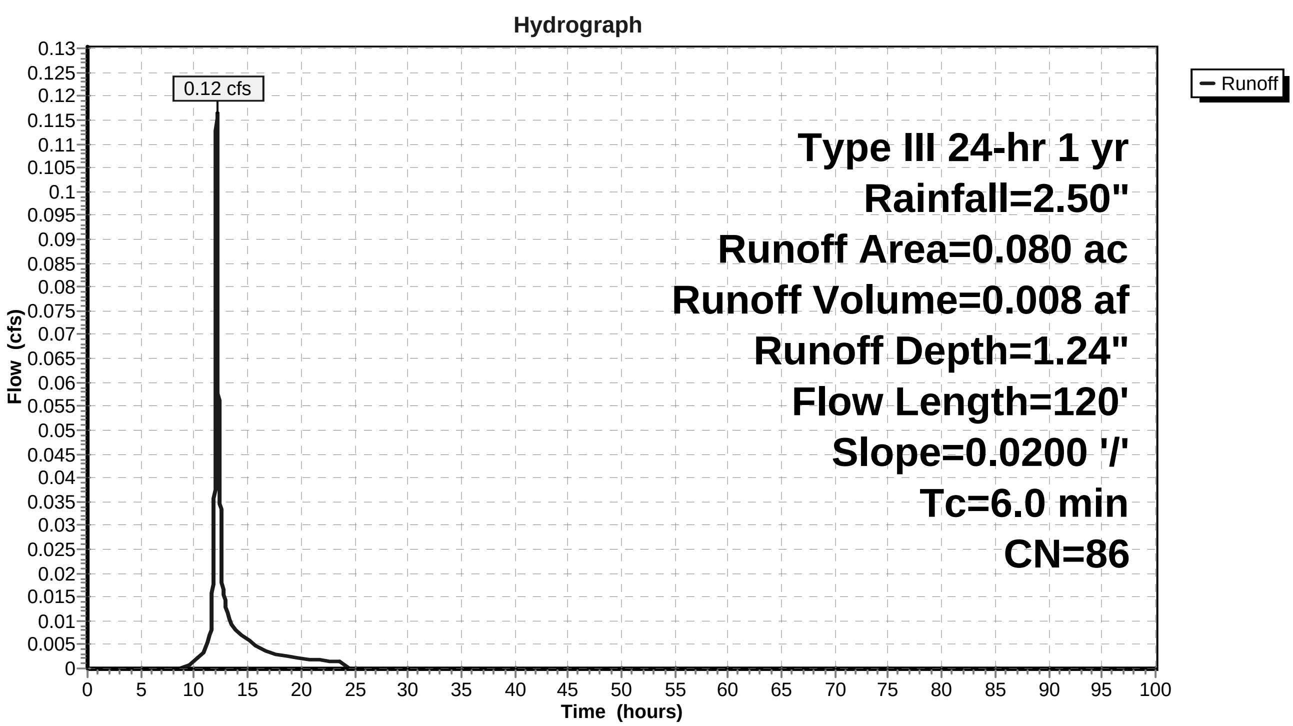
Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.040	74	>75% Grass cover, Good, HSG C
0.080	86	Weighted Average
0.040		50.00% Pervious Area
0.040		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8A:



Summary for Subcatchment CB8B:

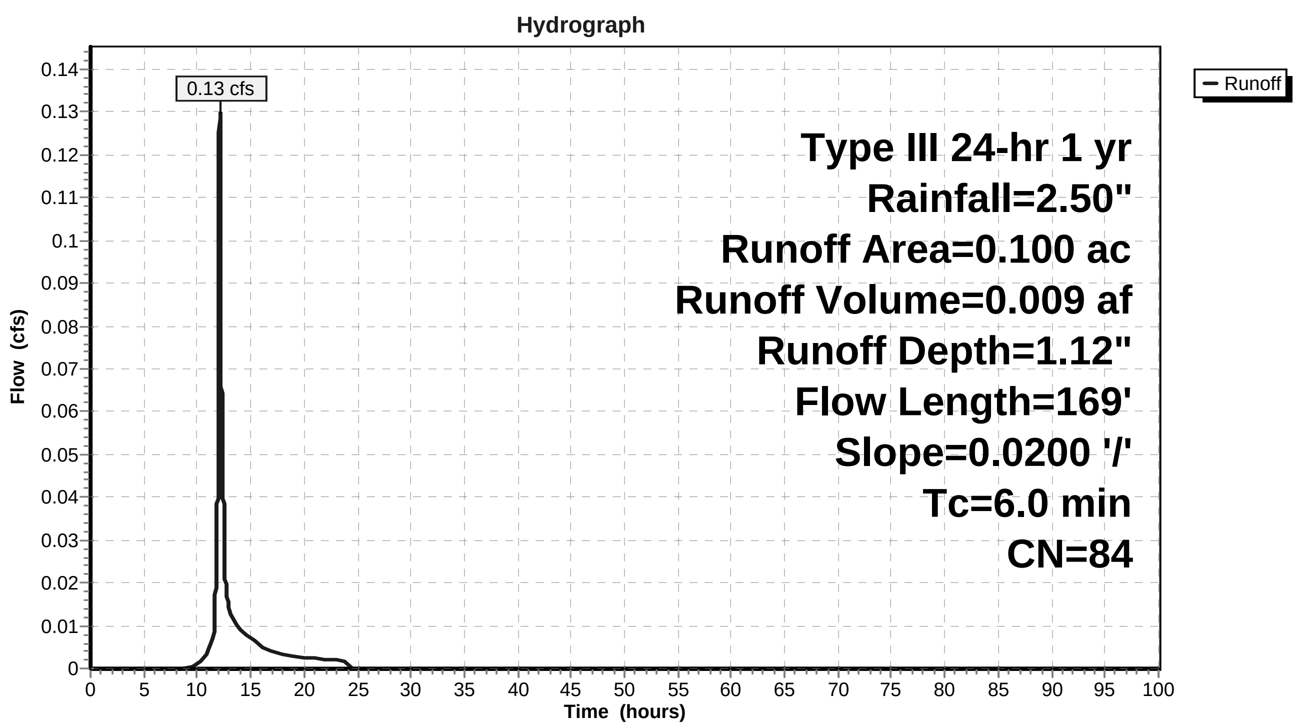
Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	169	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8B:



Summary for Subcatchment CB9A:

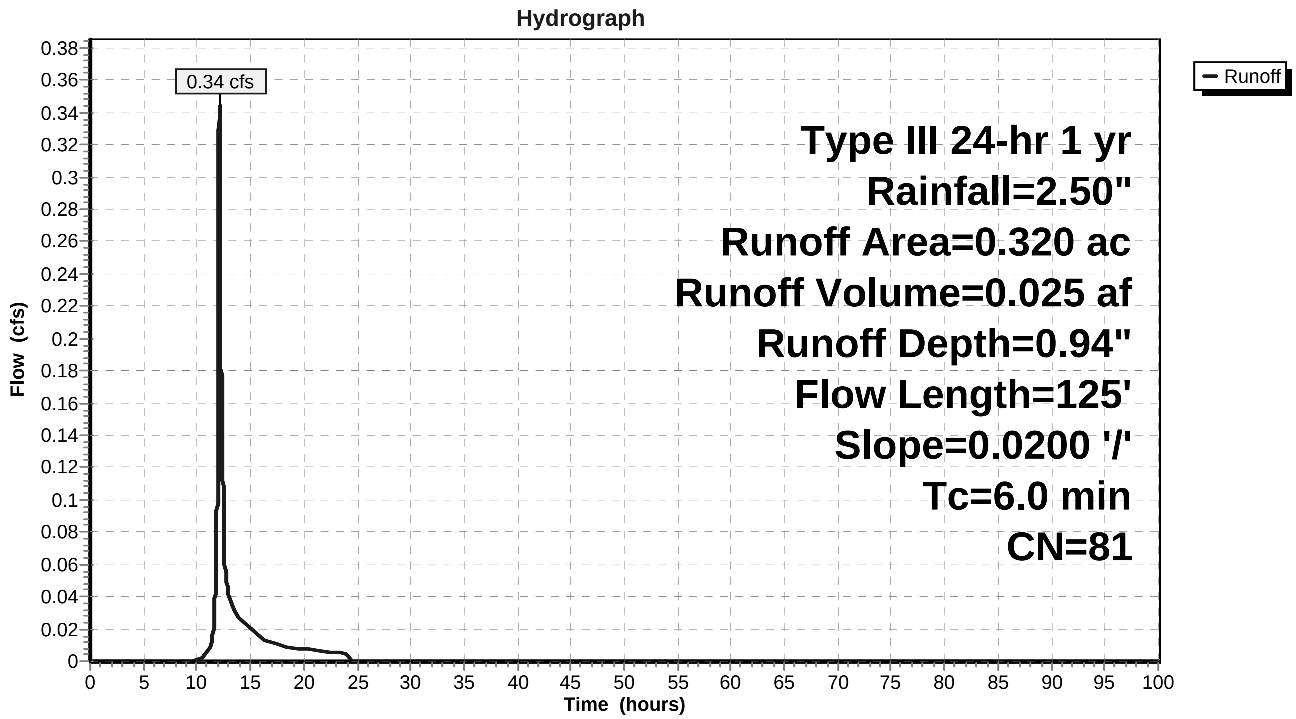
Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.100	98	Paved parking & roofs
0.120	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.320	81	Weighted Average
0.220		68.75% Pervious Area
0.100		31.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9A:



Summary for Subcatchment CB9B:

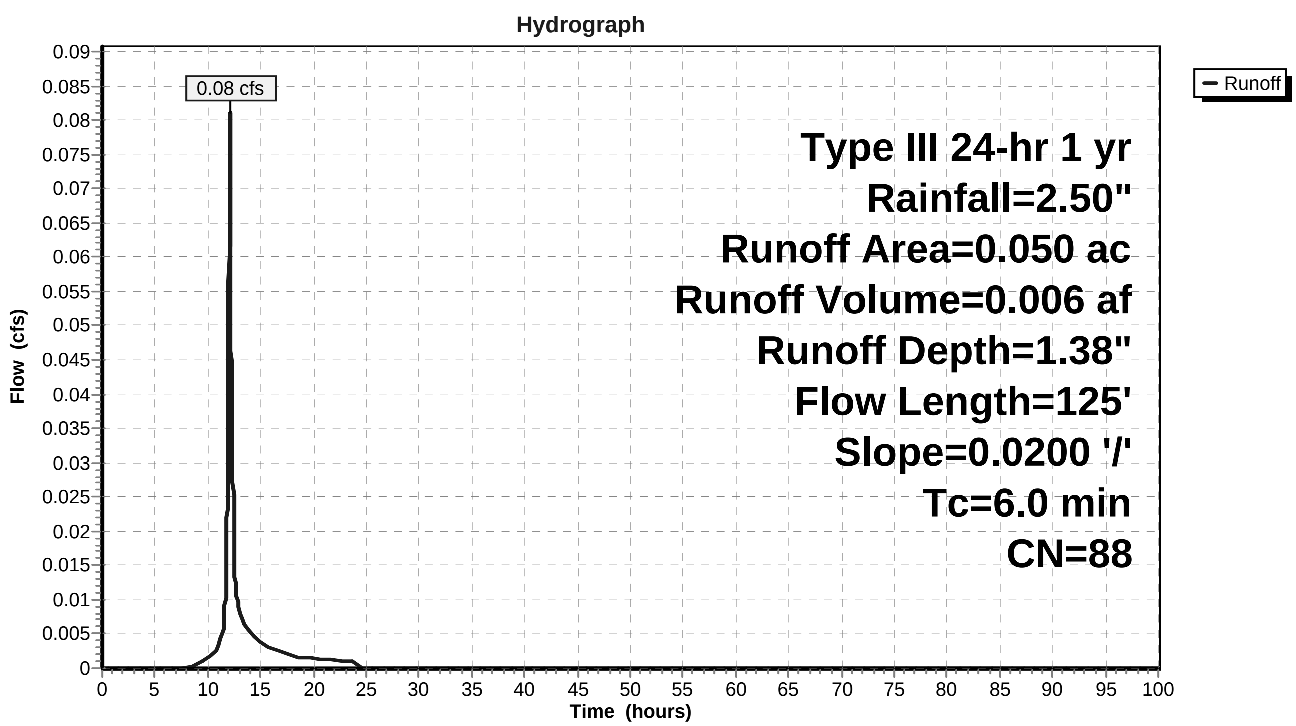
Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.020	74	>75% Grass cover, Good, HSG C
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9B:



Summary for Subcatchment I-14A:

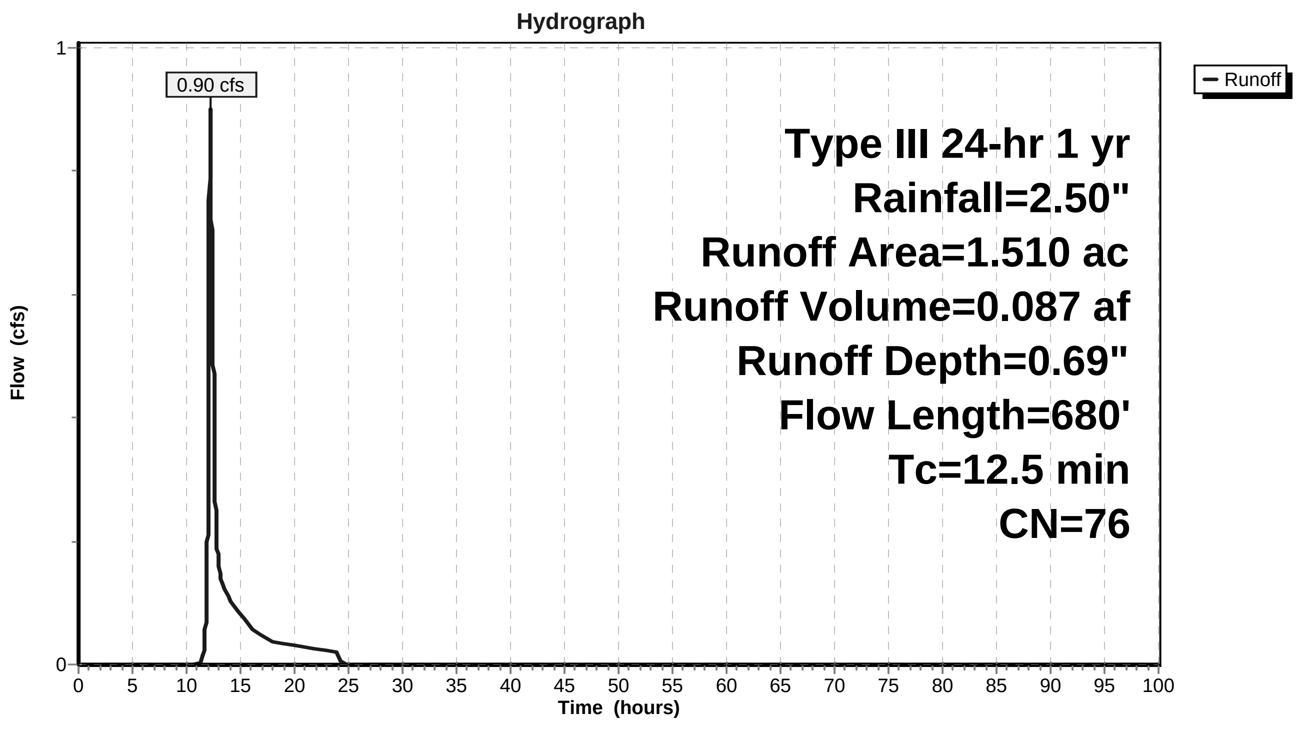
Runoff = 0.90 cfs @ 12.19 hrs, Volume= 0.087 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.160	98	Paved parking & roofs
0.140	73	Woods, Fair, HSG C
1.210	74	>75% Grass cover, Good, HSG C
1.510	76	Weighted Average
1.350		89.40% Pervious Area
0.160		10.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.2	80	0.1250	5.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.5	500	0.0160	2.39	11.95	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
12.5	680	Total			

Subcatchment I-14A:



Summary for Subcatchment IN-CB1A:

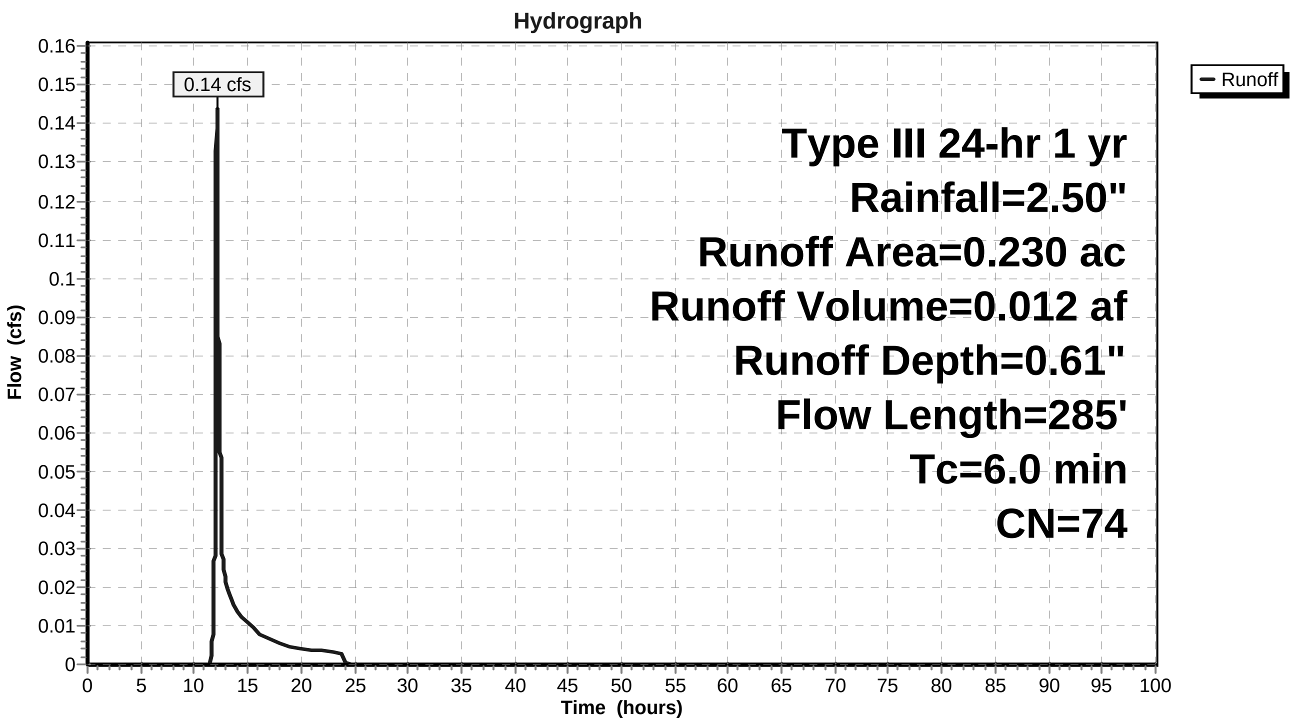
Runoff = 0.14 cfs @ 12.10 hrs, Volume= 0.012 af, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	55	0.9000	0.50		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	230	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.5	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment IN-CB1A:



Summary for Subcatchment P-2:

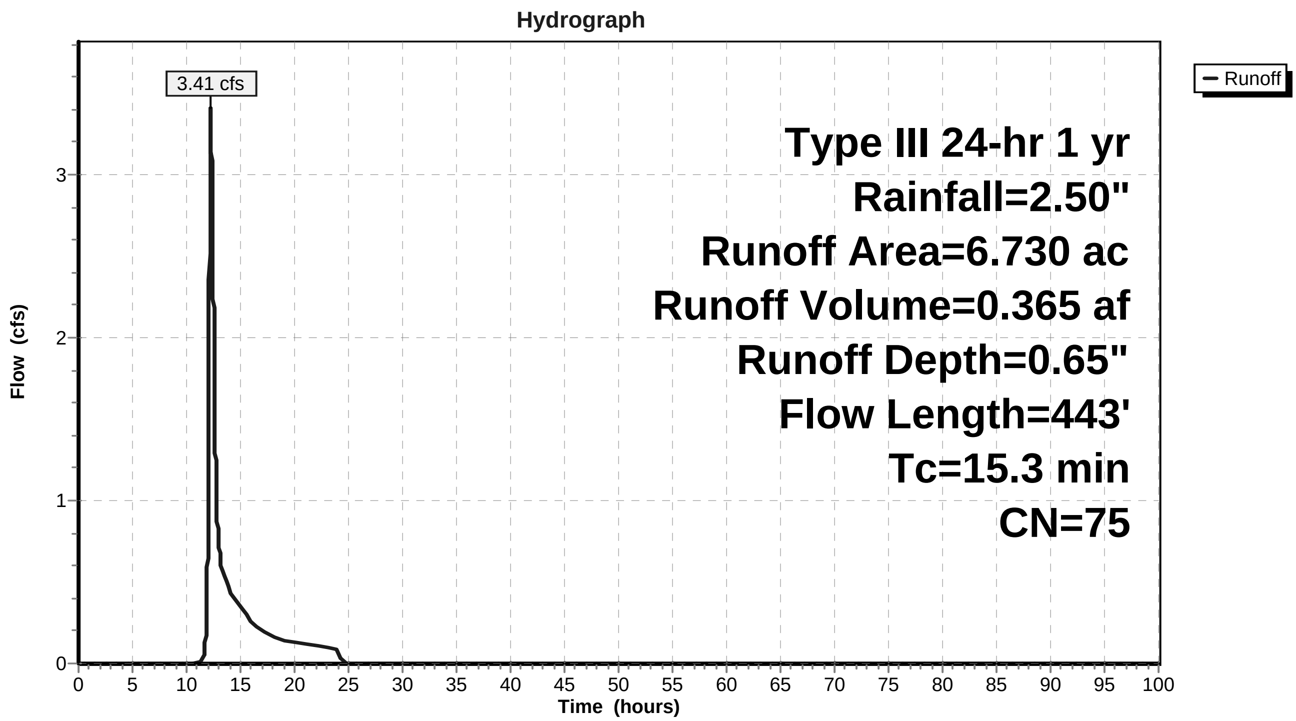
Runoff = 3.41 cfs @ 12.23 hrs, Volume= 0.365 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
3.680	73	Woods, Fair, HSG C
0.200	98	Paved parking & roofs
2.720	74	>75% Grass cover, Good, HSG C
0.130	98	Water Surface, HSG C
6.730	75	Weighted Average
6.400		95.10% Pervious Area
0.330		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.6	343	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.3	443	Total			

Subcatchment P-2:



Summary for Subcatchment P-3:

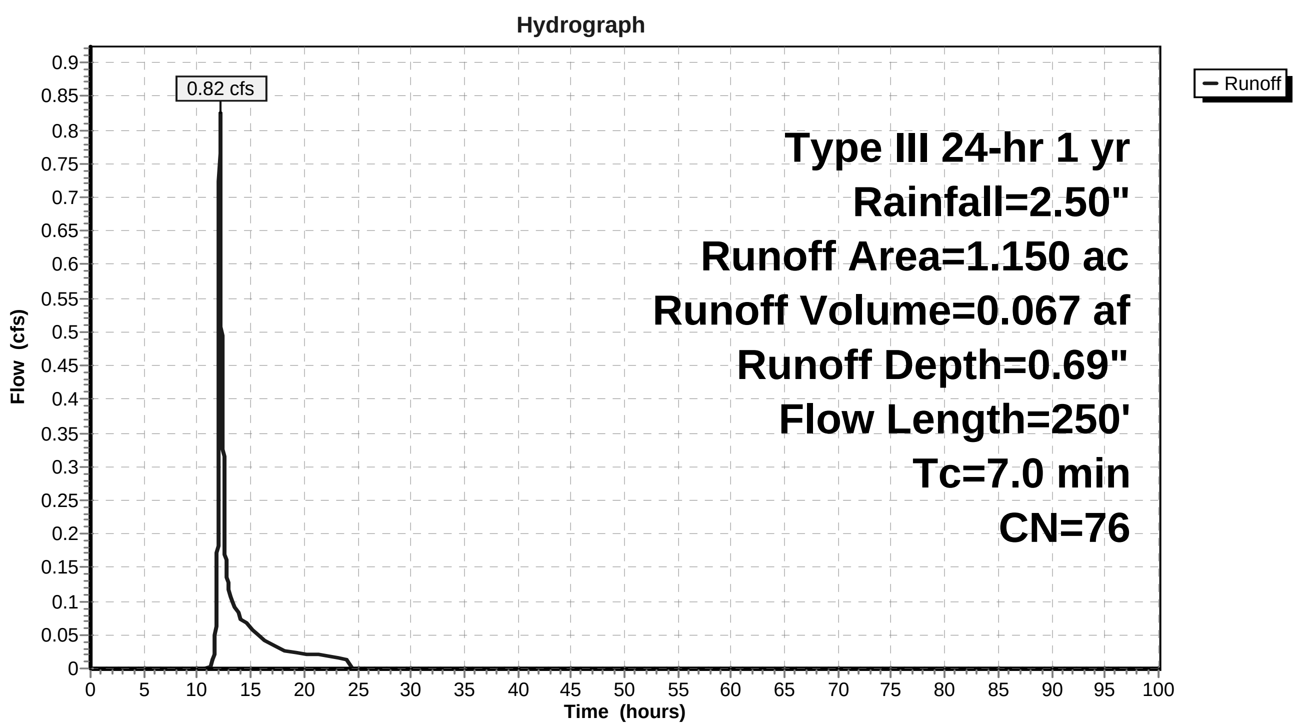
Runoff = 0.82 cfs @ 12.11 hrs, Volume= 0.067 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.460	74	>75% Grass cover, Good, HSG C
0.050	98	Paved parking & roofs
0.580	73	Woods, Fair, HSG C
0.060	98	Water Surface, HSG C
1.150	76	Weighted Average
1.040		90.43% Pervious Area
0.110		9.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.1200	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.3	150	0.3000	8.82		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	250	Total			

Subcatchment P-3:



Summary for Subcatchment P1:

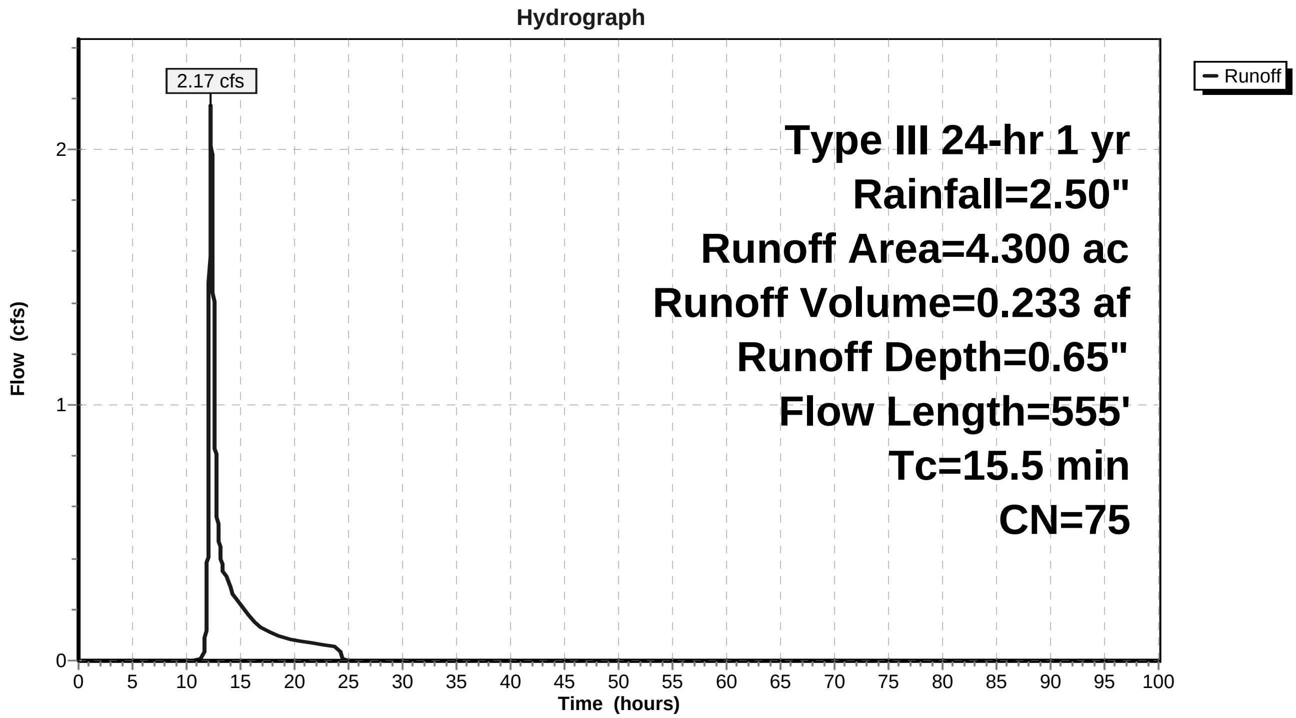
Runoff = 2.17 cfs @ 12.24 hrs, Volume= 0.233 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
2.990	73	Woods, Fair, HSG C
1.000	74	>75% Grass cover, Good, HSG C
0.120	89	Gravel roads, HSG C
0.050	98	Water Surface, HSG C
4.300	75	Weighted Average
4.110		95.58% Pervious Area
0.190		4.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	155	0.0600	3.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	300	0.2260	8.45	25.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 2.0 '/' Top.W=5.00' n= 0.056
15.5	555	Total			

Subcatchment P1:



Summary for Subcatchment SW1A:

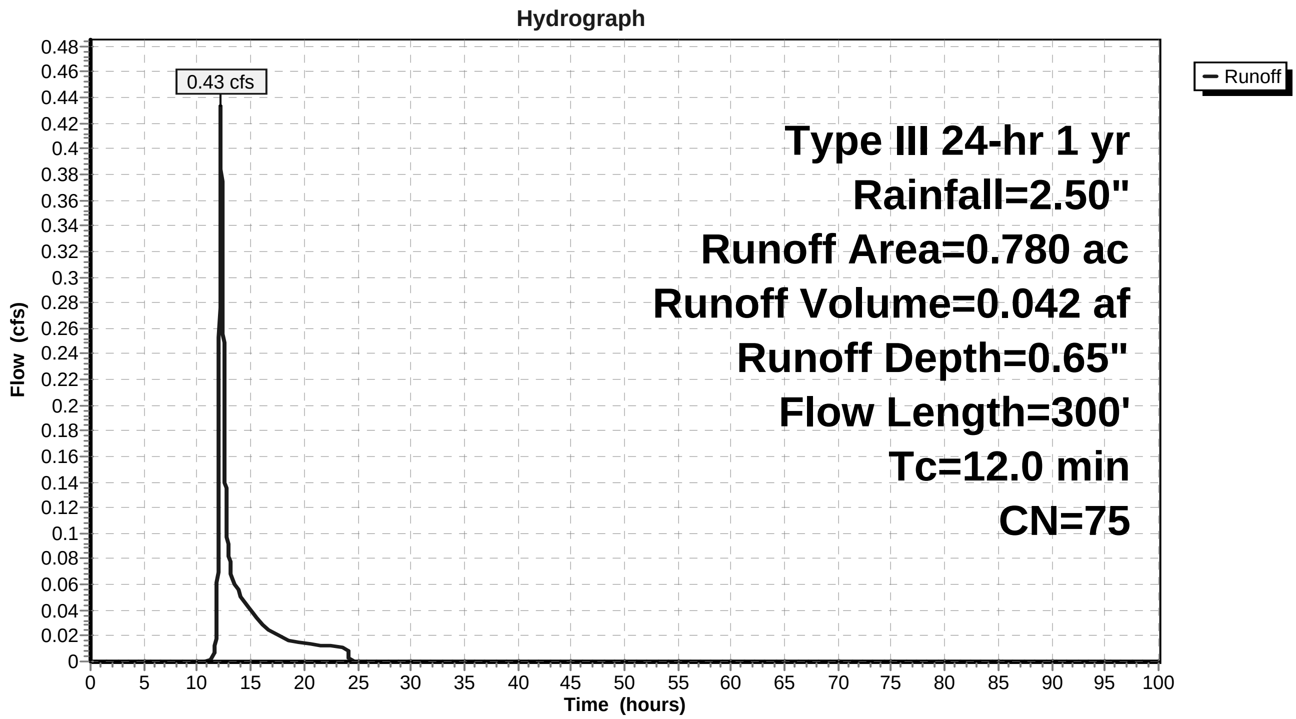
Runoff = 0.43 cfs @ 12.18 hrs, Volume= 0.042 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.090	73	Woods, Fair, HSG C
0.640	74	>75% Grass cover, Good, HSG C
0.780	75	Weighted Average
0.730		93.59% Pervious Area
0.050		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	50	0.1000	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.1	200	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.0	300	Total			

Subcatchment SW1A:



Summary for Subcatchment SW1B:

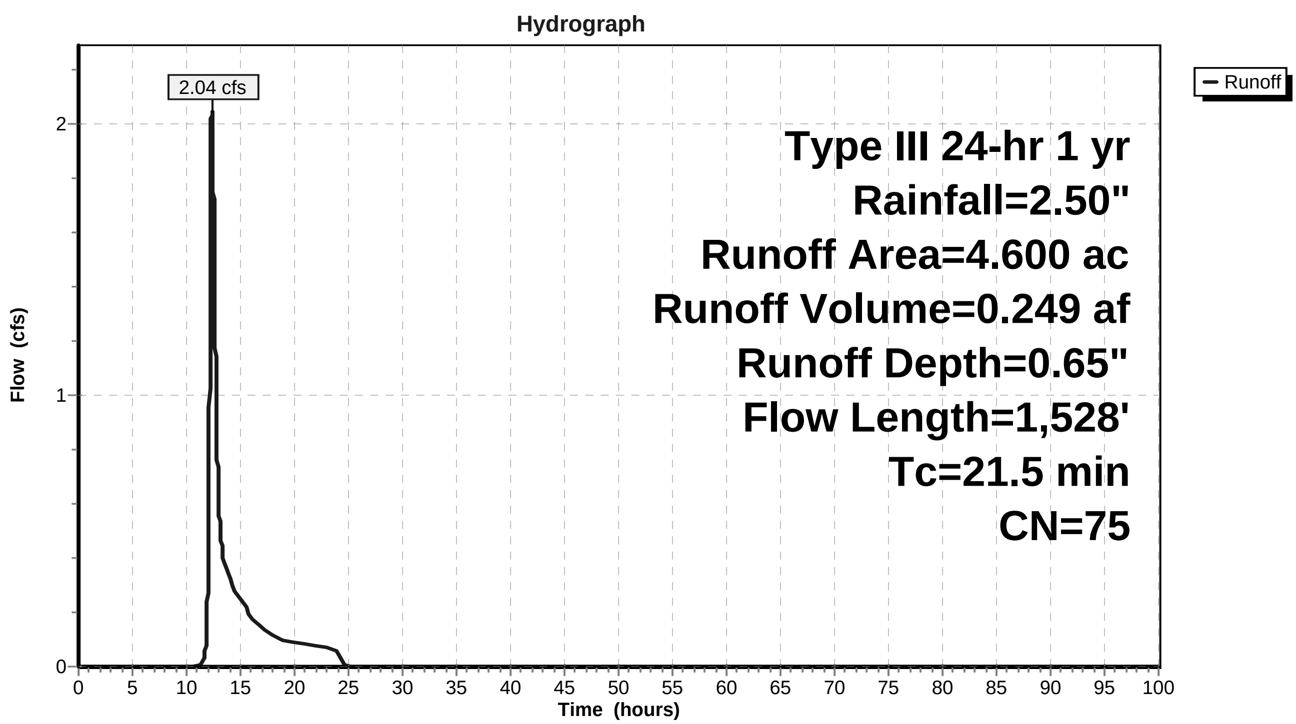
Runoff = 2.04 cfs @ 12.34 hrs, Volume= 0.249 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.290	98	Paved parking & roofs
1.890	73	Woods, Fair, HSG C
2.370	74	>75% Grass cover, Good, HSG C
0.050	70	Brush, Fair, HSG C
4.600	75	Weighted Average
4.310		93.70% Pervious Area
0.290		6.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0650	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.4	300	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,128	0.0180	2.59	12.31	**Trap/Vee/Rect Channel Flow,** Bot.W=2.25' D=1.00' Z= 2.0 & 3.0 '/' Top.W=7.25' n= 0.056
21.5	1,528	Total			

Subcatchment SW1B:



Summary for Subcatchment SW1C:

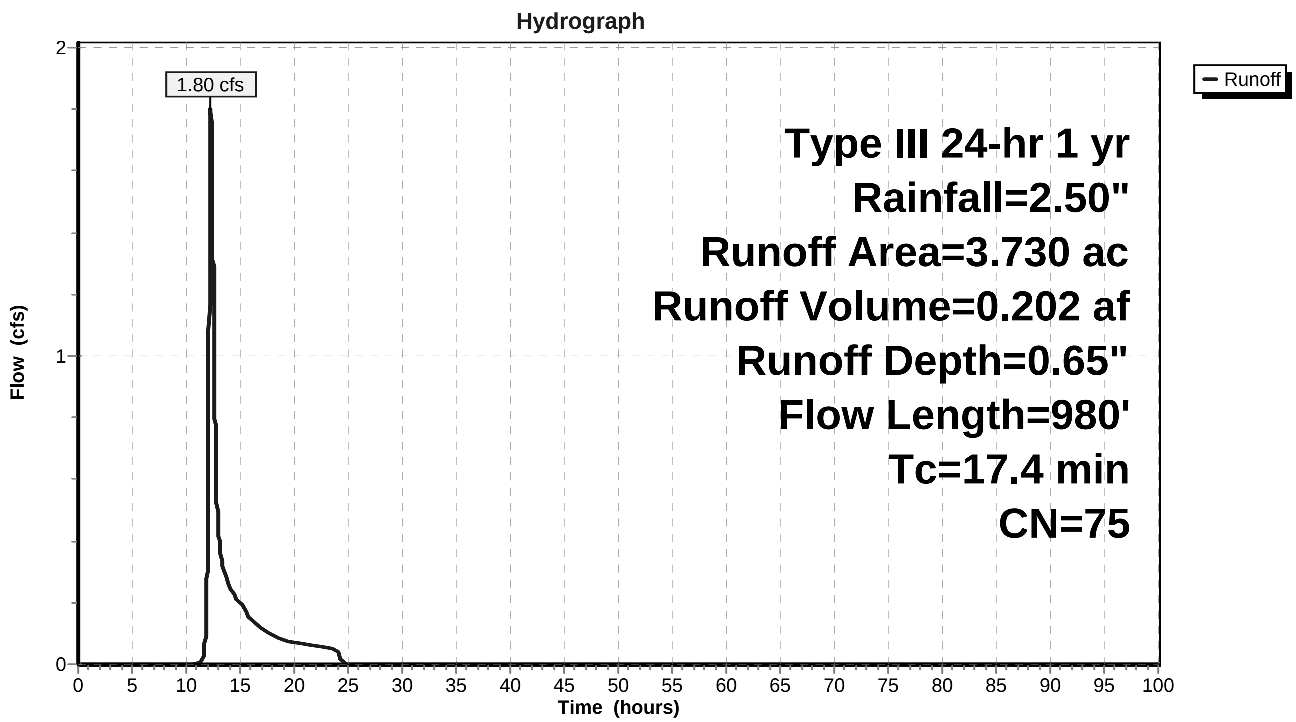
Runoff = 1.80 cfs @ 12.27 hrs, Volume= 0.202 af, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.230	98	Paved parking & roofs
1.590	73	Woods, Fair, HSG C
1.910	74	>75% Grass cover, Good, HSG C
3.730	75	Weighted Average
3.500		93.83% Pervious Area
0.230		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.4	600	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	280	0.0140	2.24	11.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
17.4	980	Total			

Subcatchment SW1C:



Summary for Subcatchment WQVP:

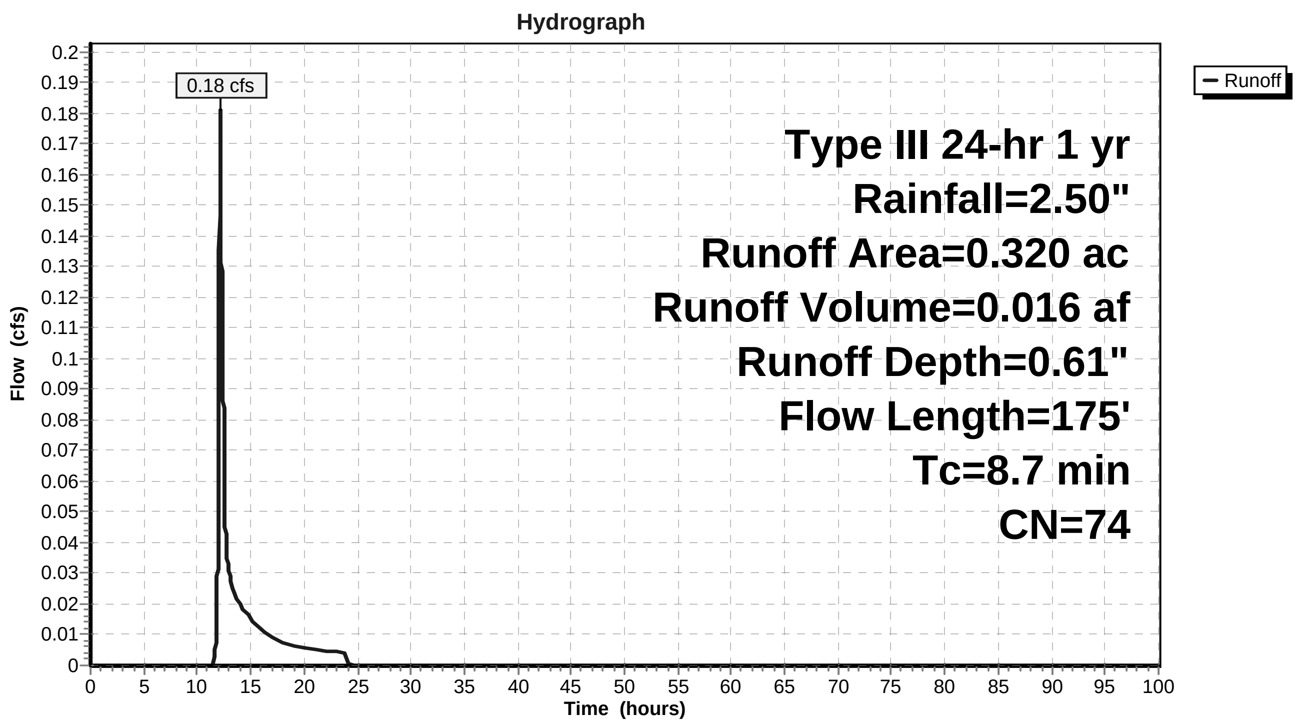
Runoff = 0.18 cfs @ 12.14 hrs, Volume= 0.016 af, Depth= 0.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 1 yr Rainfall=2.50"

Area (ac)	CN	Description
0.060	73	Woods, Fair, HSG C
0.260	74	>75% Grass cover, Good, HSG C
0.320	74	Weighted Average
0.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	30	0.1800	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
6.4	70	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.3500	9.52		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	175	Total			

Subcatchment WQVP:

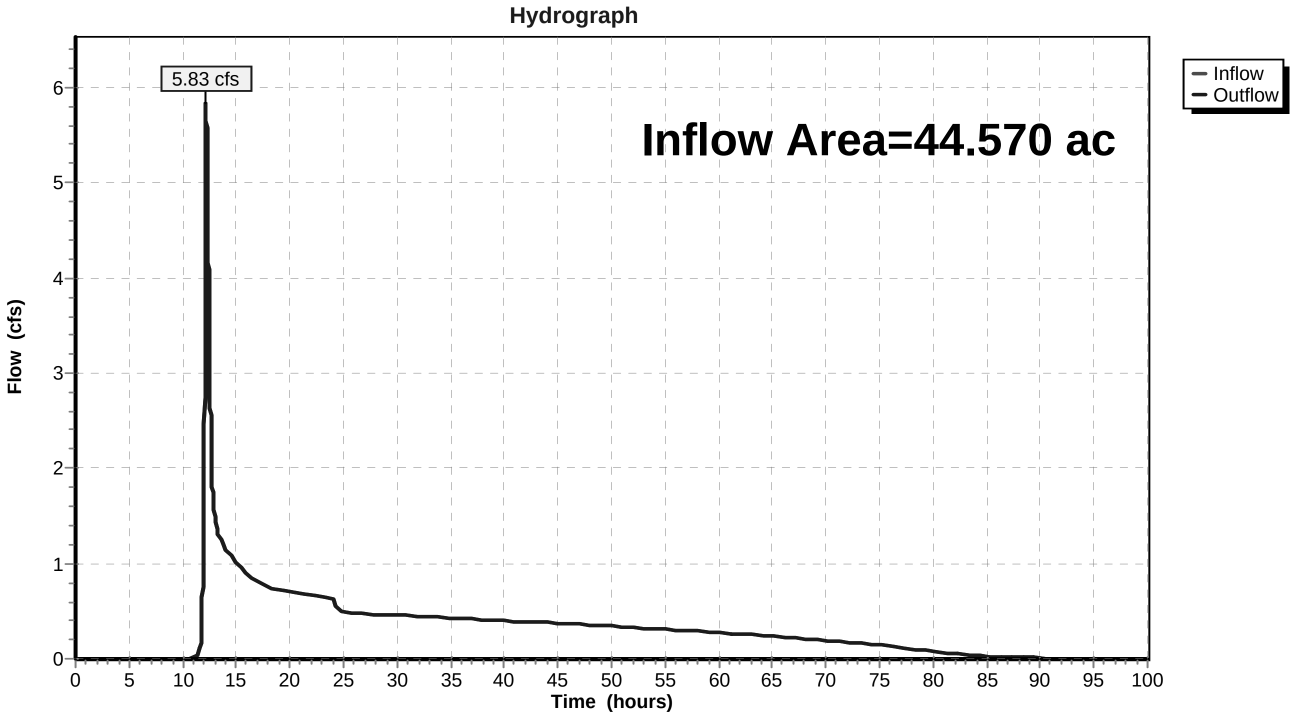


Summary for Reach dp1:

Inflow Area = 44.570 ac, 9.50% Impervious, Inflow Depth > 0.68" for 1 yr event
Inflow = 5.83 cfs @ 12.18 hrs, Volume= 2.530 af
Outflow = 5.83 cfs @ 12.18 hrs, Volume= 2.530 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

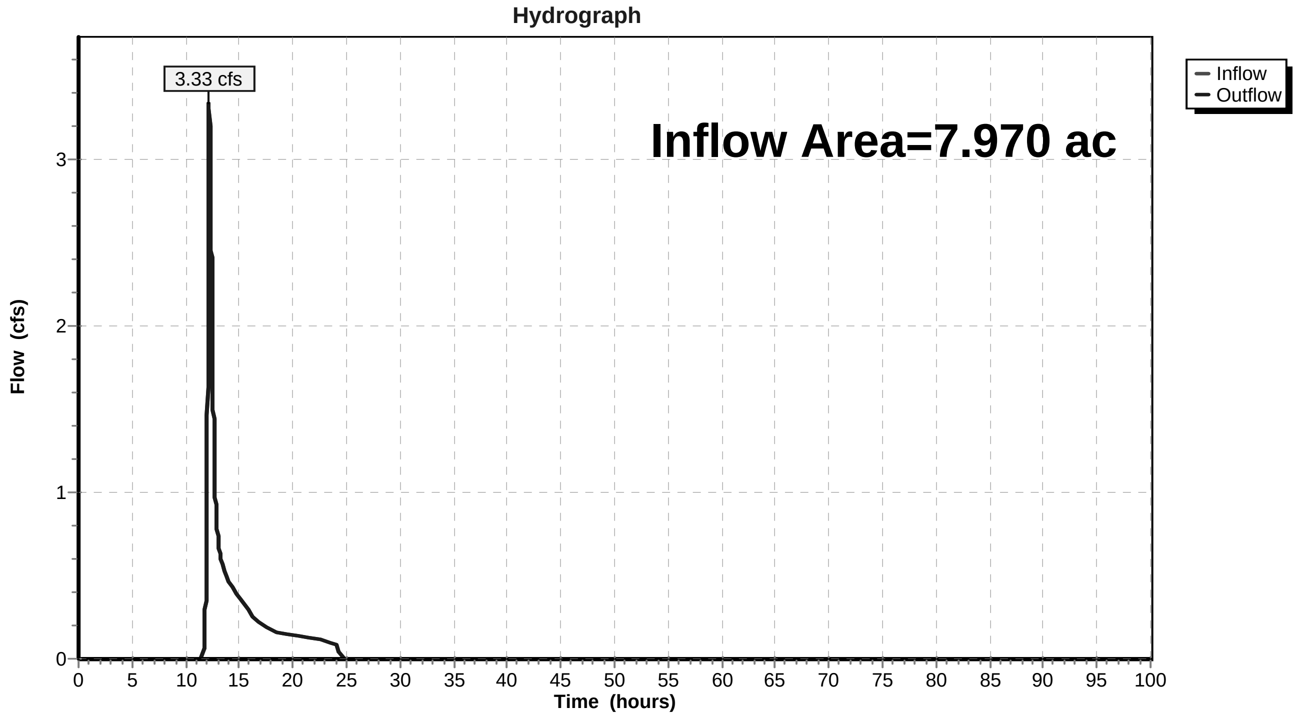


Summary for Reach dp2:

Inflow Area = 7.970 ac, 0.00% Impervious, Inflow Depth = 0.56" for 1 yr event
Inflow = 3.33 cfs @ 12.18 hrs, Volume= 0.372 af
Outflow = 3.33 cfs @ 12.18 hrs, Volume= 0.372 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



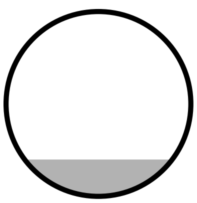
Summary for Reach IN14A:

Inflow Area = 1.510 ac, 10.60% Impervious, Inflow Depth = 0.69" for 1 yr event
Inflow = 0.90 cfs @ 12.19 hrs, Volume= 0.087 af
Outflow = 0.90 cfs @ 12.19 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.1 min

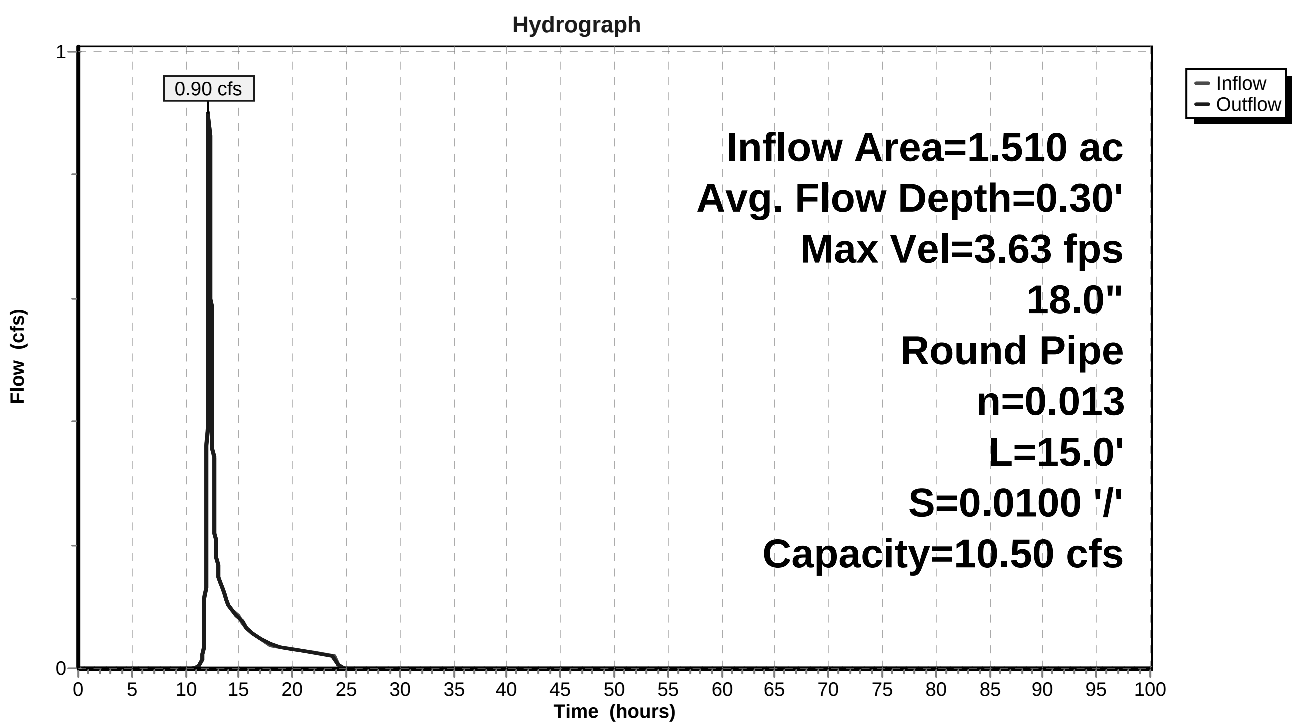
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 3.63 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.53 fps, Avg. Travel Time= 0.2 min

Peak Storage= 4 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.30'
Defined Flood Depth= 366.83', Capacity at Flood Depth= -10,724.81 cfs
Bank-Full Depth= 1.50', Capacity at Bank-Full= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 15.0' Slope= 0.0100 '/'
Inlet Invert= 362.00', Outlet Invert= 361.85'



Reach IN14A:



Summary for Reach SW:

Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 0.65" for 1 yr event
Inflow = 4.14 cfs @ 12.30 hrs, Volume= 0.494 af
Outflow = 4.08 cfs @ 12.33 hrs, Volume= 0.494 af, Atten= 1%, Lag= 2.1 min

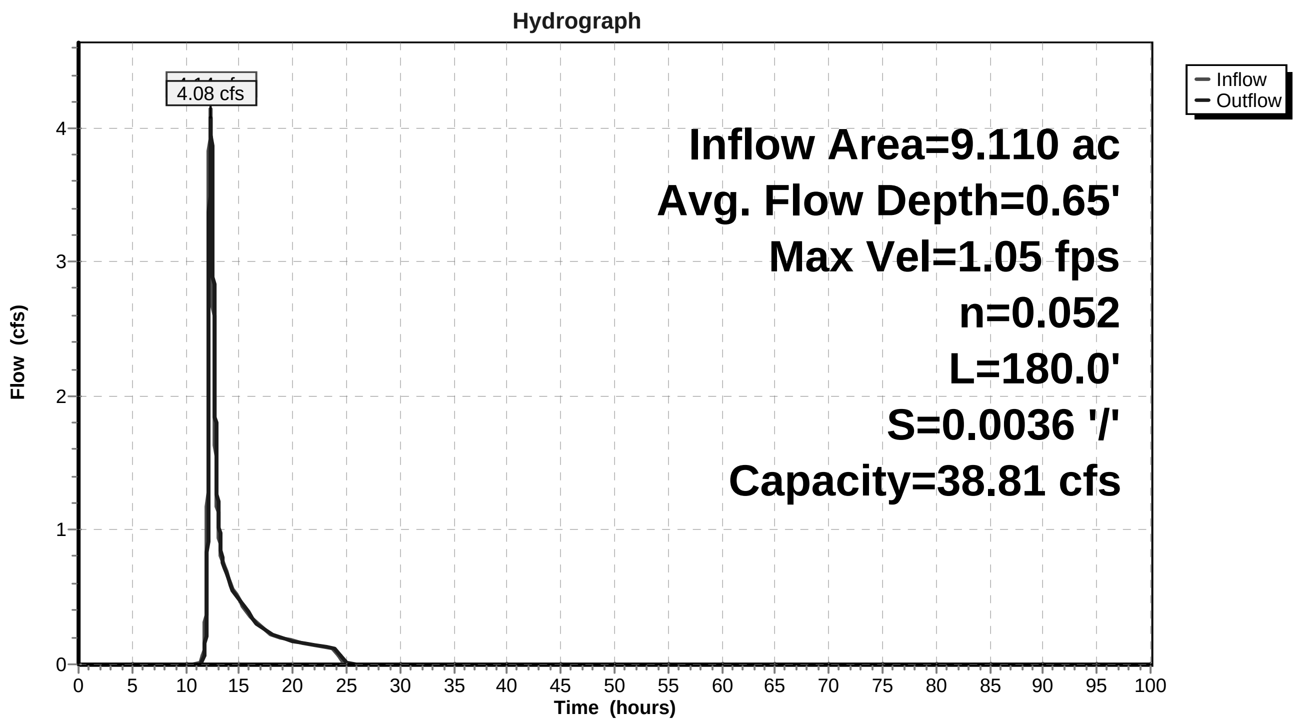
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.05 fps, Min. Travel Time= 2.9 min
Avg. Velocity = 0.39 fps, Avg. Travel Time= 7.7 min

Peak Storage= 699 cf @ 12.33 hrs
Average Depth at Peak Storage= 0.65'
Defined Flood Depth= 345.00', Capacity at Flood Depth= 14,324.68 cfs
Bank-Full Depth= 2.00', Capacity at Bank-Full= 38.81 cfs

4.00' x 2.00' deep channel, n= 0.052
Side Slope Z-value= 3.0 '/' Top Width= 16.00'
Length= 180.0' Slope= 0.0036 '/'
Inlet Invert= 341.45', Outlet Invert= 340.80'

‡

Reach SW:



Summary for Pond CB-10A:

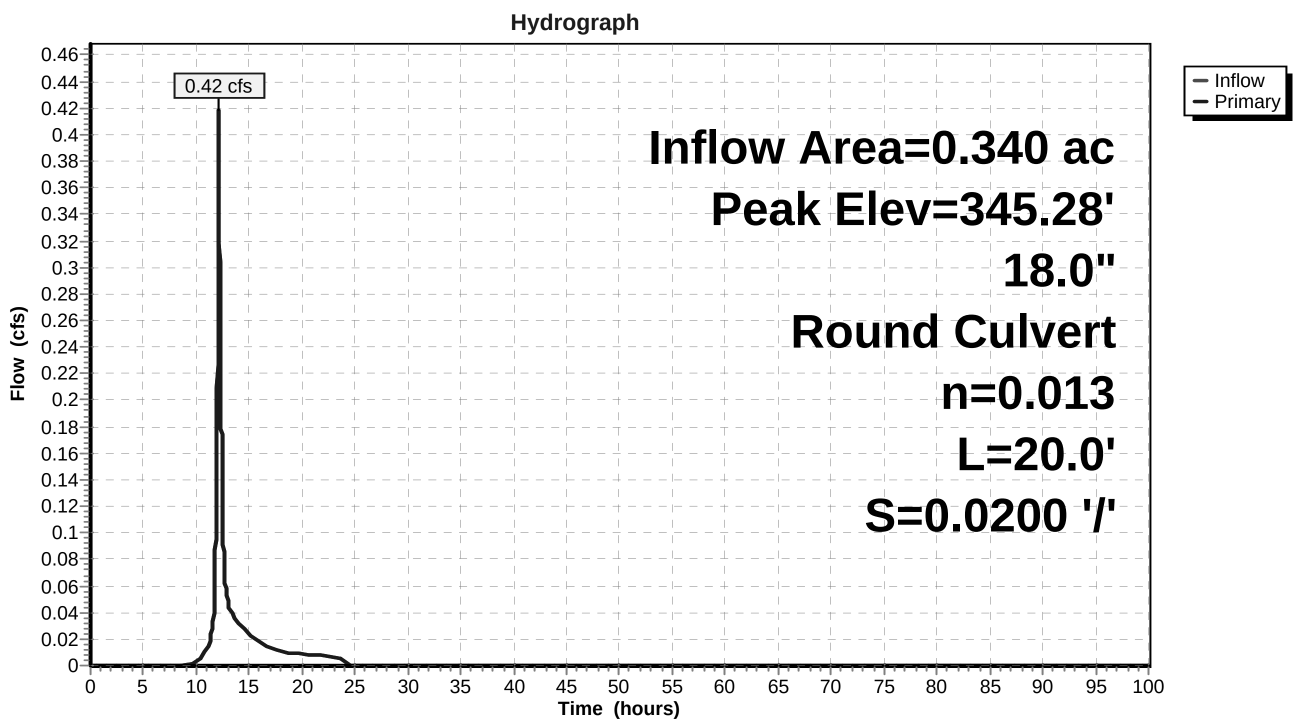
Inflow Area = 0.340 ac, 41.18% Impervious, Inflow Depth = 1.12" for 1 yr event
Inflow = 0.42 cfs @ 12.11 hrs, Volume= 0.032 af
Outflow = 0.42 cfs @ 12.11 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.11 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 345.28' @ 12.11 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.42 cfs @ 12.11 hrs HW=345.28' TW=344.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.42 cfs @ 1.81 fps)

Pond CB-10A:



Summary for Pond CB-10B:

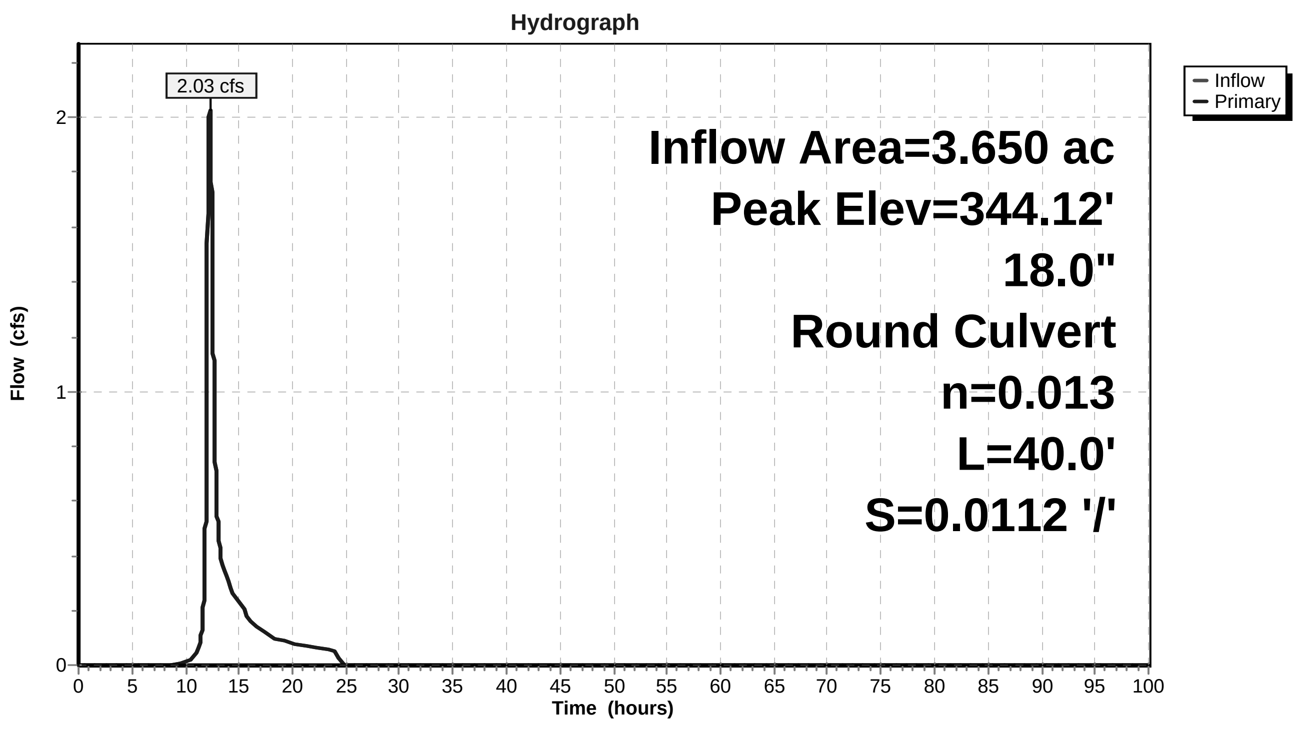
Inflow Area = 3.650 ac, 22.47% Impervious, Inflow Depth = 0.86" for 1 yr event
Inflow = 2.03 cfs @ 12.28 hrs, Volume= 0.261 af
Outflow = 2.03 cfs @ 12.28 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min
Primary = 2.03 cfs @ 12.28 hrs, Volume= 0.261 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 344.12' @ 12.28 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.45'	**18.0" Round Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.45' / 343.00' S= 0.0112 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.03 cfs @ 12.28 hrs HW=344.12' TW=333.89' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 2.03 cfs @ 3.92 fps)

Pond CB-10B:



Summary for Pond CB-11A:

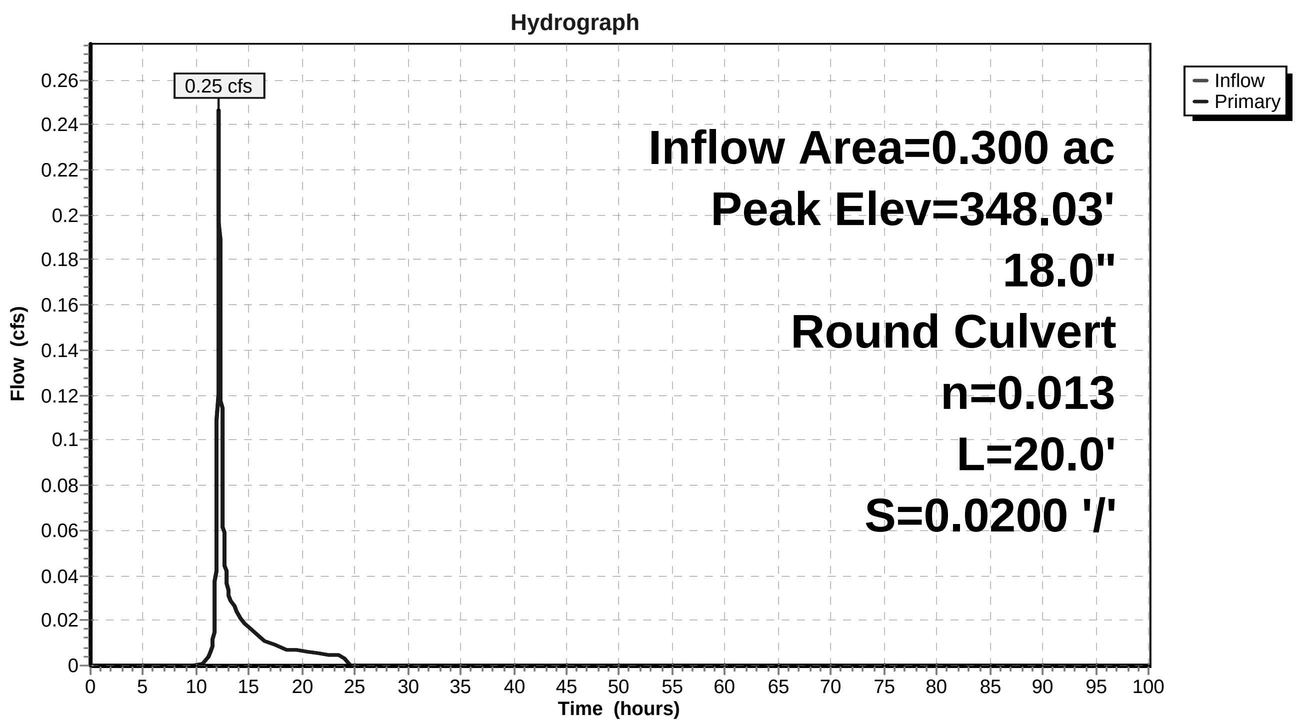
Inflow Area =	0.300 ac,	16.67% Impervious,	Inflow Depth = 0.79"	for 1 yr event
Inflow =	0.25 cfs @	12.12 hrs, Volume=	0.020 af	
Outflow =	0.25 cfs @	12.12 hrs, Volume=	0.020 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.25 cfs @	12.12 hrs, Volume=	0.020 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.03' @ 12.12 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.81'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.81' / 347.41' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.25 cfs @ 12.12 hrs HW=348.03' TW=347.70' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.25 cfs @ 1.58 fps)

Pond CB-11A:



Summary for Pond CB-11B:

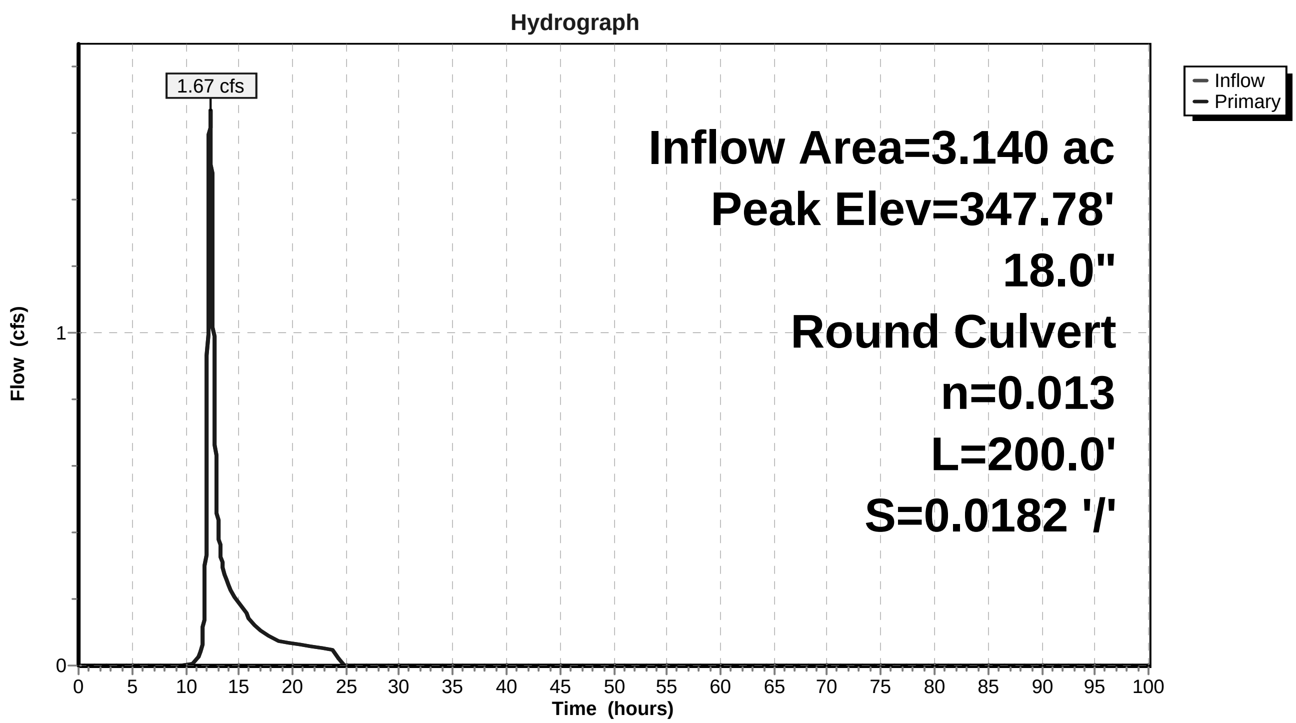
Inflow Area = 3.140 ac, 17.83% Impervious, Inflow Depth = 0.79" for 1 yr event
Inflow = 1.67 cfs @ 12.31 hrs, Volume= 0.207 af
Outflow = 1.67 cfs @ 12.31 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min
Primary = 1.67 cfs @ 12.31 hrs, Volume= 0.207 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 347.78' @ 12.31 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.19'	**18.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.19' / 343.55' S= 0.0182 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.67 cfs @ 12.31 hrs HW=347.78' TW=344.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.67 cfs @ 2.61 fps)

Pond CB-11B:



Summary for Pond CB-12A:

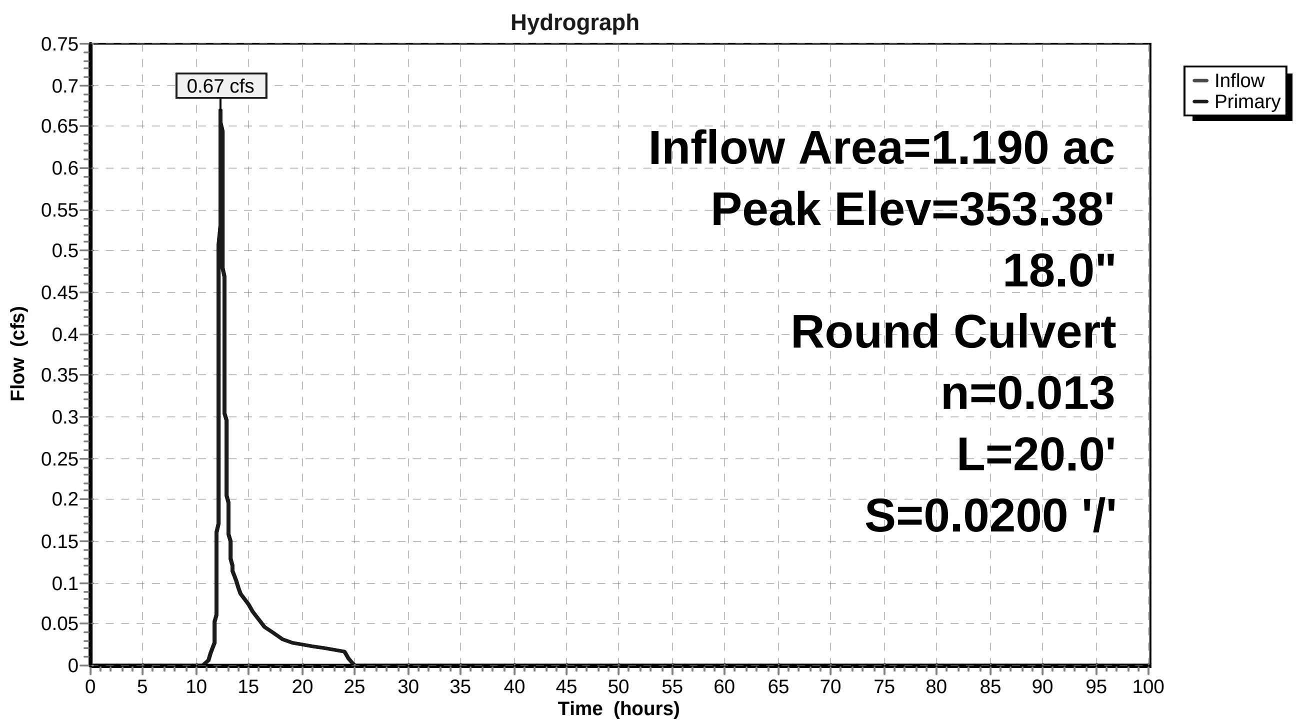
Inflow Area = 1.190 ac, 16.81% Impervious, Inflow Depth = 0.79" for 1 yr event
Inflow = 0.67 cfs @ 12.33 hrs, Volume= 0.078 af
Outflow = 0.67 cfs @ 12.33 hrs, Volume= 0.078 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.33 hrs, Volume= 0.078 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.38' @ 12.33 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	353.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 353.00' / 352.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.67 cfs @ 12.33 hrs HW=353.38' TW=353.05' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.67 cfs @ 2.88 fps)

Pond CB-12A:



Summary for Pond CB-12B:

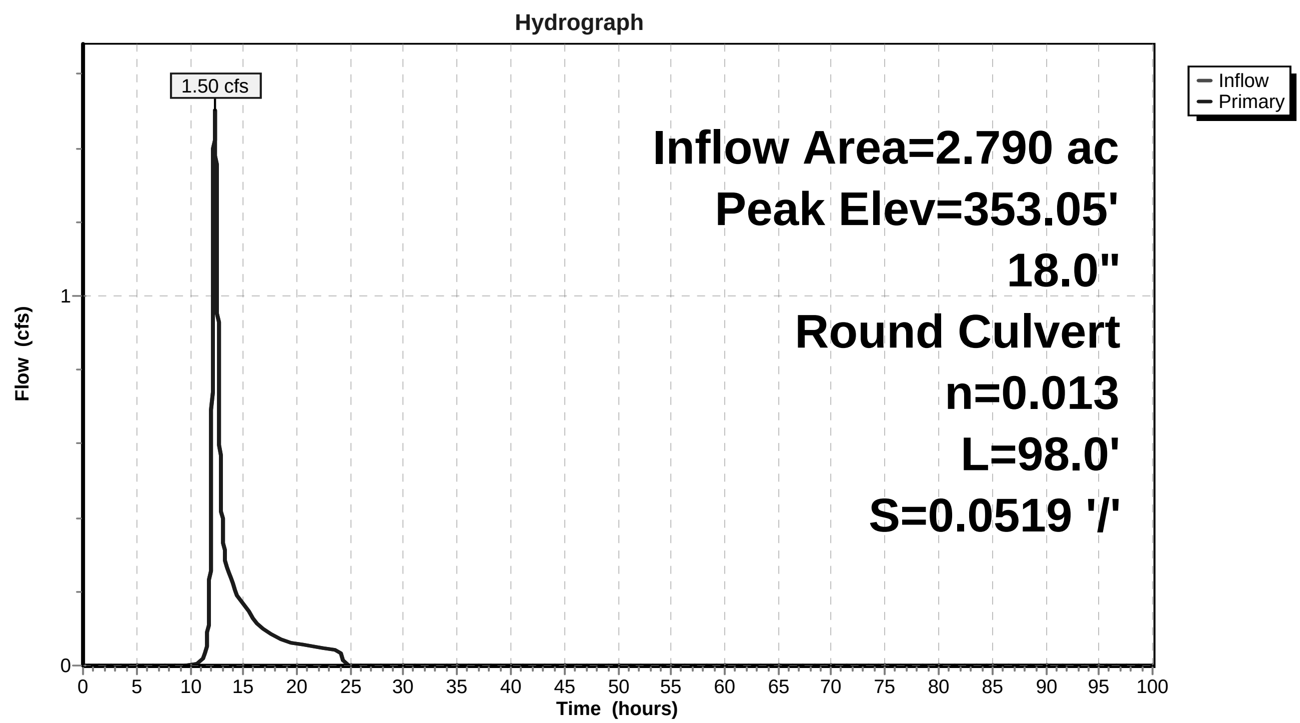
Inflow Area =	2.790 ac,	17.56% Impervious,	Inflow Depth = 0.78"	for 1 yr event
Inflow =	1.50 cfs @	12.32 hrs, Volume=	0.182 af	
Outflow =	1.50 cfs @	12.32 hrs, Volume=	0.182 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.50 cfs @	12.32 hrs, Volume=	0.182 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.05' @ 12.32 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	352.50'	**18.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 352.50' / 347.41' S= 0.0519 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.50 cfs @ 12.32 hrs HW=353.05' TW=347.78' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.50 cfs @ 2.53 fps)

Pond CB-12B:



Summary for Pond CB-13A:

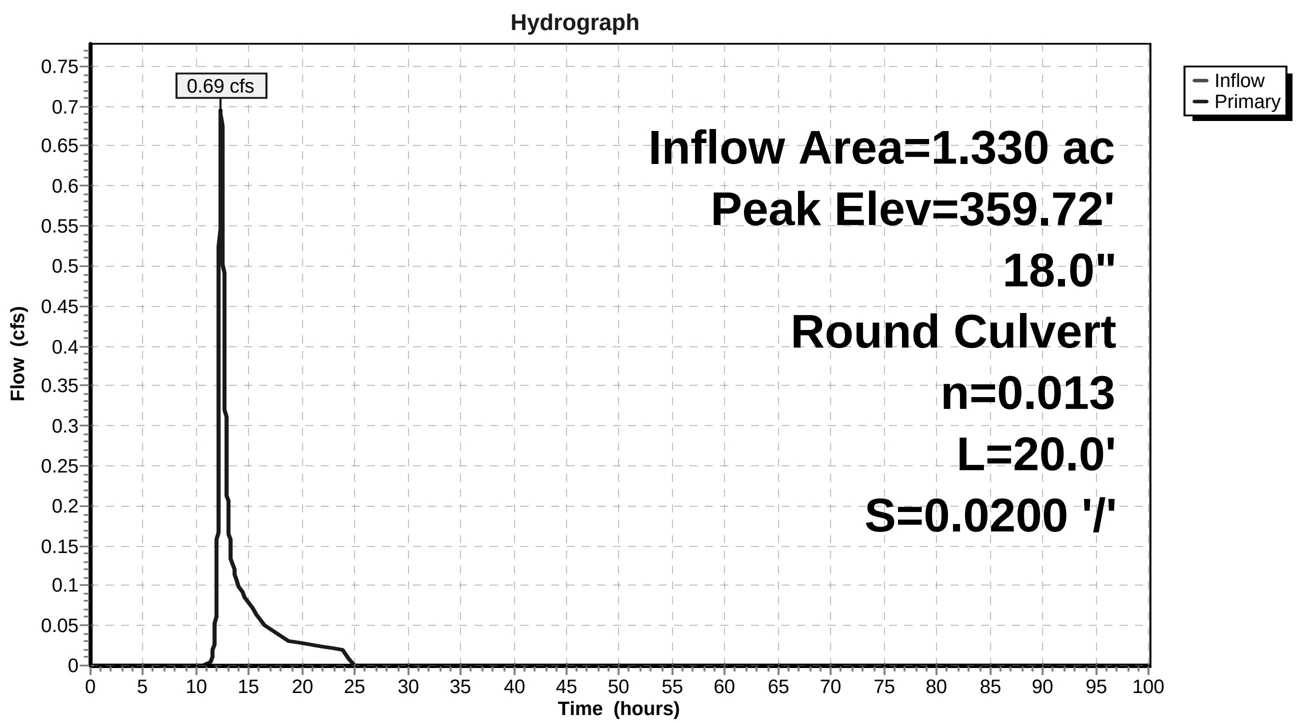
Inflow Area =	1.330 ac, 15.04% Impervious, Inflow Depth = 0.74" for 1 yr event			
Inflow =	0.69 cfs @	12.33 hrs, Volume=	0.082 af	
Outflow =	0.69 cfs @	12.33 hrs, Volume=	0.082 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.69 cfs @	12.33 hrs, Volume=	0.082 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 359.72' @ 12.33 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	359.35'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 359.35' / 358.95' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.69 cfs @ 12.33 hrs HW=359.72' TW=359.25' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.69 cfs @ 2.07 fps)

Pond CB-13A:



Summary for Pond CB-13B:

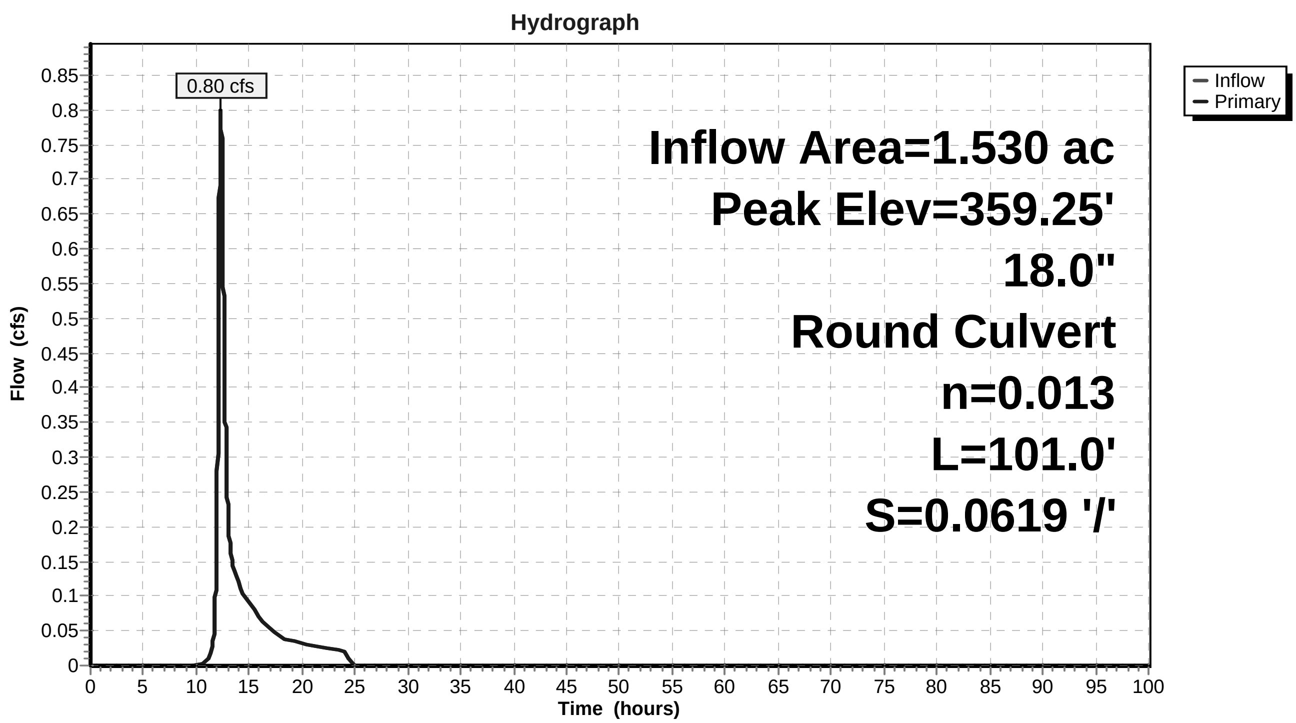
Inflow Area = 1.530 ac, 17.65% Impervious, Inflow Depth = 0.77" for 1 yr event
Inflow = 0.80 cfs @ 12.31 hrs, Volume= 0.099 af
Outflow = 0.80 cfs @ 12.31 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 12.31 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 359.25' @ 12.31 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.85'	**18.0" Round Culvert** L= 101.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 358.85' / 352.60' S= 0.0619 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.80 cfs @ 12.31 hrs HW=359.25' TW=353.05' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.80 cfs @ 2.14 fps)

Pond CB-13B:



Summary for Pond CB-14A:

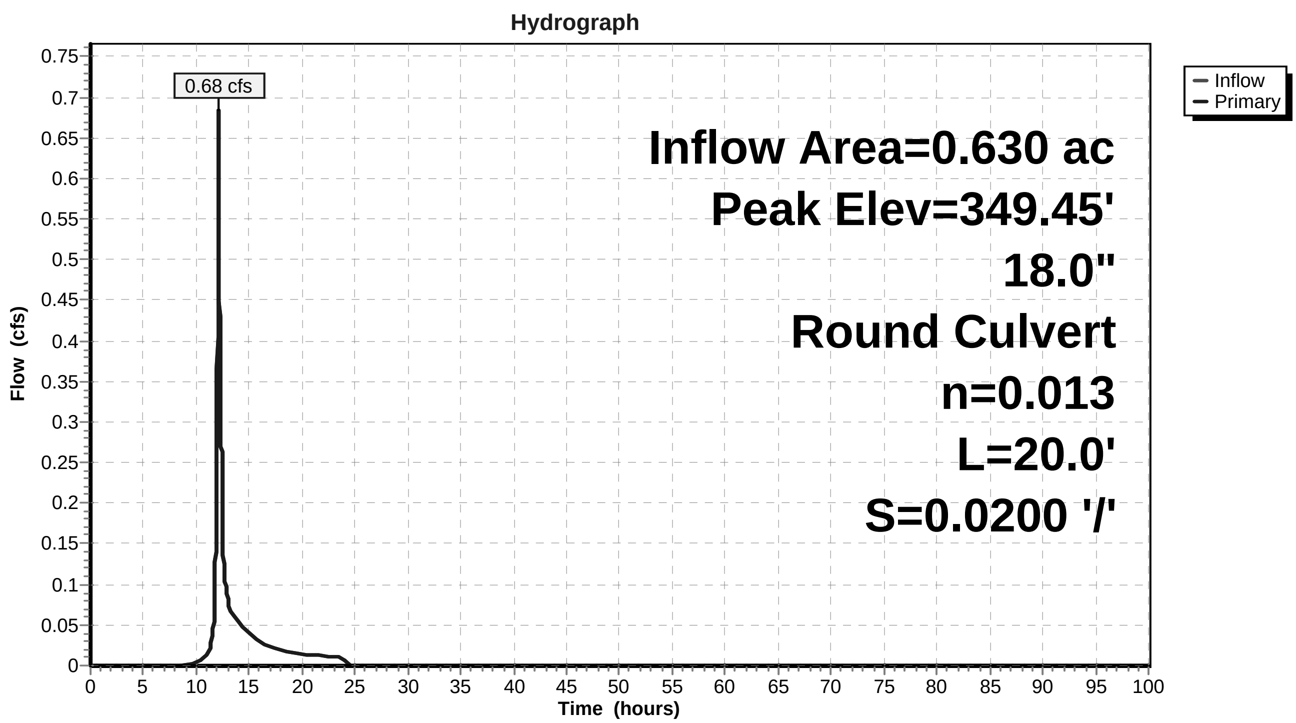
Inflow Area = 0.630 ac, 30.16% Impervious, Inflow Depth = 0.96" for 1 yr event
Inflow = 0.68 cfs @ 12.09 hrs, Volume= 0.050 af
Outflow = 0.68 cfs @ 12.09 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Primary = 0.68 cfs @ 12.09 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.45' @ 12.09 hrs
Flood Elev= 364.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.08'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.08' / 348.68' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.68 cfs @ 12.09 hrs HW=349.45' TW=349.08' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.68 cfs @ 3.05 fps)

Pond CB-14A:



Summary for Pond CB-14B:

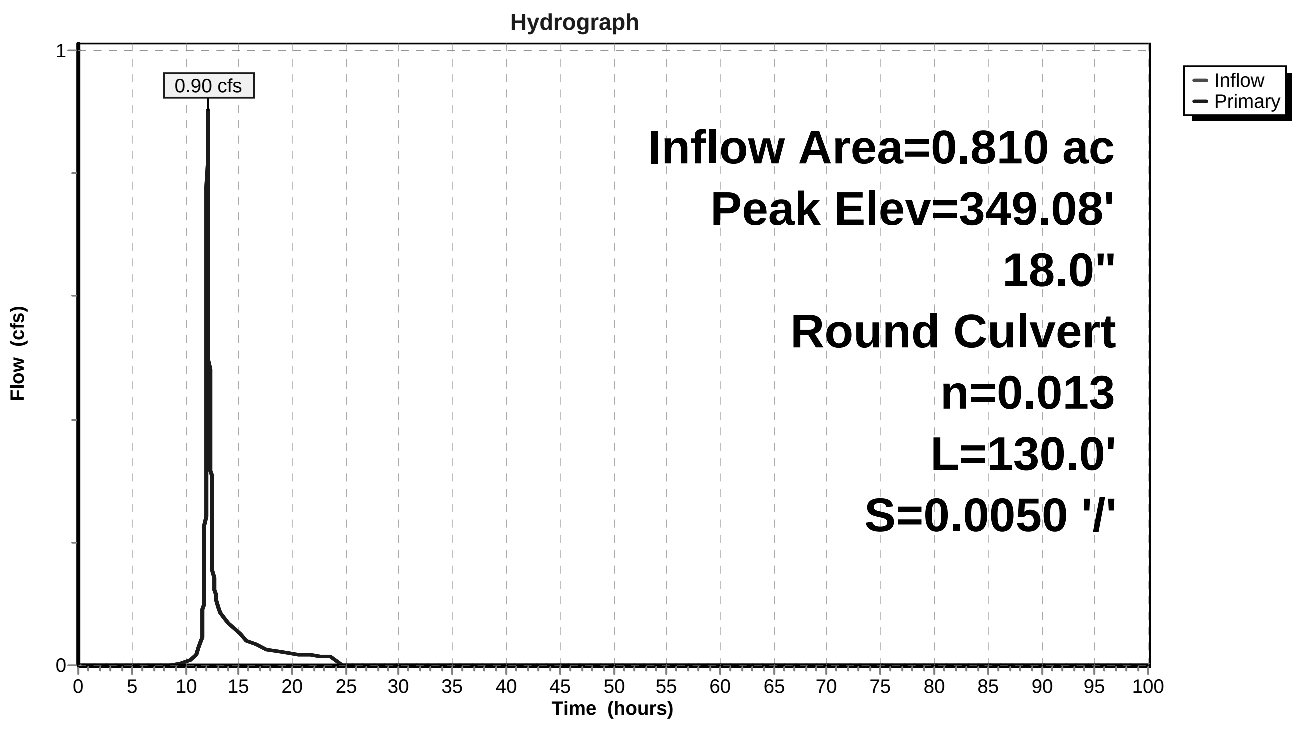
Inflow Area = 0.810 ac, 32.10% Impervious, Inflow Depth = 0.98" for 1 yr event
Inflow = 0.90 cfs @ 12.09 hrs, Volume= 0.066 af
Outflow = 0.90 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.09 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.08' @ 12.10 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.58'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.58' / 347.93' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.90 cfs @ 12.09 hrs HW=349.08' TW=348.39' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.90 cfs @ 2.64 fps)

Pond CB-14B:



Summary for Pond CB-15A:

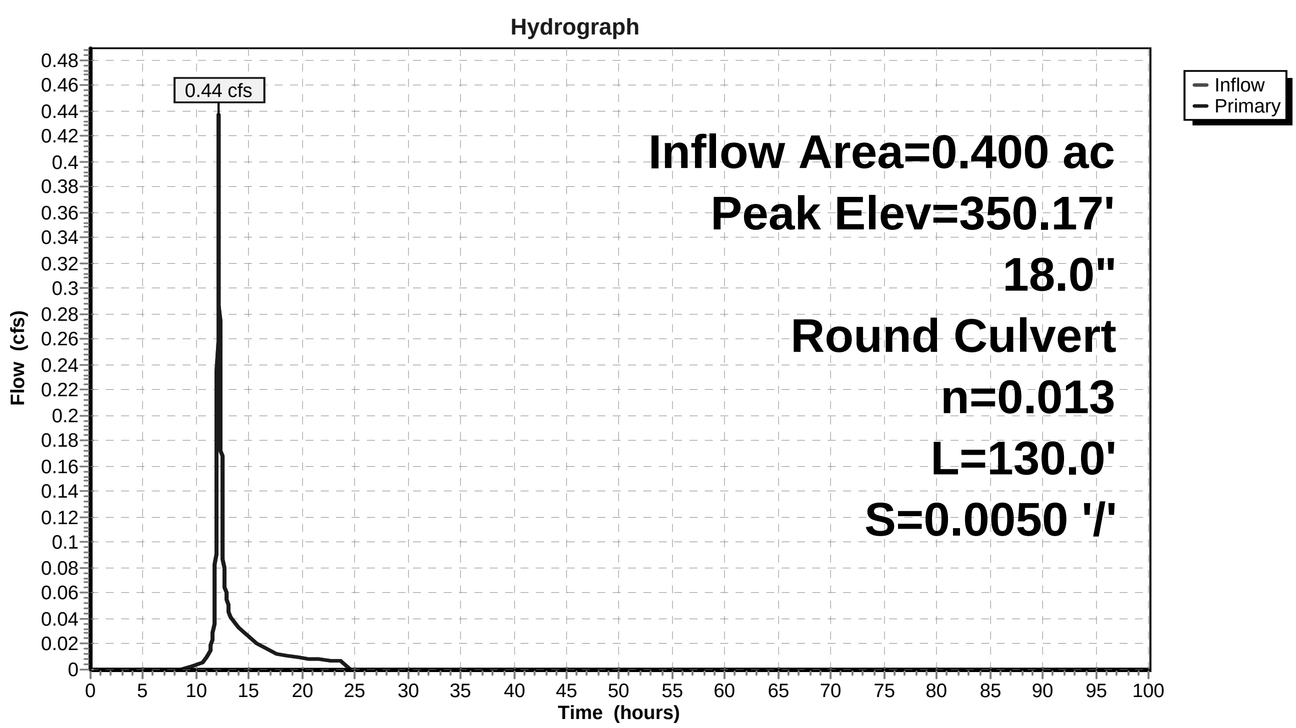
Inflow Area = 0.400 ac, 30.00% Impervious, Inflow Depth = 0.96" for 1 yr event
Inflow = 0.44 cfs @ 12.09 hrs, Volume= 0.032 af
Outflow = 0.44 cfs @ 12.09 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.44 cfs @ 12.09 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.17' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.83'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.83' / 349.18' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.44 cfs @ 12.09 hrs HW=350.17' TW=349.45' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.44 cfs @ 2.23 fps)

Pond CB-15A:



Summary for Pond CB-15B:

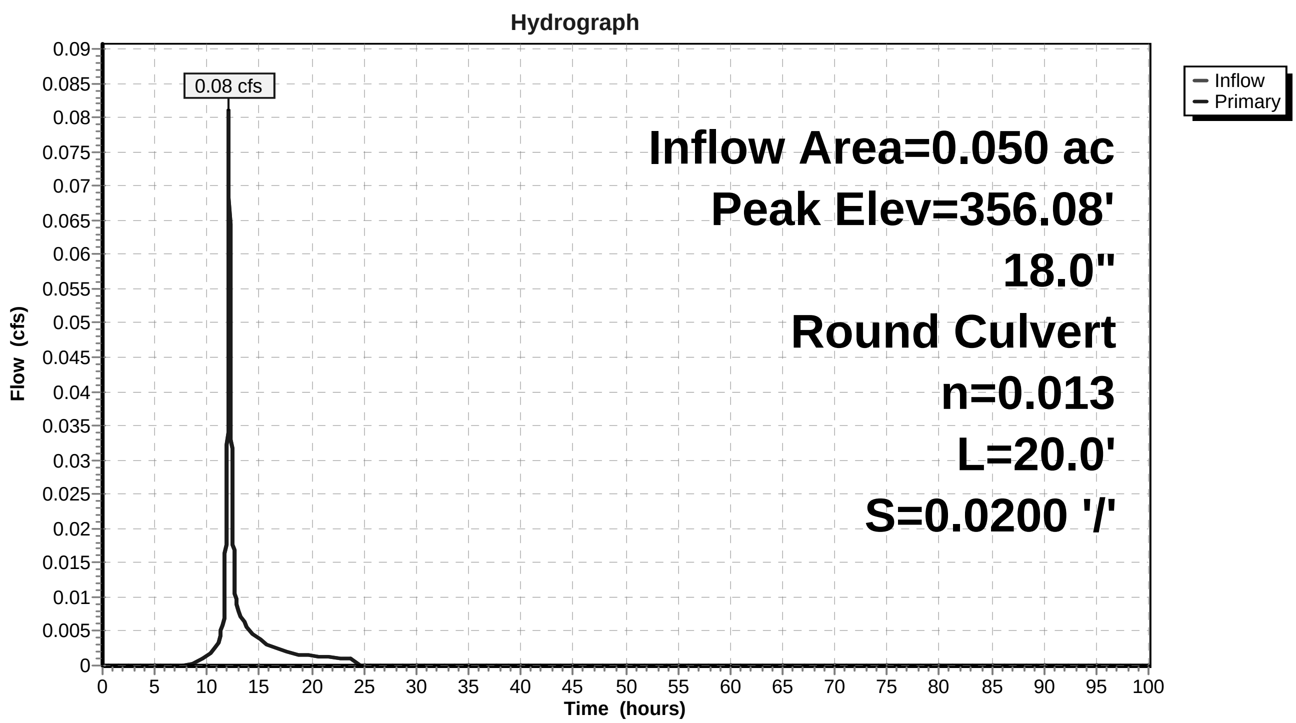
Inflow Area = 0.050 ac, 60.00% Impervious, Inflow Depth = 1.38" for 1 yr event
Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 356.08' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	355.96'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 355.96' / 355.56' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.08 cfs @ 12.09 hrs HW=356.08' TW=350.17' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.08 cfs @ 1.19 fps)

Pond CB-15B:



Summary for Pond CB-16A:

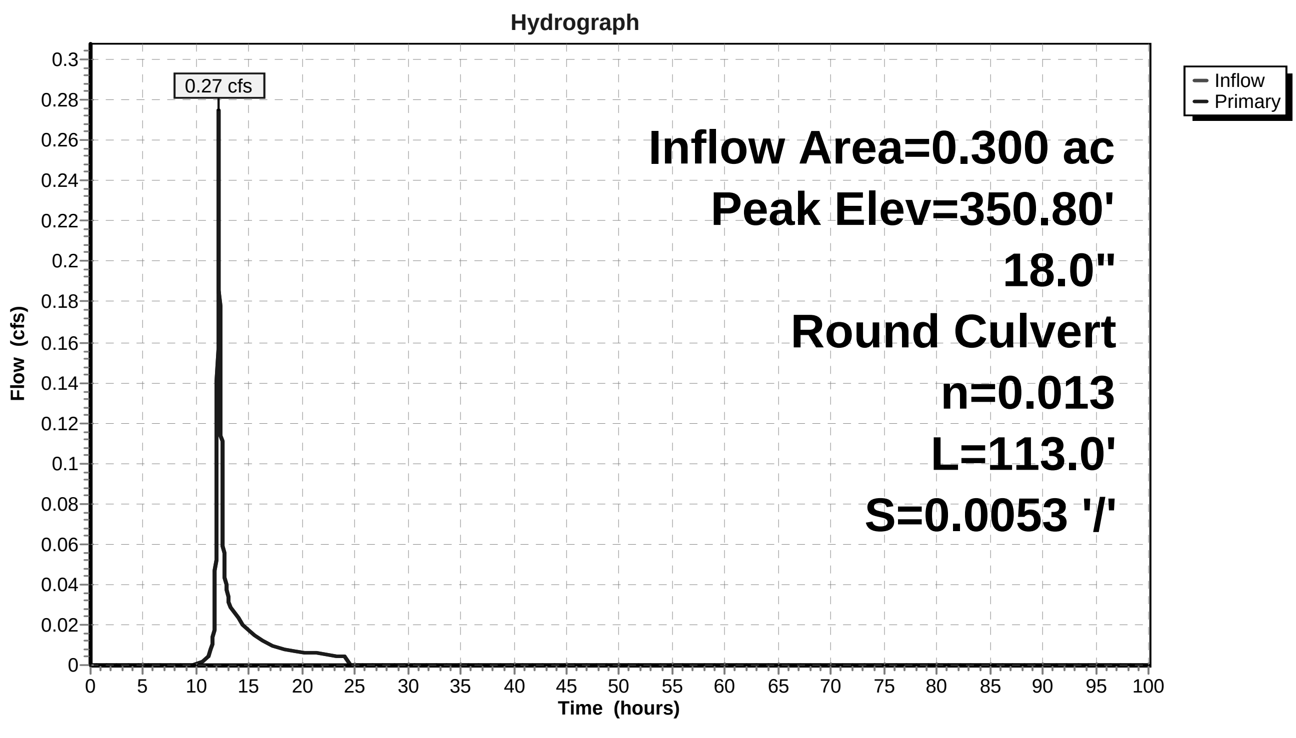
Inflow Area = 0.300 ac, 20.00% Impervious, Inflow Depth = 0.82" for 1 yr event
Inflow = 0.27 cfs @ 12.10 hrs, Volume= 0.021 af
Outflow = 0.27 cfs @ 12.10 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.27 cfs @ 12.10 hrs, Volume= 0.021 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.80' @ 12.10 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	350.53'	**18.0" Round Culvert** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 350.53' / 349.93' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.27 cfs @ 12.10 hrs HW=350.80' TW=350.17' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.27 cfs @ 1.97 fps)

Pond CB-16A:



Summary for Pond CB-16B:

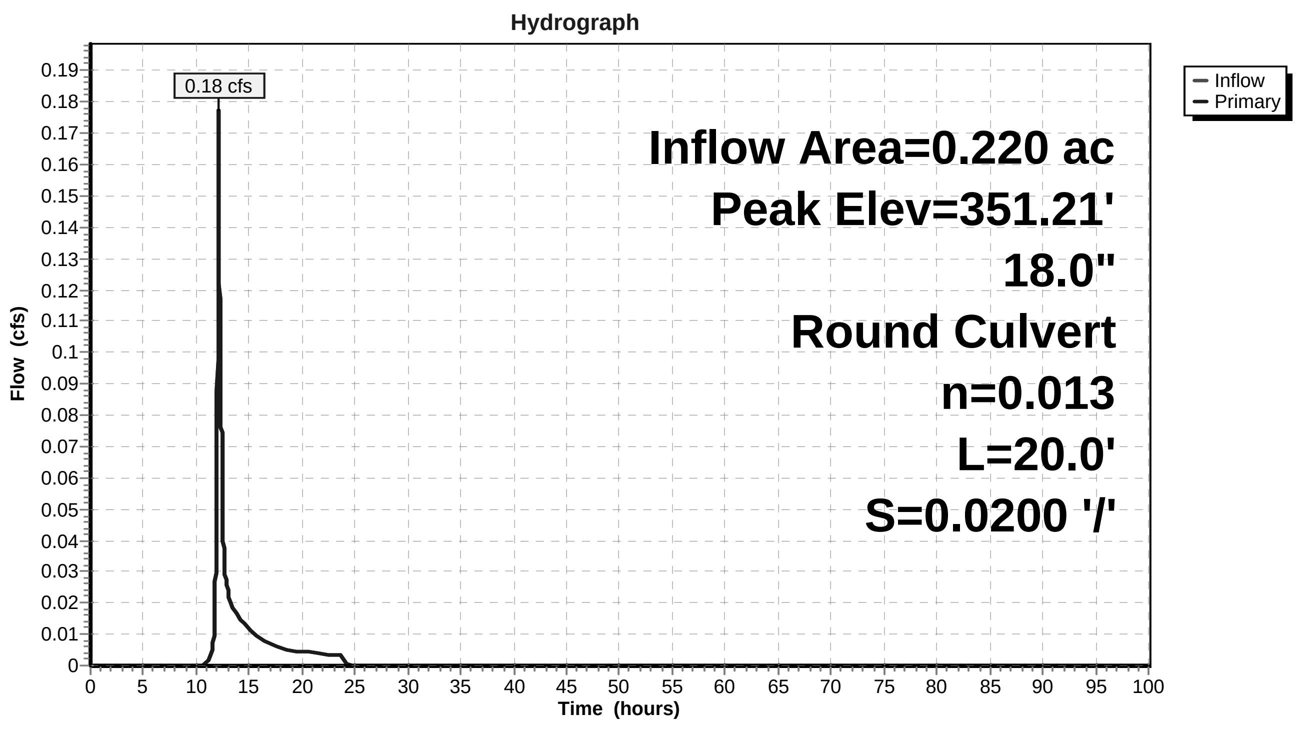
Inflow Area = 0.220 ac, 13.64% Impervious, Inflow Depth = 0.74" for 1 yr event
Inflow = 0.18 cfs @ 12.10 hrs, Volume= 0.014 af
Outflow = 0.18 cfs @ 12.10 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.10 hrs, Volume= 0.014 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.21' @ 12.10 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	351.03'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 351.03' / 350.63' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.18 cfs @ 12.10 hrs HW=351.21' TW=350.80' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.18 cfs @ 1.45 fps)

Pond CB-16B:



Summary for Pond CB-17A:

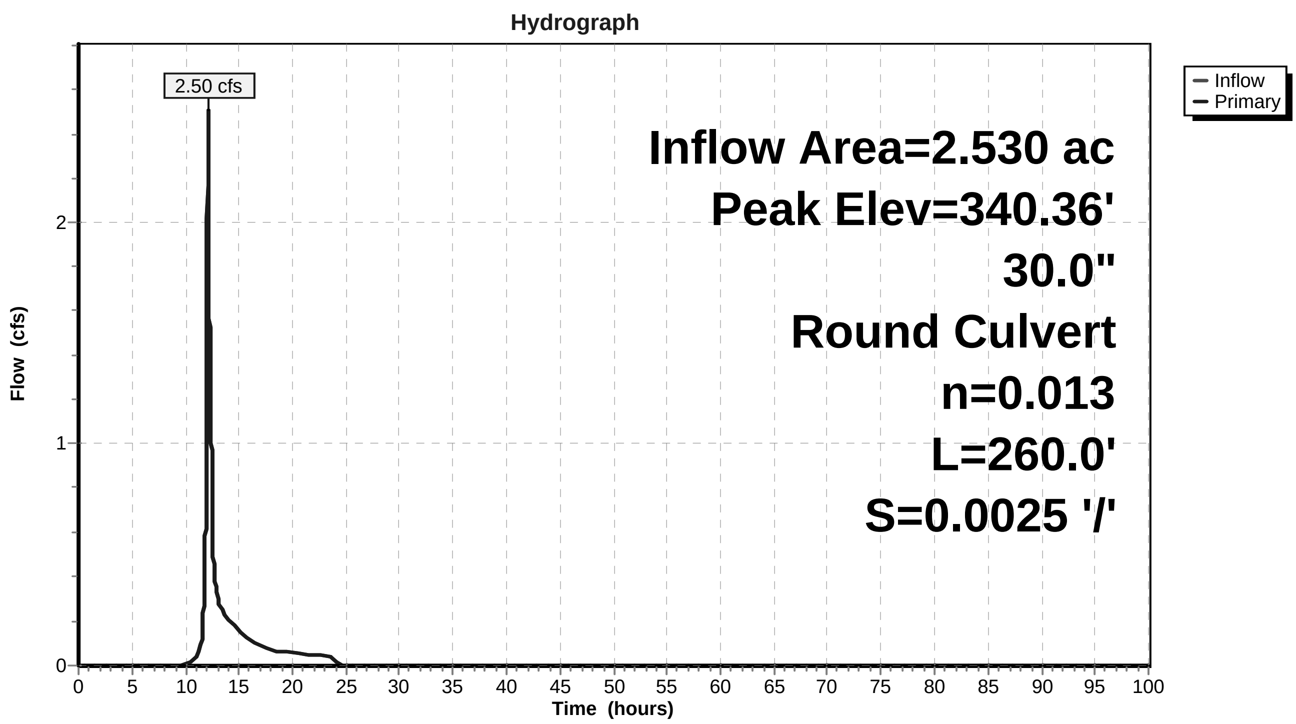
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 0.92" for 1 yr event
Inflow = 2.50 cfs @ 12.11 hrs, Volume= 0.194 af
Outflow = 2.50 cfs @ 12.11 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.50 cfs @ 12.11 hrs, Volume= 0.194 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.36' @ 12.11 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	339.57'	**30.0" Round Culvert** L= 260.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 339.57' / 338.92' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.50 cfs @ 12.11 hrs HW=340.36' TW=339.55' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.50 cfs @ 2.79 fps)

Pond CB-17A:



Summary for Pond CB-17B:

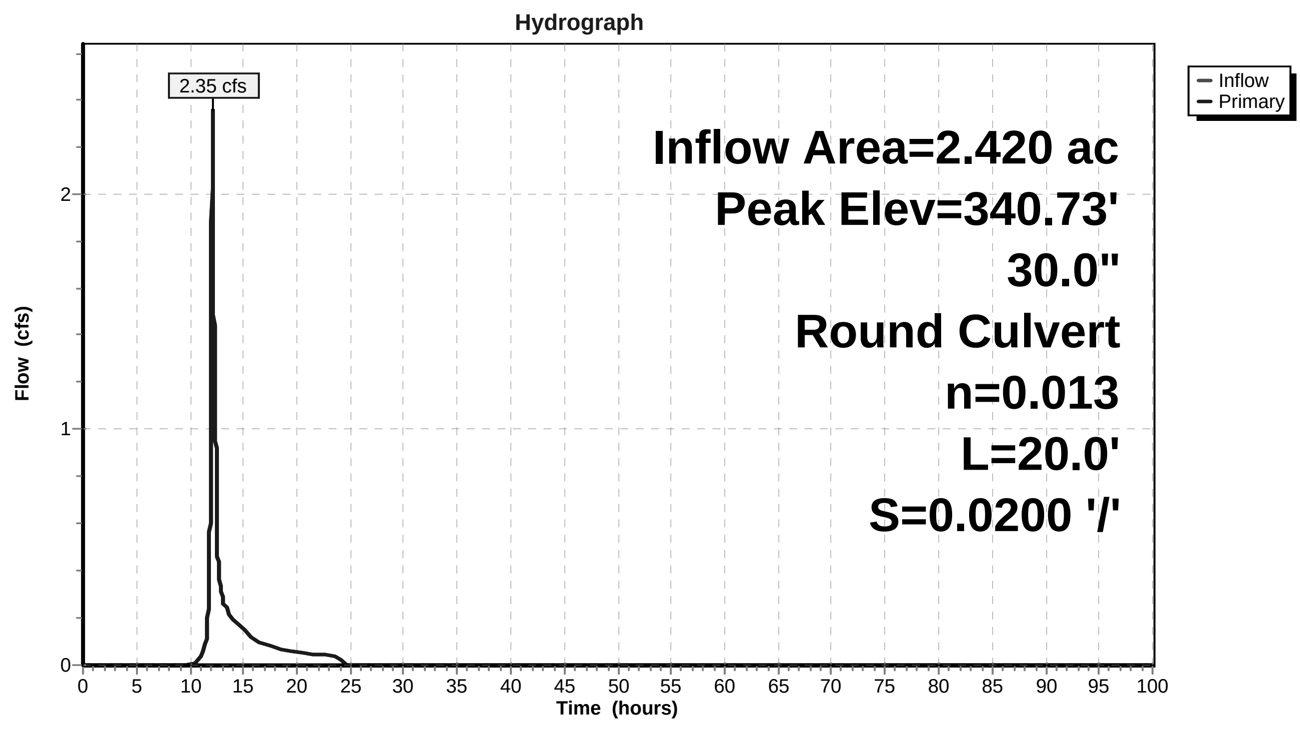
Inflow Area = 2.420 ac, 27.48% Impervious, Inflow Depth = 0.91" for 1 yr event
Inflow = 2.35 cfs @ 12.11 hrs, Volume= 0.184 af
Outflow = 2.35 cfs @ 12.11 hrs, Volume= 0.184 af, Atten= 0%, Lag= 0.0 min
Primary = 2.35 cfs @ 12.11 hrs, Volume= 0.184 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.73' @ 12.11 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.07'	**30.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.07' / 339.67' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.35 cfs @ 12.11 hrs HW=340.73' TW=340.36' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.35 cfs @ 3.43 fps)

Pond CB-17B:



Summary for Pond CB-18B:

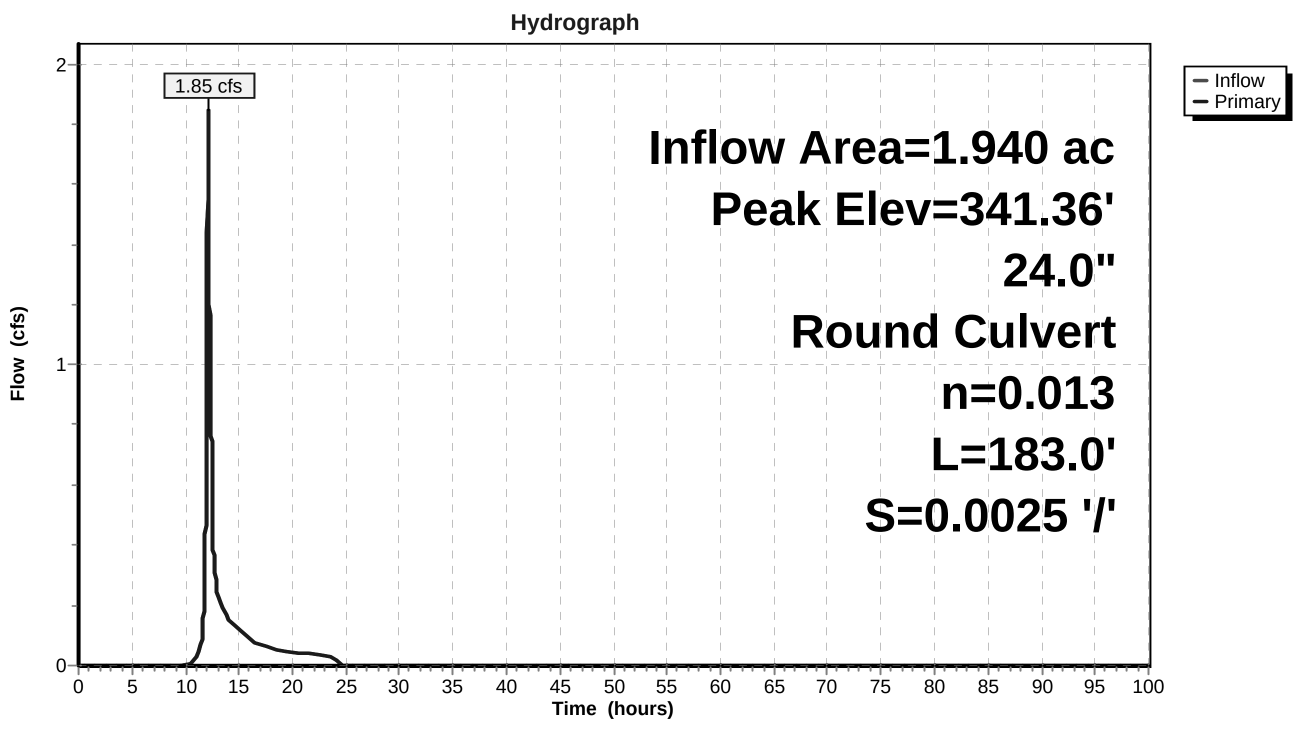
Inflow Area = 1.940 ac, 27.06% Impervious, Inflow Depth = 0.90" for 1 yr event
Inflow = 1.85 cfs @ 12.11 hrs, Volume= 0.146 af
Outflow = 1.85 cfs @ 12.11 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min
Primary = 1.85 cfs @ 12.11 hrs, Volume= 0.146 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.36' @ 12.11 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.63'	**24.0" Round Culvert** L= 183.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.63' / 340.17' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.85 cfs @ 12.11 hrs HW=341.36' TW=340.73' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.85 cfs @ 2.66 fps)

Pond CB-18B:



Summary for Pond CB-1A:

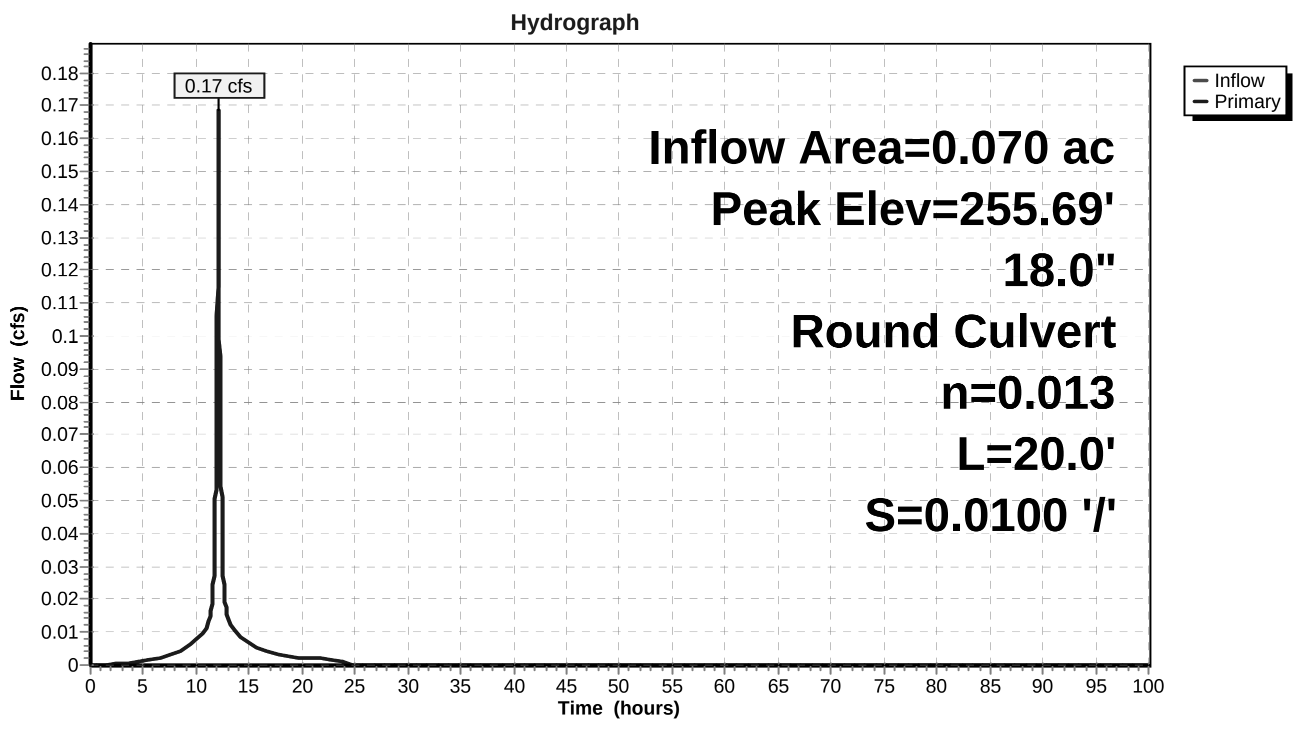
Inflow Area = 0.070 ac,100.00% Impervious, Inflow Depth = 2.27" for 1 yr event
Inflow = 0.17 cfs @ 12.08 hrs, Volume= 0.013 af
Outflow = 0.17 cfs @ 12.08 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min
Primary = 0.17 cfs @ 12.08 hrs, Volume= 0.013 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.69' @ 12.08 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.50' / 255.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.17 cfs @ 12.08 hrs HW=255.69' TW=253.66' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.17 cfs @ 2.00 fps)

Pond CB-1A:



Summary for Pond CB-1B:

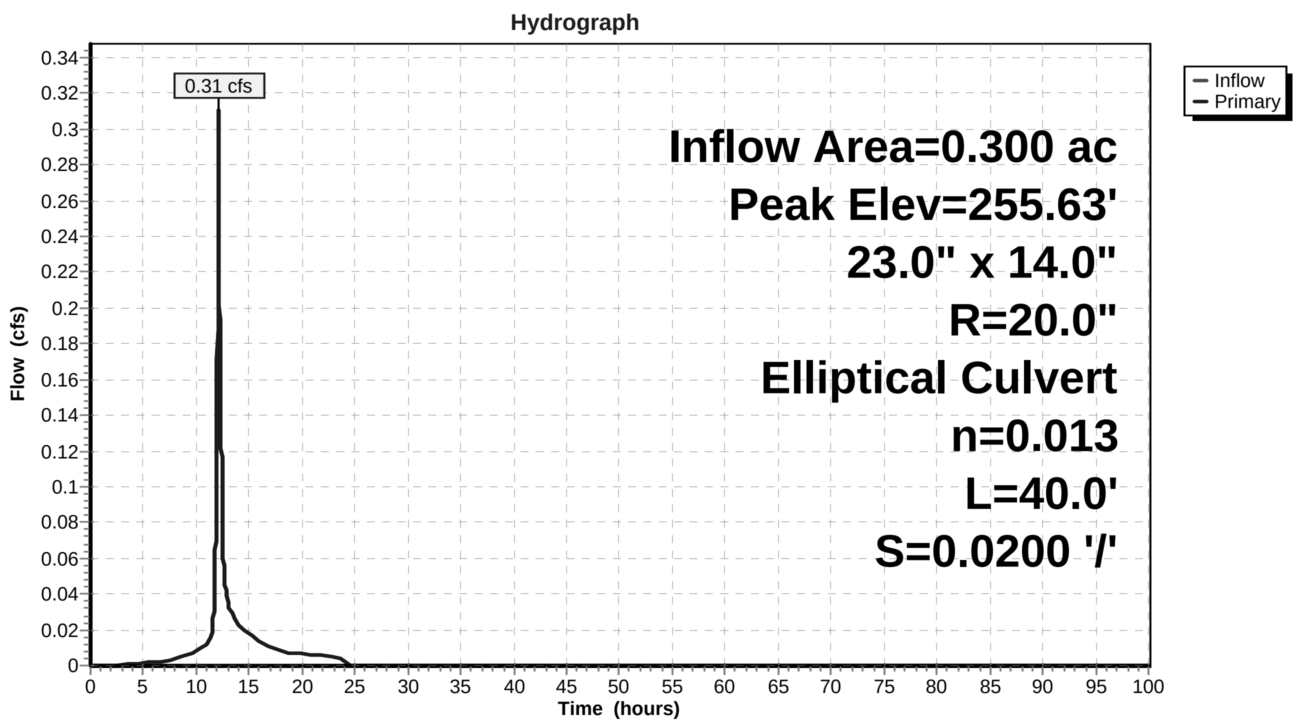
Inflow Area =	0.300 ac, 23.33% Impervious,	Inflow Depth = 1.00"	for 1 yr event	
Inflow =	0.31 cfs @	12.09 hrs, Volume=	0.025 af	
Outflow =	0.31 cfs @	12.09 hrs, Volume=	0.025 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.31 cfs @	12.09 hrs, Volume=	0.025 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.63' @ 12.09 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.42'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.42' / 254.62' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.31 cfs @ 12.09 hrs HW=255.63' TW=253.70' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.31 cfs @ 1.32 fps)

Pond CB-1B:



Summary for Pond CB-1C:

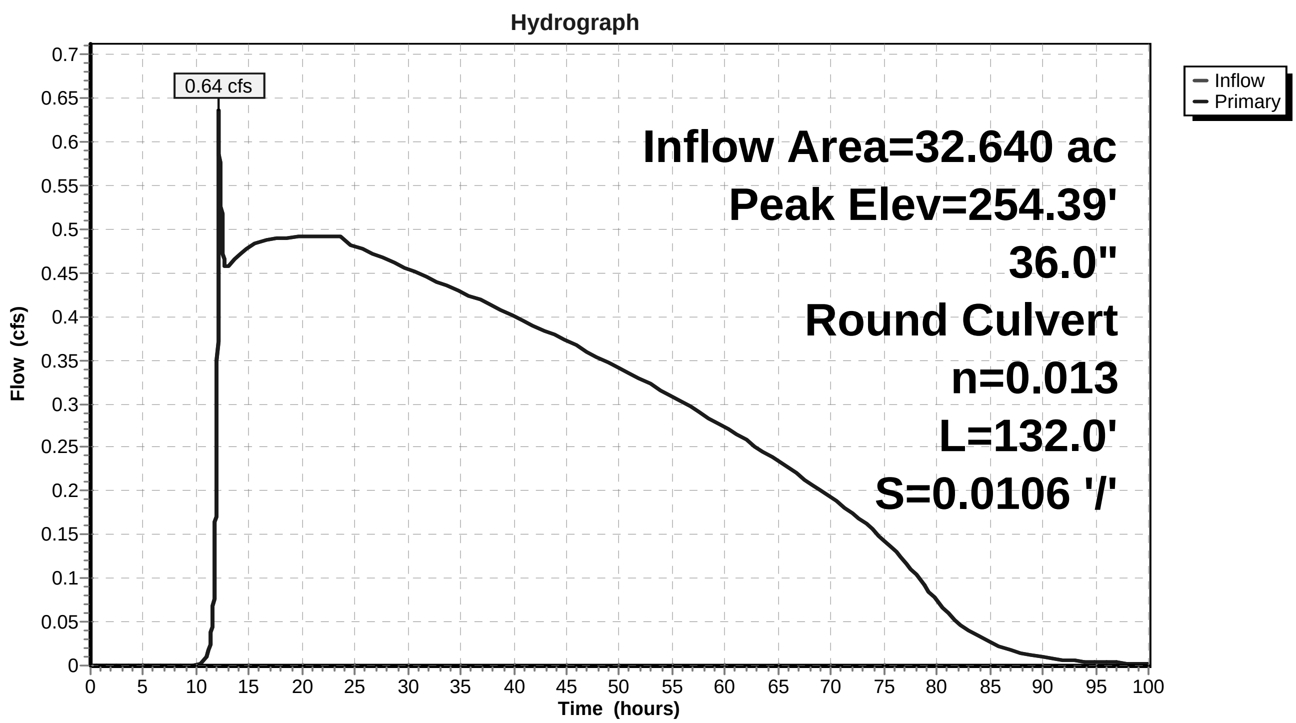
Inflow Area =	32.640 ac, 11.90% Impervious, Inflow Depth > 0.73" for 1 yr event		
Inflow =	0.64 cfs @ 12.13 hrs, Volume=	1.978 af	
Outflow =	0.64 cfs @ 12.13 hrs, Volume=	1.978 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.64 cfs @ 12.13 hrs, Volume=	1.978 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.39' @ 12.13 hrs
Flood Elev= 259.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	254.10'	**36.0" Round Culvert** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 254.10' / 252.70' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.64 cfs @ 12.13 hrs HW=254.39' TW=252.63' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.64 cfs @ 1.83 fps)

Pond CB-1C:



Summary for Pond CB-1D:

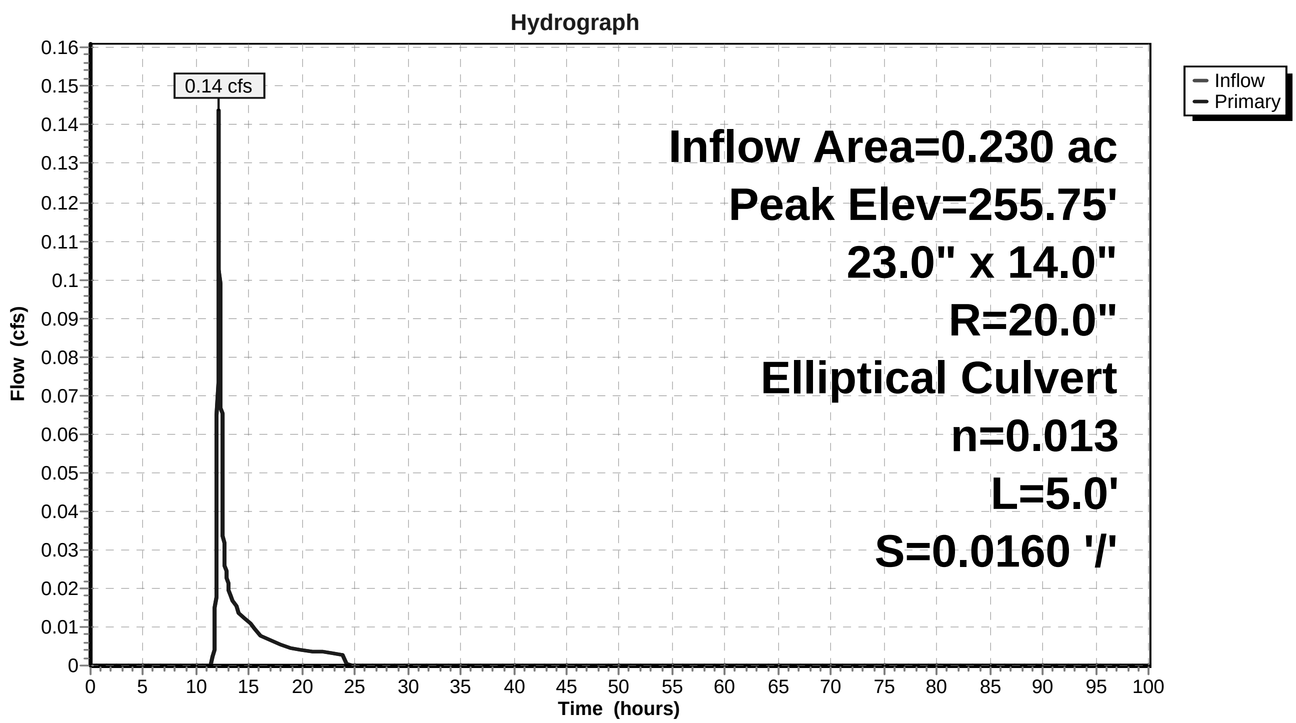
Inflow Area =	0.230 ac,	0.00% Impervious,	Inflow Depth = 0.61"	for 1 yr event	
Inflow =	0.14 cfs @	12.10 hrs,	Volume=	0.012 af	
Outflow =	0.14 cfs @	12.10 hrs,	Volume=	0.012 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.14 cfs @	12.10 hrs,	Volume=	0.012 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.75' @ 12.10 hrs
Flood Elev= 257.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.60'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 5.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.60' / 255.52' S= 0.0160 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.14 cfs @ 12.10 hrs HW=255.75' TW=255.63' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.14 cfs @ 1.08 fps)

Pond CB-1D:



Summary for Pond CB-2A:

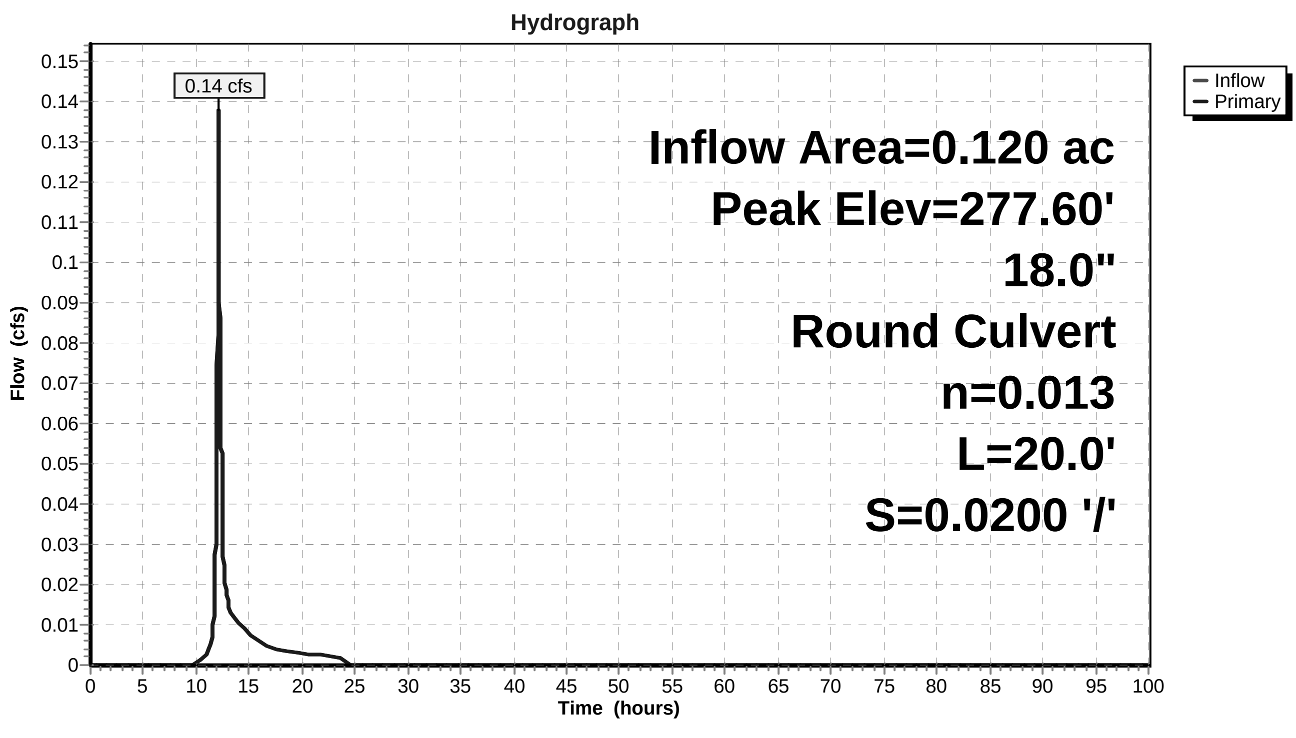
Inflow Area = 0.120 ac, 33.33% Impervious, Inflow Depth = 1.00" for 1 yr event
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 277.60' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.04' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.14 cfs @ 12.09 hrs HW=277.60' TW=272.62' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.14 cfs @ 1.36 fps)

Pond CB-2A:



Summary for Pond CB-2B:

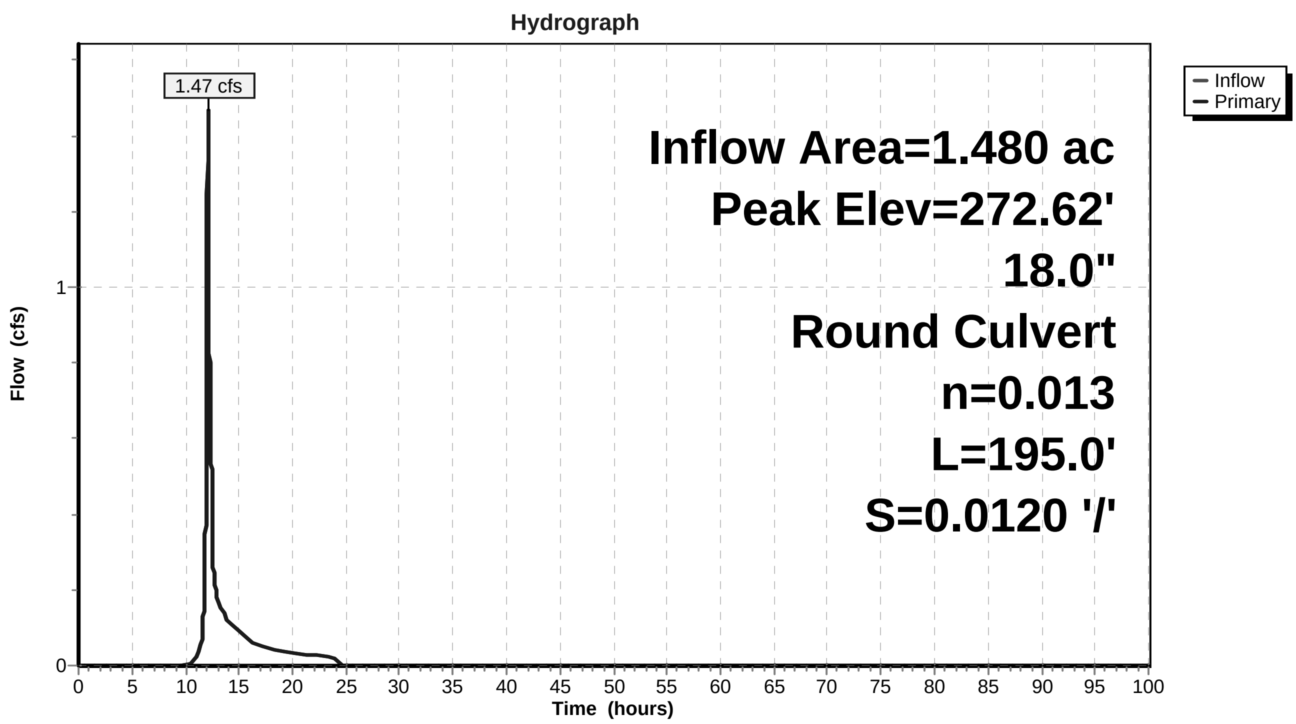
Inflow Area = 1.480 ac, 24.32% Impervious, Inflow Depth = 0.88" for 1 yr event
Inflow = 1.47 cfs @ 12.09 hrs, Volume= 0.109 af
Outflow = 1.47 cfs @ 12.09 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
Primary = 1.47 cfs @ 12.09 hrs, Volume= 0.109 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 272.62' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.07'	**18.0" Round Culvert** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 272.07' / 269.73' S= 0.0120 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.47 cfs @ 12.09 hrs HW=272.62' TW=269.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.47 cfs @ 2.52 fps)

Pond CB-2B:



Summary for Pond CB-3A:

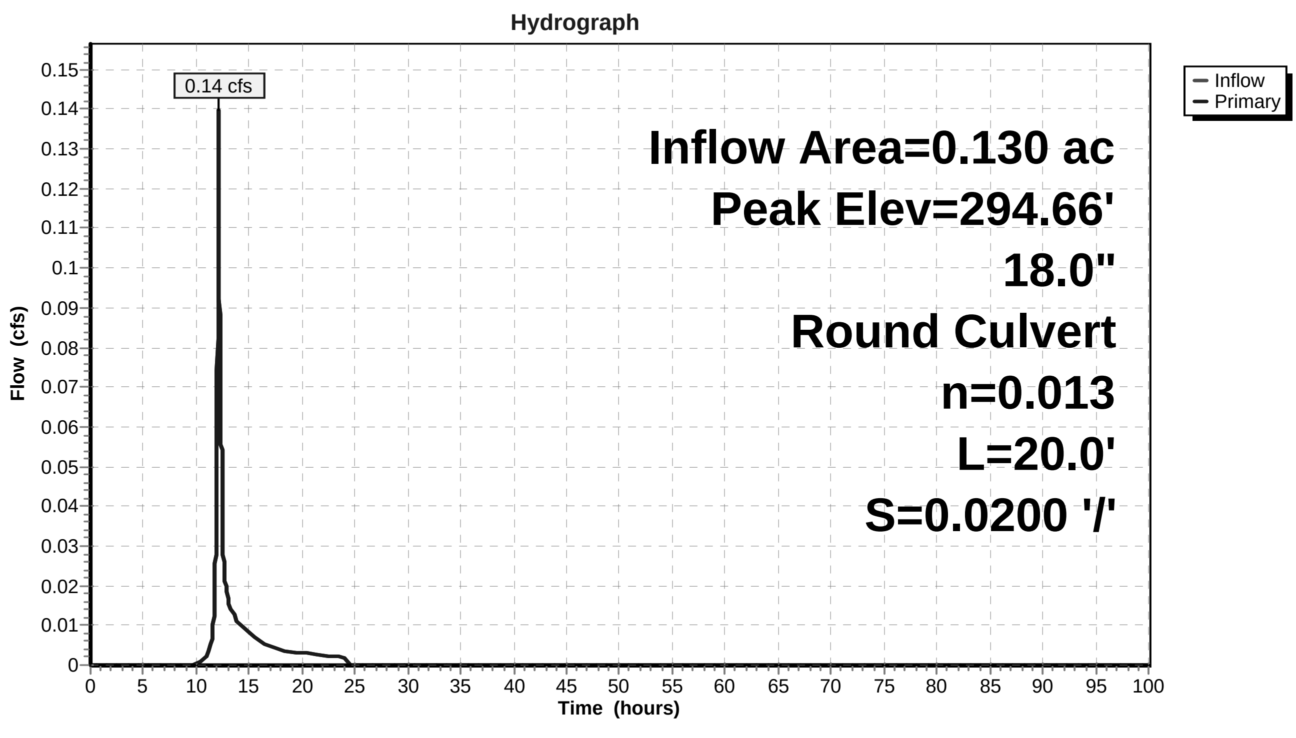
Inflow Area = 0.130 ac, 30.77% Impervious, Inflow Depth = 0.94" for 1 yr event
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.66' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 294.50' / 294.10' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.14 cfs @ 12.09 hrs HW=294.66' TW=294.07' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.14 cfs @ 1.37 fps)

Pond CB-3A:



Summary for Pond CB-3B:

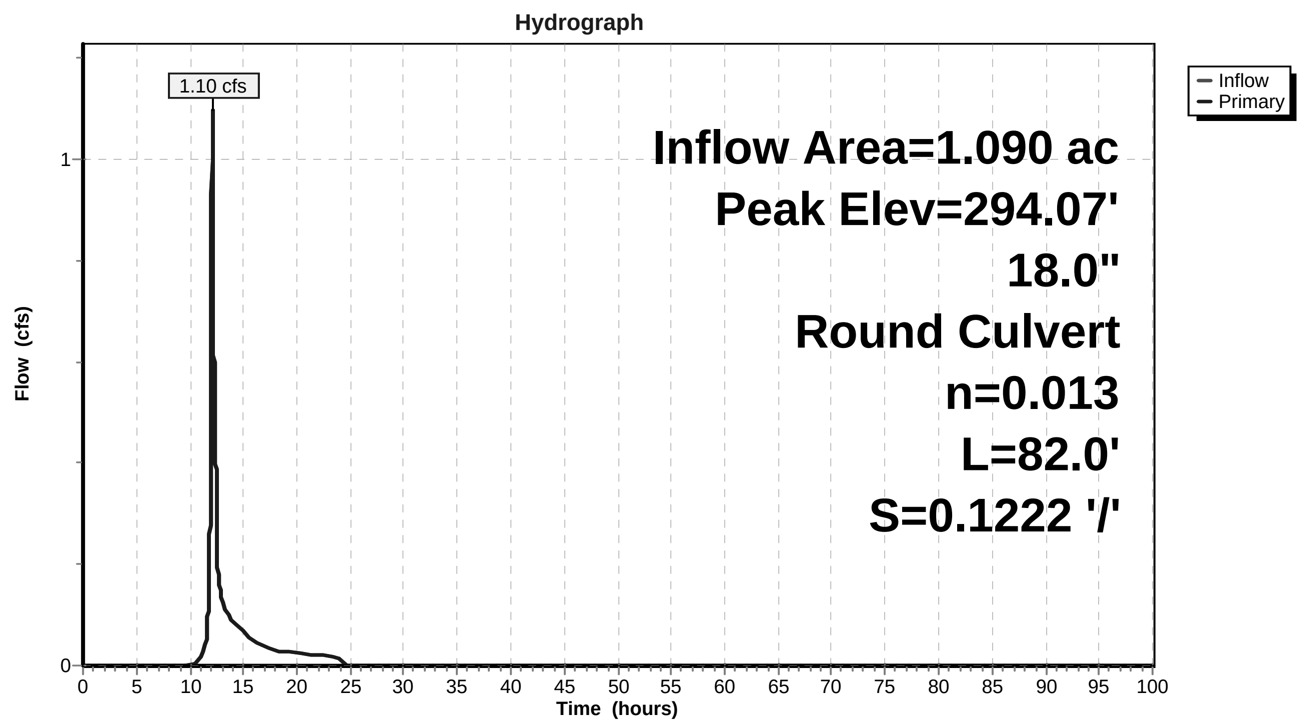
Inflow Area = 1.090 ac, 25.69% Impervious, Inflow Depth = 0.89" for 1 yr event
Inflow = 1.10 cfs @ 12.09 hrs, Volume= 0.081 af
Outflow = 1.10 cfs @ 12.09 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
Primary = 1.10 cfs @ 12.09 hrs, Volume= 0.081 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.07' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	293.60'	**18.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 293.60' / 283.58' S= 0.1222 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.10 cfs @ 12.09 hrs HW=294.07' TW=283.66' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.10 cfs @ 2.33 fps)

Pond CB-3B:



Summary for Pond CB-4A:

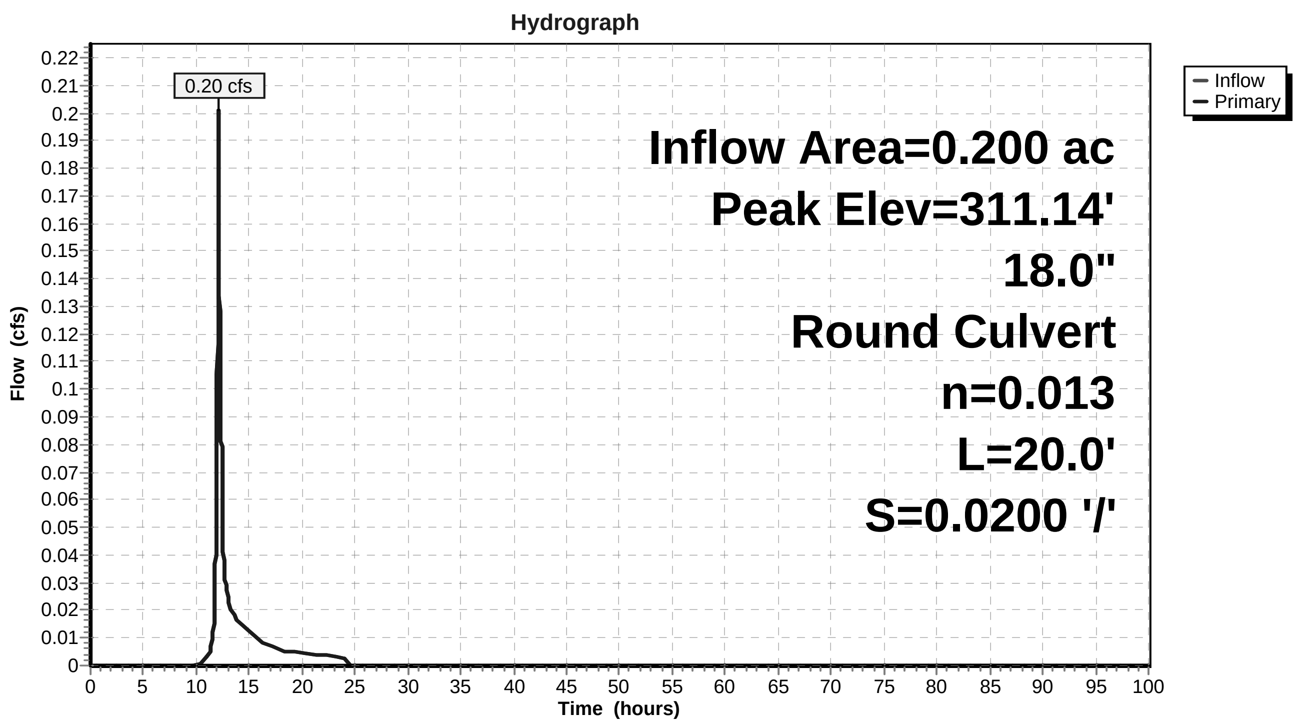
Inflow Area = 0.200 ac, 25.00% Impervious, Inflow Depth = 0.89" for 1 yr event
Inflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.14' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.95' / 310.55' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.20 cfs @ 12.09 hrs HW=311.14' TW=310.52' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.20 cfs @ 1.50 fps)

Pond CB-4A:



Summary for Pond CB-4B:

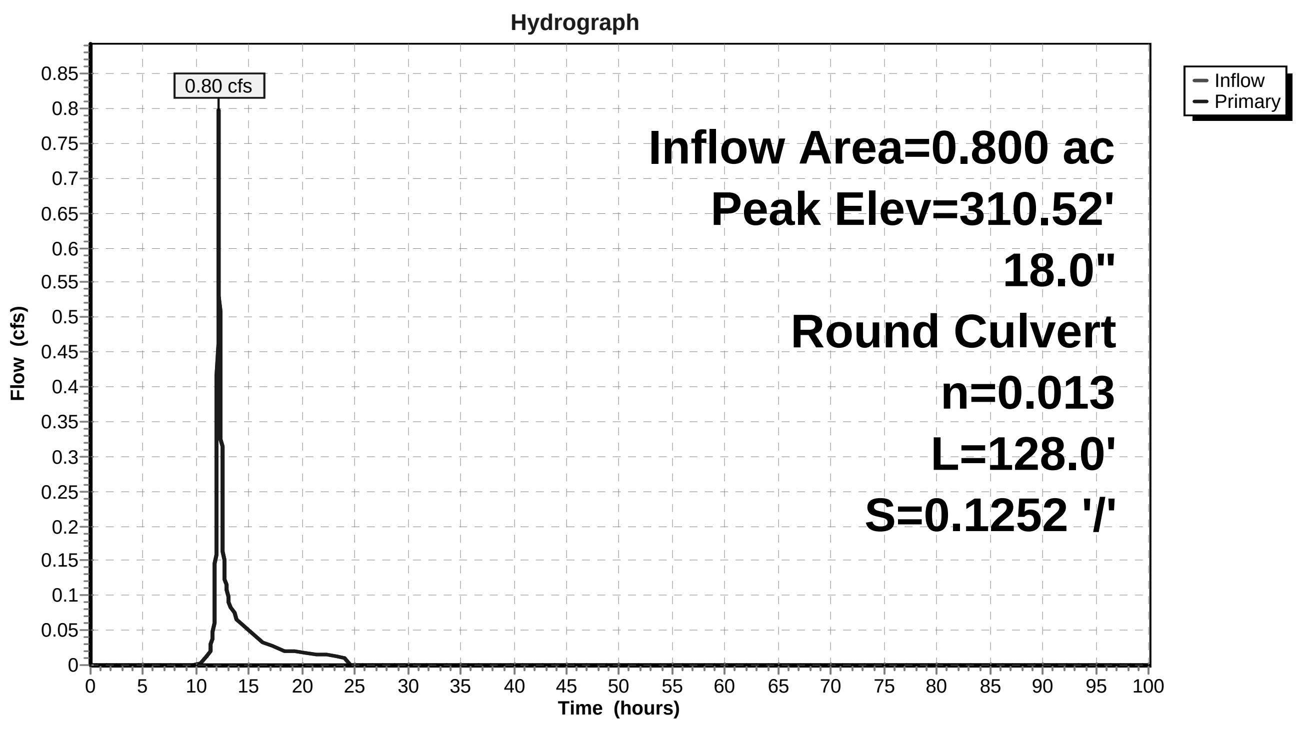
Inflow Area =	0.800 ac, 25.00% Impervious, Inflow Depth = 0.88" for 1 yr event		
Inflow =	0.80 cfs @ 12.09 hrs, Volume=	0.059 af	
Outflow =	0.80 cfs @ 12.09 hrs, Volume=	0.059 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.80 cfs @ 12.09 hrs, Volume=	0.059 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 310.52' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.12'	**18.0" Round Culvert** L= 128.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.12' / 294.10' S= 0.1252 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.80 cfs @ 12.09 hrs HW=310.52' TW=294.07' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.80 cfs @ 2.14 fps)

Pond CB-4B:



Summary for Pond CB-5A:

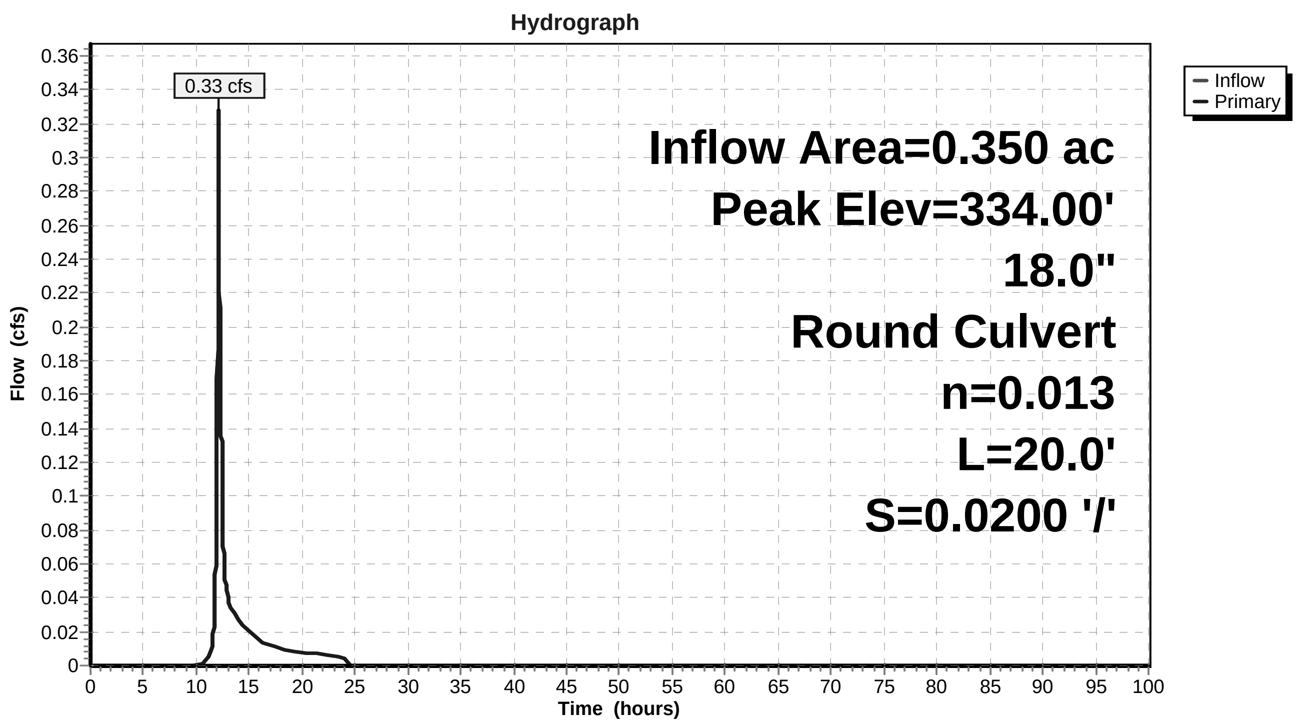
Inflow Area = 0.350 ac, 22.86% Impervious, Inflow Depth = 0.84" for 1 yr event
Inflow = 0.33 cfs @ 12.10 hrs, Volume= 0.024 af
Outflow = 0.33 cfs @ 12.10 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.10 hrs, Volume= 0.024 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.00' @ 12.10 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.75' / 333.35' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.33 cfs @ 12.10 hrs HW=334.00' TW=333.53' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.33 cfs @ 1.70 fps)

Pond CB-5A:



Summary for Pond CB-5B:

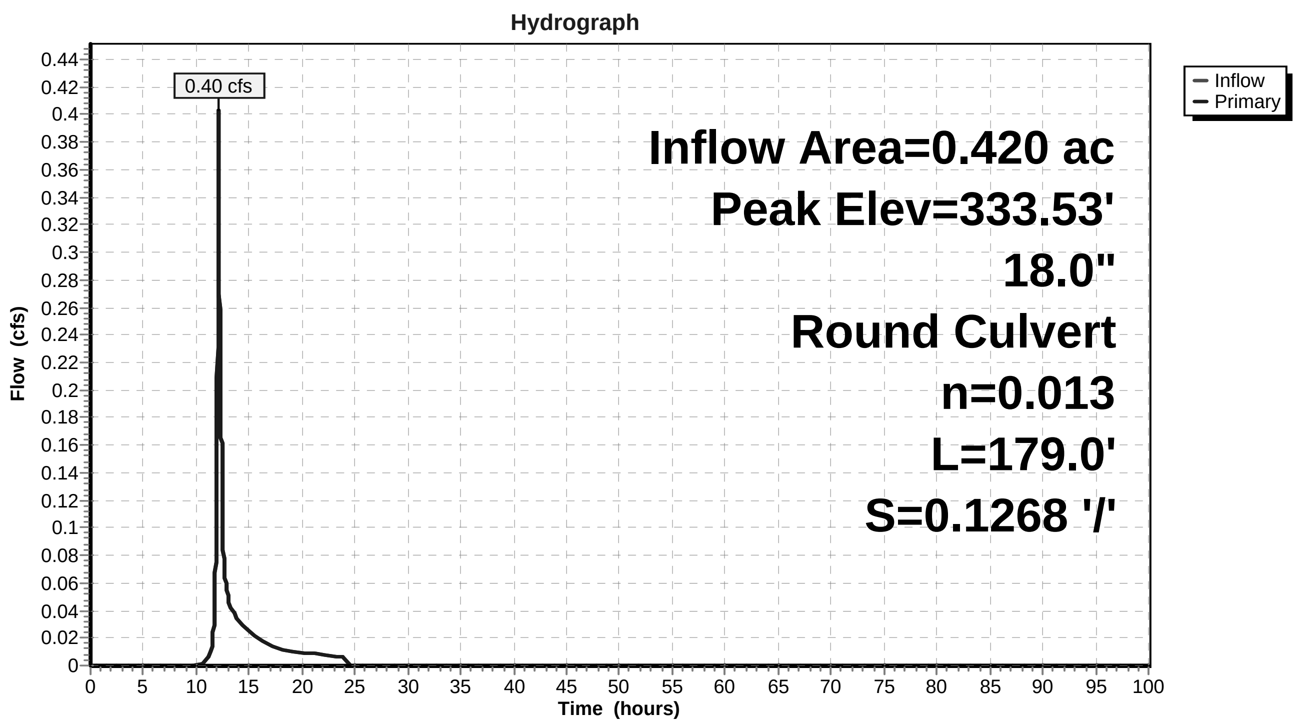
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 0.85" for 1 yr event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.030 af
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.09 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.53' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.25'	**18.0" Round Culvert** L= 179.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.25' / 310.55' S= 0.1268 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.40 cfs @ 12.09 hrs HW=333.53' TW=322.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.40 cfs @ 1.79 fps)

Pond CB-5B:



Summary for Pond CB-6A:

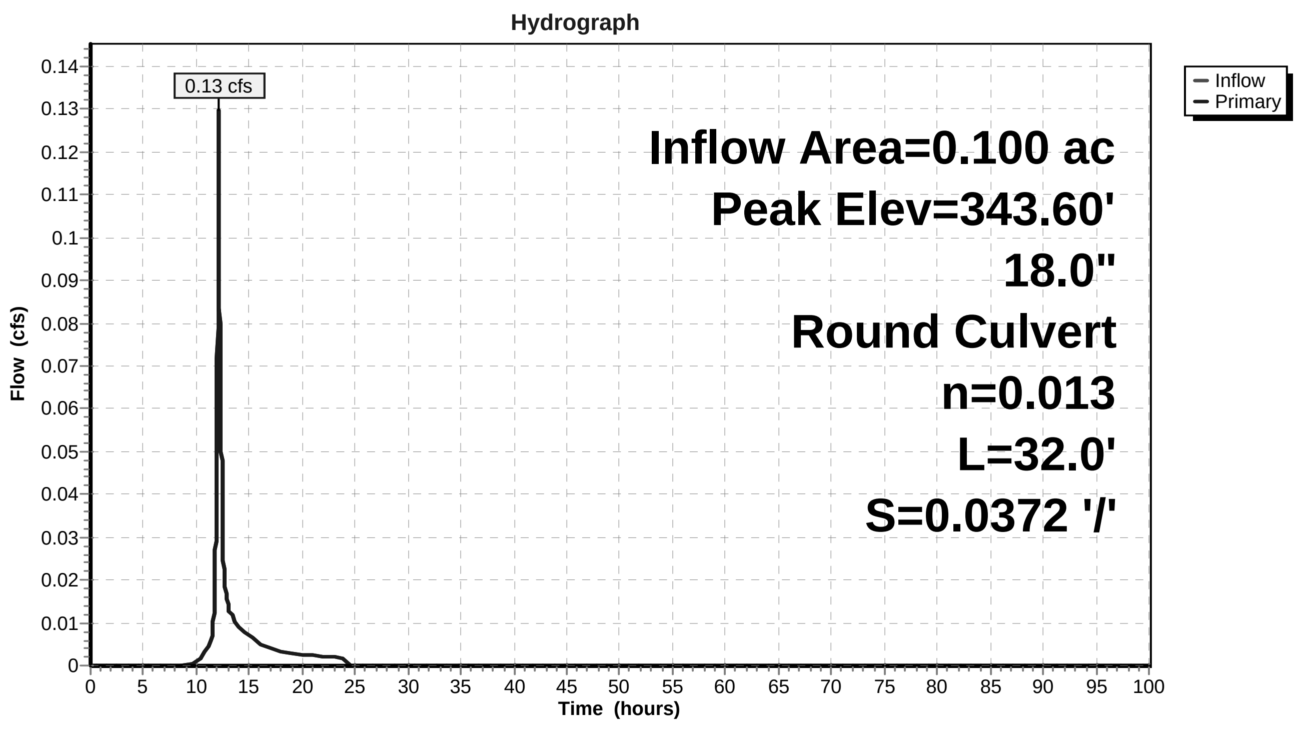
Inflow Area = 0.100 ac, 40.00% Impervious, Inflow Depth = 1.12" for 1 yr event
Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af
Outflow = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.60' @ 12.09 hrs
Flood Elev= 346.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.44'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.44' / 342.25' S= 0.0372 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.13 cfs @ 12.09 hrs HW=343.60' TW=342.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.13 cfs @ 1.34 fps)

Pond CB-6A:



Summary for Pond CB-6B:

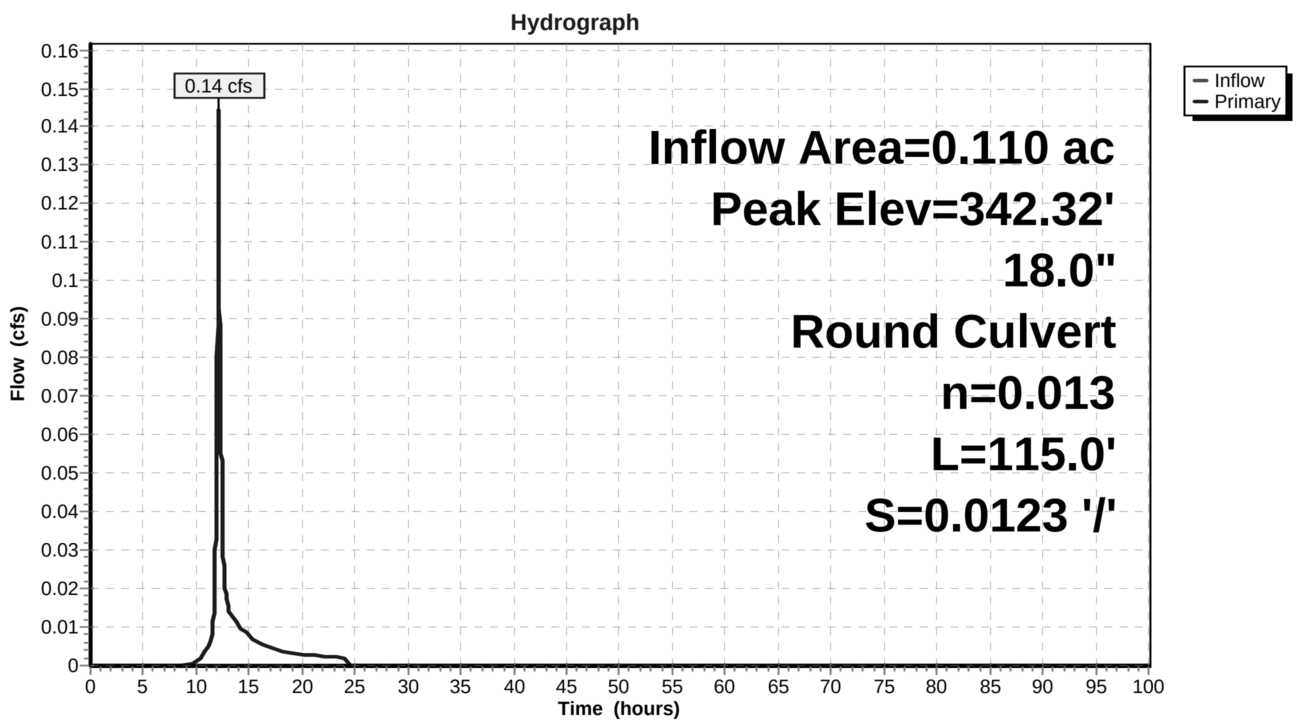
Inflow Area = 0.110 ac, 40.91% Impervious, Inflow Depth = 1.13" for 1 yr event
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.32' @ 12.09 hrs
Flood Elev= 345.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	342.15'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 342.15' / 340.73' S= 0.0123 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.14 cfs @ 12.09 hrs HW=342.32' TW=341.35' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.14 cfs @ 1.92 fps)

Pond CB-6B:



Summary for Pond CB-7A:

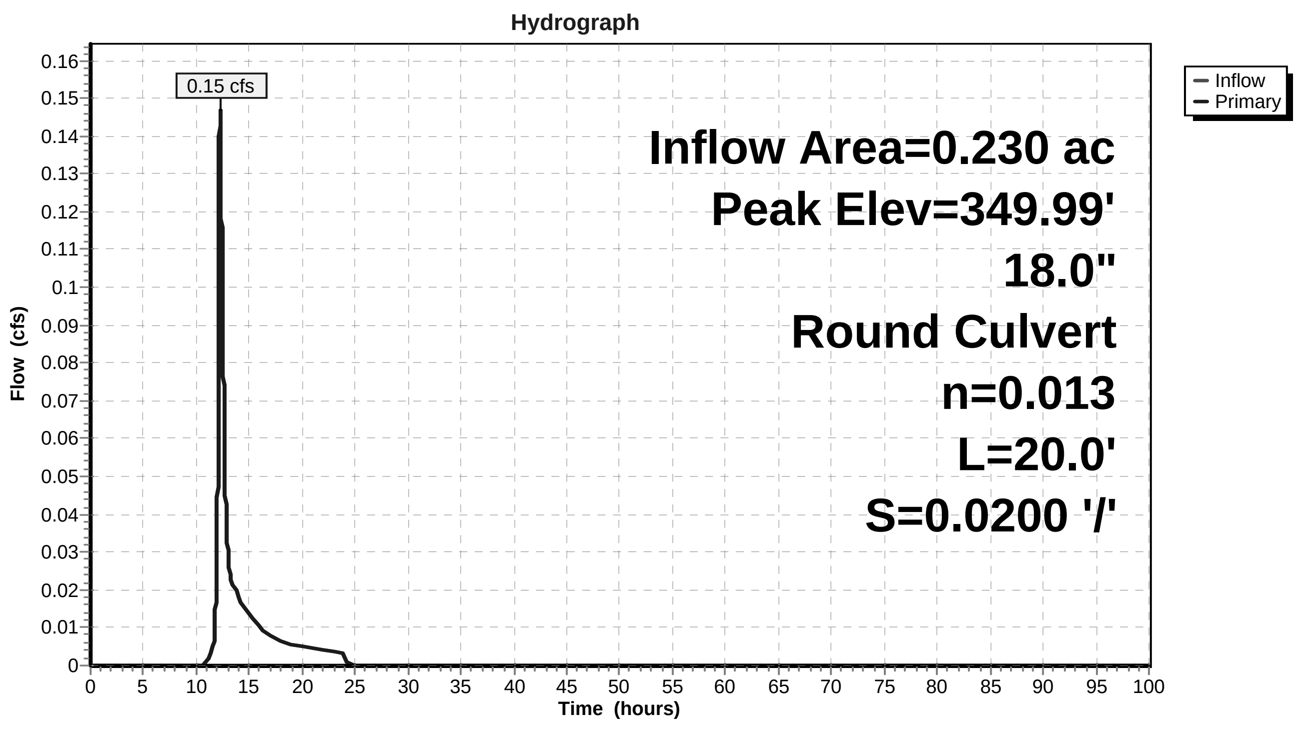
Inflow Area = 0.230 ac, 17.39% Impervious, Inflow Depth = 0.79" for 1 yr event
Inflow = 0.15 cfs @ 12.24 hrs, Volume= 0.015 af
Outflow = 0.15 cfs @ 12.24 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.15 cfs @ 12.24 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.99' @ 12.24 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.82'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.82' / 349.42' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.15 cfs @ 12.24 hrs HW=349.99' TW=349.52' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.15 cfs @ 1.38 fps)

Pond CB-7A:



Summary for Pond CB-7B:

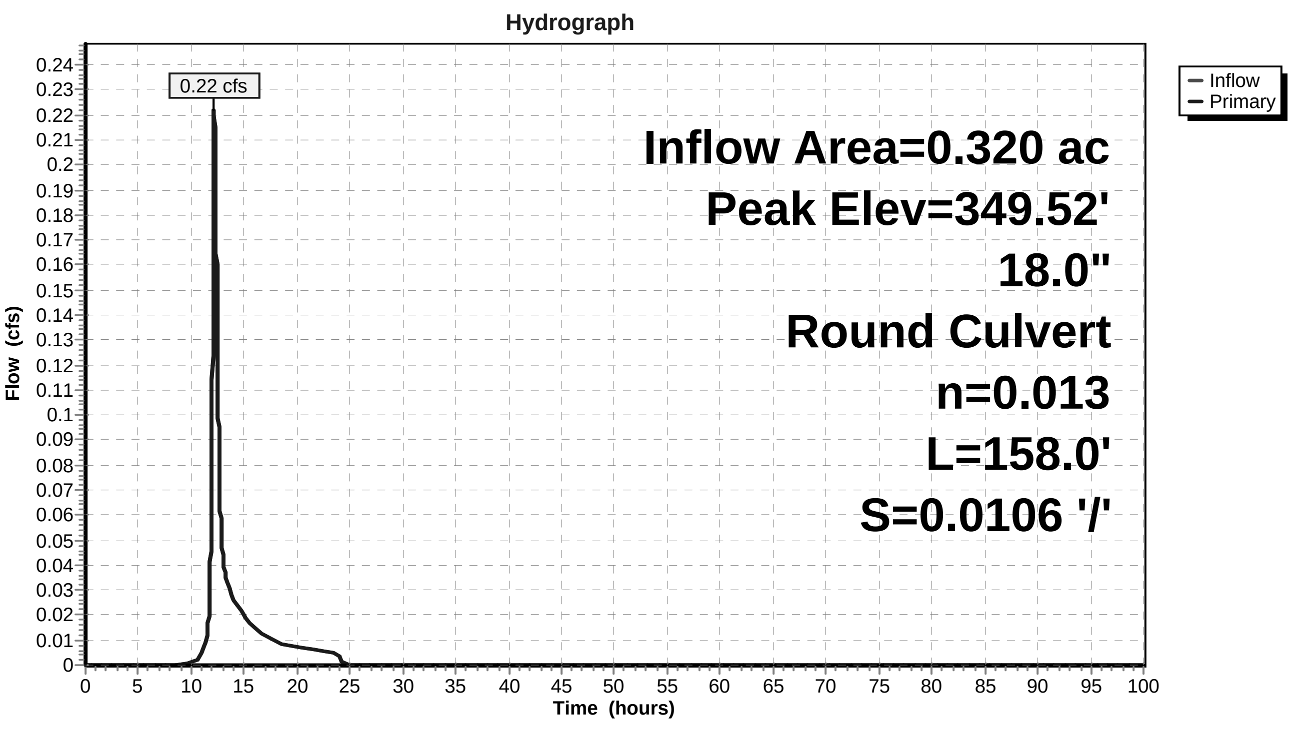
Inflow Area = 0.320 ac, 25.00% Impervious, Inflow Depth = 0.90" for 1 yr event
Inflow = 0.22 cfs @ 12.14 hrs, Volume= 0.024 af
Outflow = 0.22 cfs @ 12.14 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.22 cfs @ 12.14 hrs, Volume= 0.024 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.52' @ 12.14 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.32'	**18.0" Round Culvert** L= 158.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.32' / 347.65' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.22 cfs @ 12.14 hrs HW=349.52' TW=347.84' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.22 cfs @ 1.54 fps)

Pond CB-7B:



Summary for Pond CB-8A:

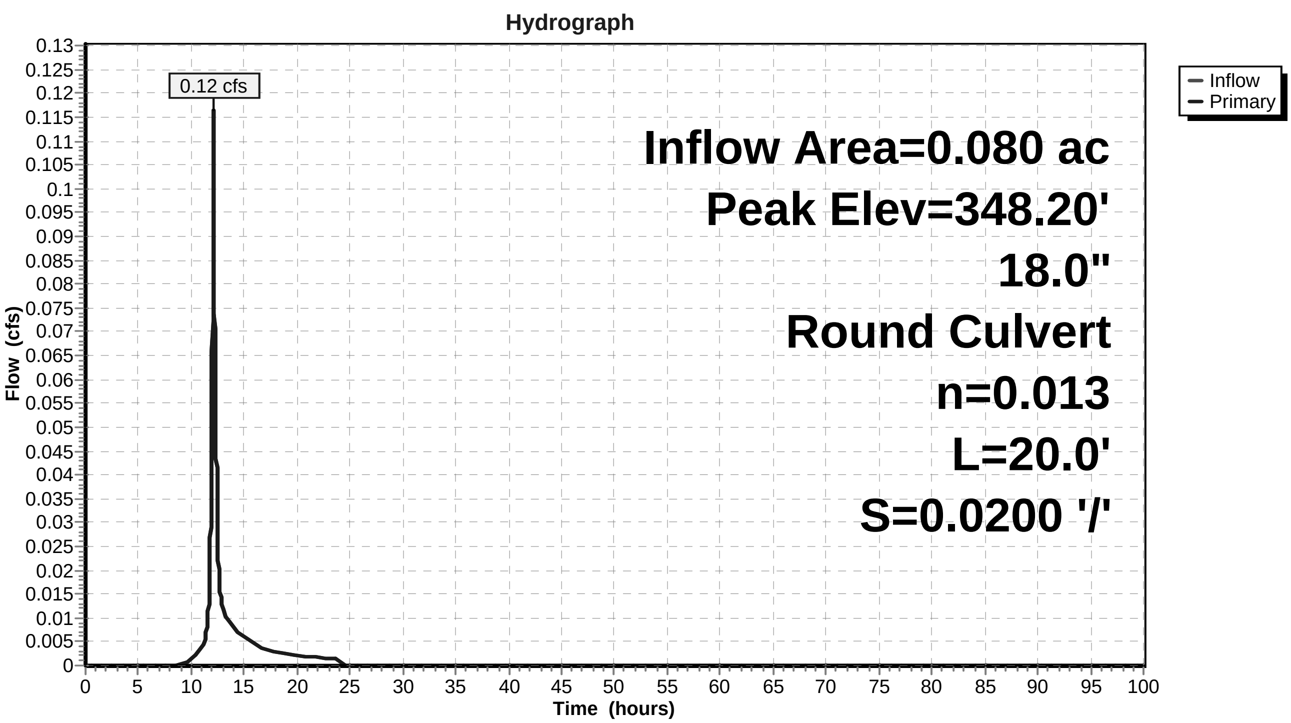
Inflow Area = 0.080 ac, 50.00% Impervious, Inflow Depth = 1.24" for 1 yr event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af
Outflow = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 12.09 hrs, Volume= 0.008 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.20' @ 12.09 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.05'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.05' / 347.65' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.12 cfs @ 12.09 hrs HW=348.20' TW=347.84' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.12 cfs @ 1.31 fps)

Pond CB-8A:



Summary for Pond CB-8B:

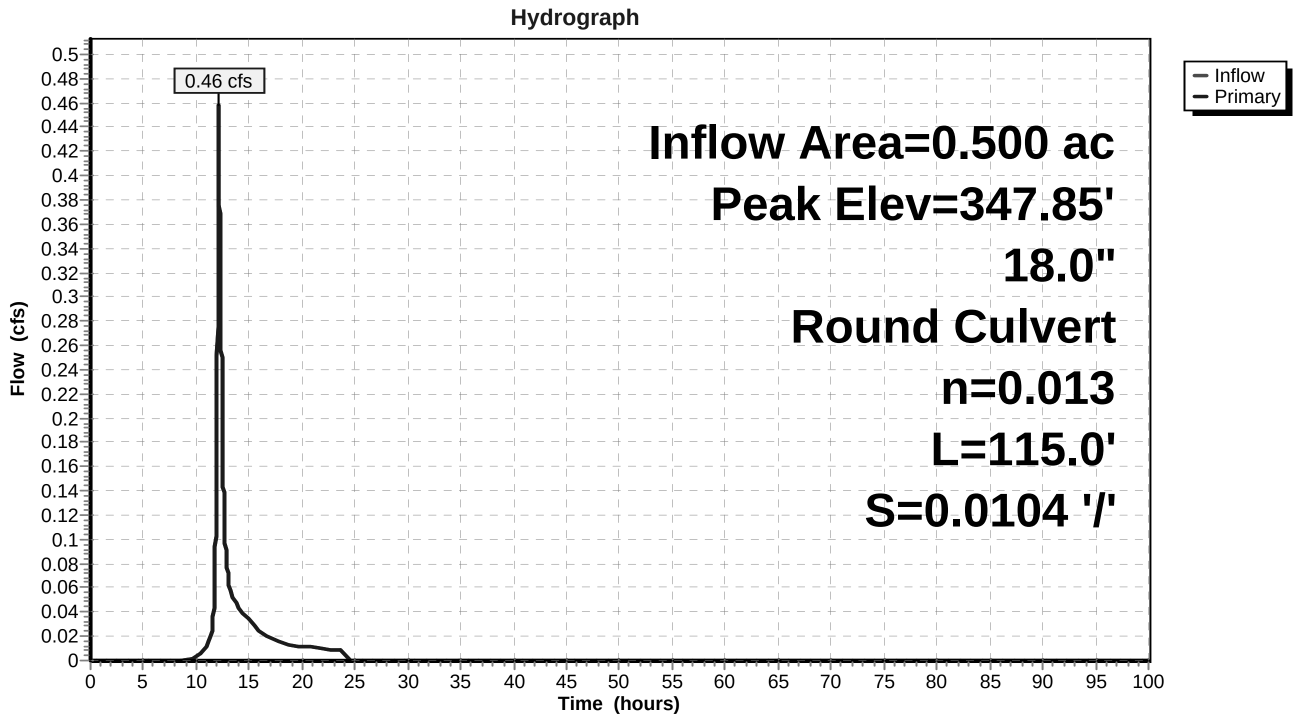
Inflow Area = 0.500 ac, 32.00% Impervious, Inflow Depth = 1.00" for 1 yr event
Inflow = 0.46 cfs @ 12.10 hrs, Volume= 0.042 af
Outflow = 0.46 cfs @ 12.10 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 12.10 hrs, Volume= 0.042 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 347.85' @ 12.10 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.55'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.55' / 346.35' S= 0.0104 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.46 cfs @ 12.10 hrs HW=347.85' TW=346.67' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.46 cfs @ 1.85 fps)

Pond CB-8B:



Summary for Pond CB-9A:

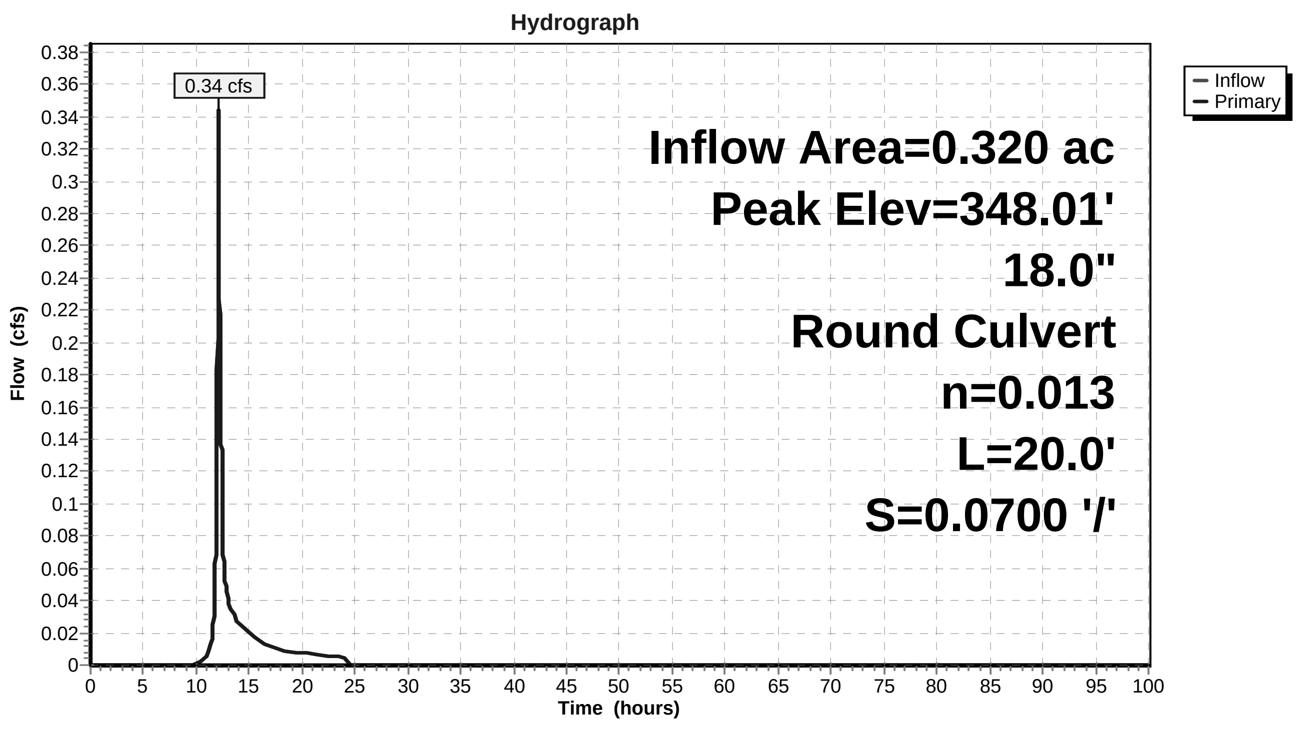
Inflow Area = 0.320 ac, 31.25% Impervious, Inflow Depth = 0.94" for 1 yr event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af
Outflow = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.01' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.75' / 346.35' S= 0.0700 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.34 cfs @ 12.09 hrs HW=348.01' TW=346.67' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.34 cfs @ 1.72 fps)

Pond CB-9A:



Summary for Pond CB-9B:

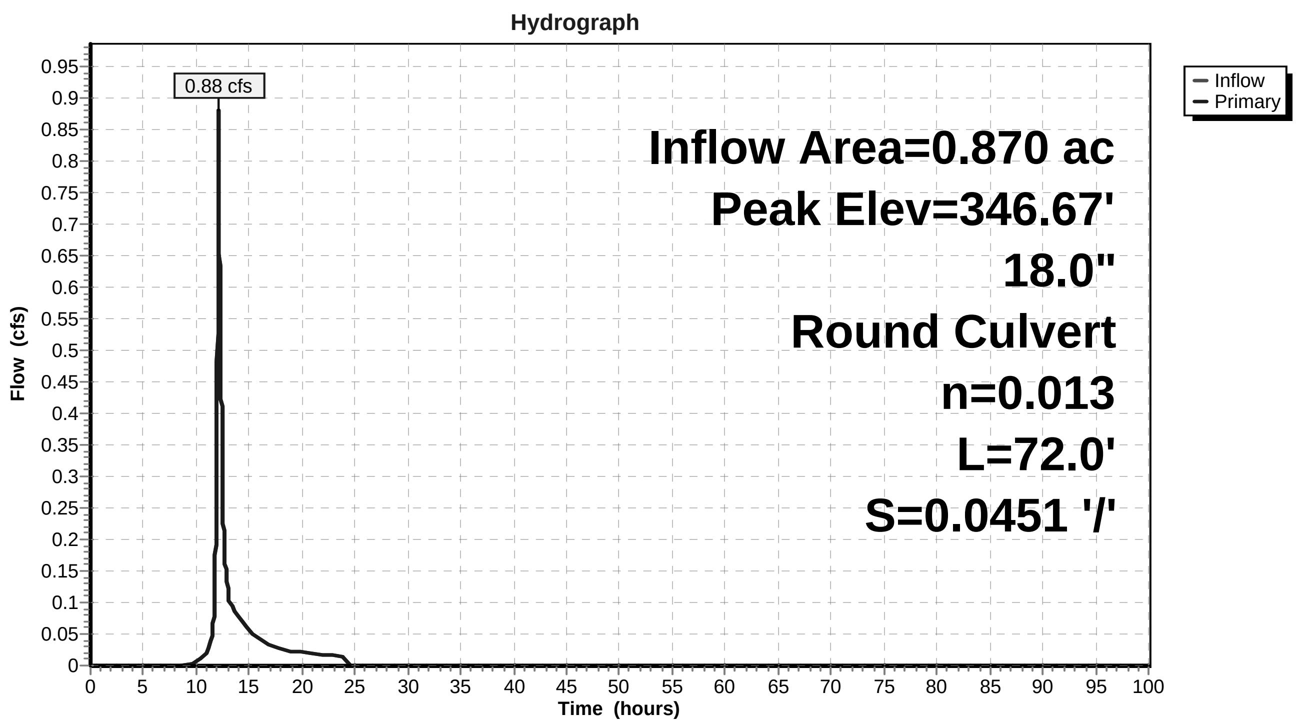
Inflow Area = 0.870 ac, 33.33% Impervious, Inflow Depth = 1.00" for 1 yr event
Inflow = 0.88 cfs @ 12.10 hrs, Volume= 0.072 af
Outflow = 0.88 cfs @ 12.10 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min
Primary = 0.88 cfs @ 12.10 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 346.67' @ 12.10 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	346.25'	**18.0" Round Culvert** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 346.25' / 343.00' S= 0.0451 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.88 cfs @ 12.10 hrs HW=346.67' TW=333.54' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.88 cfs @ 2.20 fps)

Pond CB-9B:



Summary for Pond CB18-A:

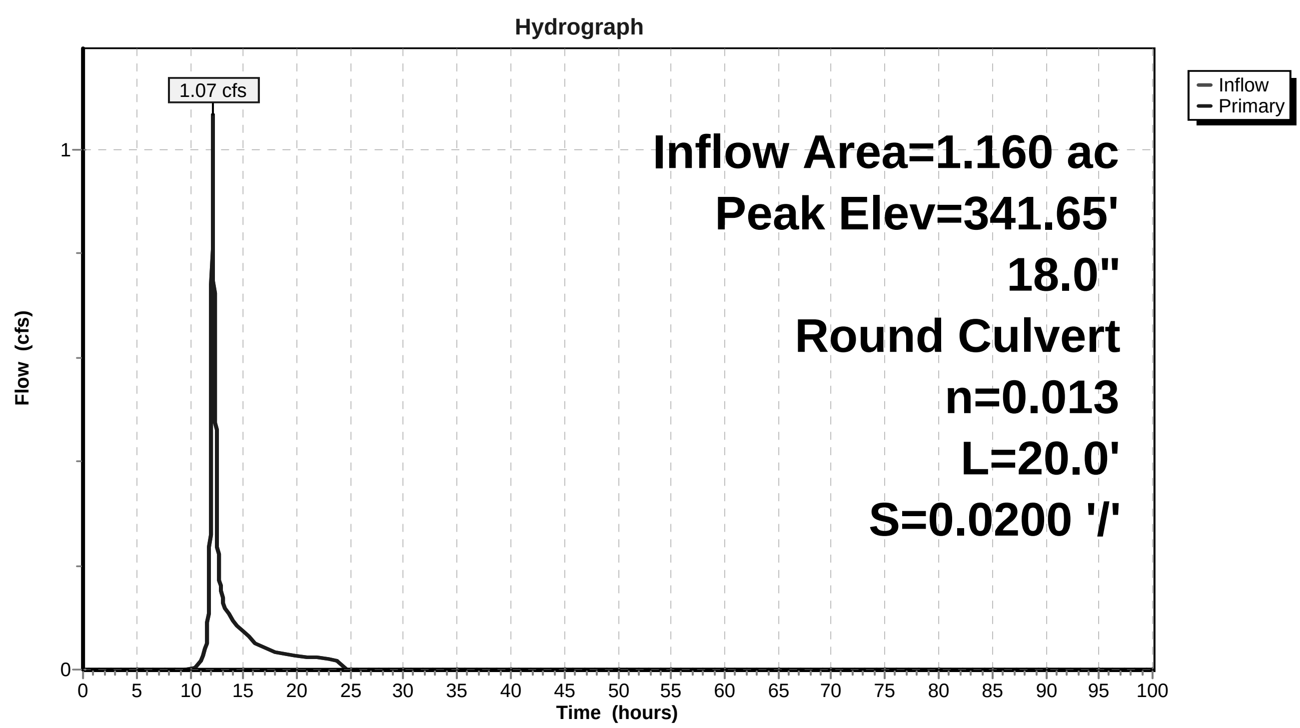
Inflow Area = 1.160 ac, 26.72% Impervious, Inflow Depth = 0.89" for 1 yr event
Inflow = 1.07 cfs @ 12.13 hrs, Volume= 0.086 af
Outflow = 1.07 cfs @ 12.13 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.13 hrs, Volume= 0.086 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.65' @ 12.12 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	341.13'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 341.13' / 340.73' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.07 cfs @ 12.13 hrs HW=341.65' TW=341.35' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.07 cfs @ 2.94 fps)

Pond CB18-A:



Summary for Pond DMH#1:

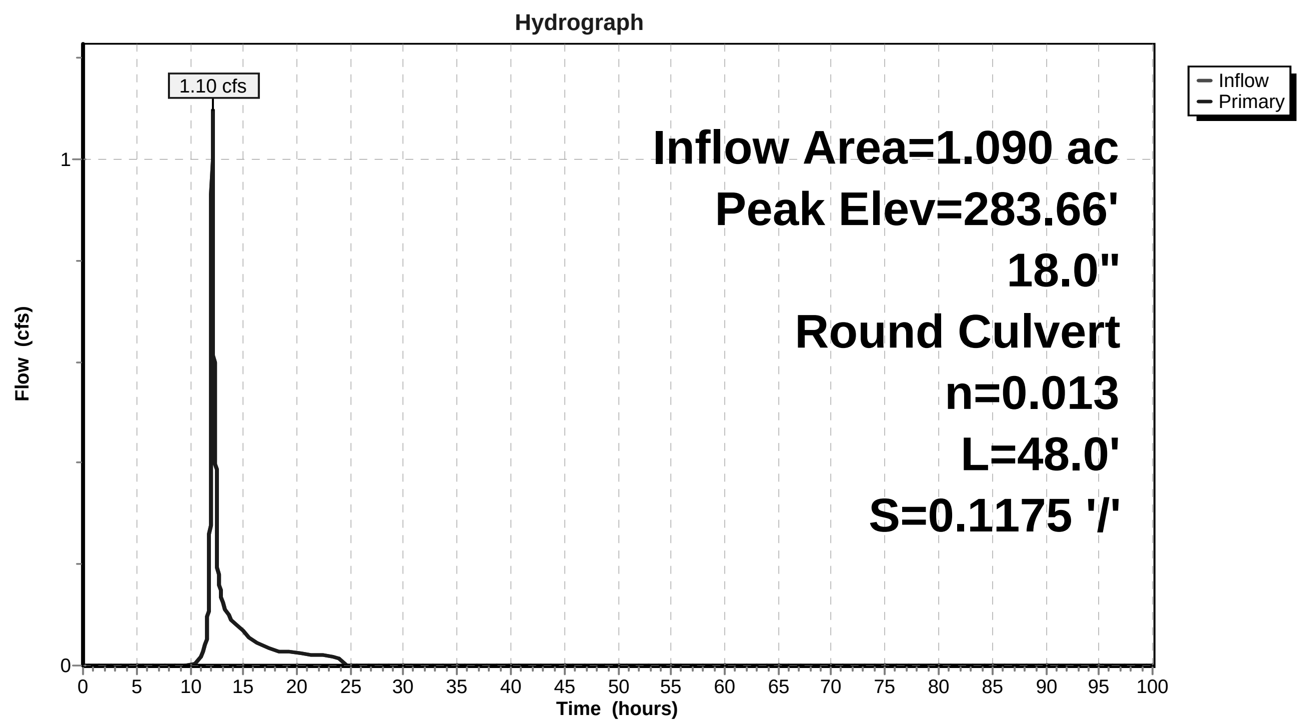
Inflow Area =	1.090 ac,	25.69% Impervious,	Inflow Depth = 0.89"	for 1 yr event
Inflow =	1.10 cfs @	12.09 hrs, Volume=	0.081 af	
Outflow =	1.10 cfs @	12.09 hrs, Volume=	0.081 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.10 cfs @	12.09 hrs, Volume=	0.081 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 283.66' @ 12.09 hrs
Flood Elev= 288.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	283.19'	**18.0" Round Culvert** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 283.19' / 277.55' S= 0.1175 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.10 cfs @ 12.09 hrs HW=283.66' TW=272.62' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.10 cfs @ 2.33 fps)

Pond DMH#1:



Summary for Pond DMH#2:

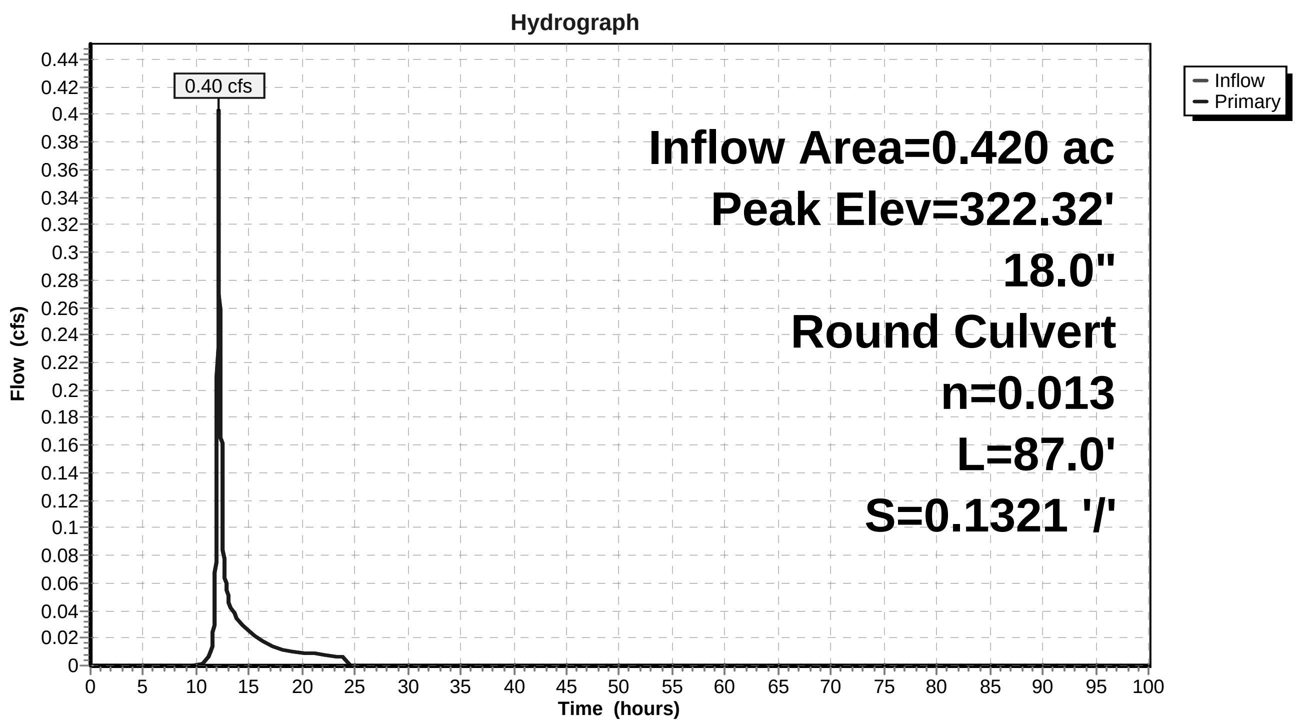
Inflow Area =	0.420 ac, 23.81% Impervious,	Inflow Depth = 0.85"	for 1 yr event
Inflow =	0.40 cfs @ 12.09 hrs,	Volume=	0.030 af
Outflow =	0.40 cfs @ 12.09 hrs,	Volume=	0.030 af, Atten= 0%, Lag= 0.0 min
Primary =	0.40 cfs @ 12.09 hrs,	Volume=	0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 322.32' @ 12.09 hrs
Flood Elev= 326.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	322.04'	**18.0" Round Culvert** L= 87.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 322.04' / 310.55' S= 0.1321 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.40 cfs @ 12.09 hrs HW=322.32' TW=310.52' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.40 cfs @ 1.79 fps)

Pond DMH#2:



Summary for Pond DMHA:

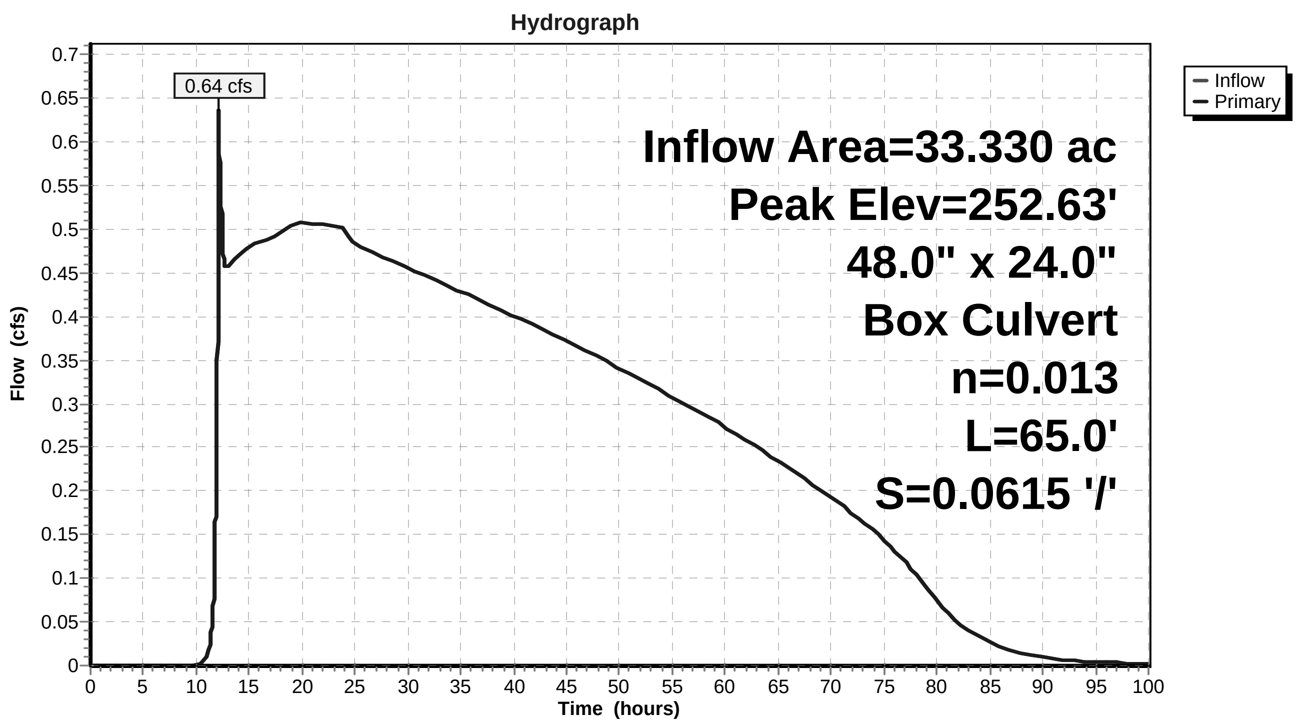
Inflow Area =	33.330 ac,	12.08% Impervious,	Inflow Depth > 0.71"	for 1 yr event
Inflow =	0.64 cfs @	12.13 hrs, Volume=	1.986 af	
Outflow =	0.64 cfs @	12.13 hrs, Volume=	1.986 af, Atten= 0%, Lag= 0.0 min	
Primary =	0.64 cfs @	12.13 hrs, Volume=	1.986 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 252.63' @ 12.13 hrs
Flood Elev= 256.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.50'	**48.0" W x 24.0" H Box Culvert** L= 65.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 252.50' / 248.50' S= 0.0615 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.64 cfs @ 12.13 hrs HW=252.63' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.64 cfs @ 1.18 fps)

Pond DMHA:



Summary for Pond P:

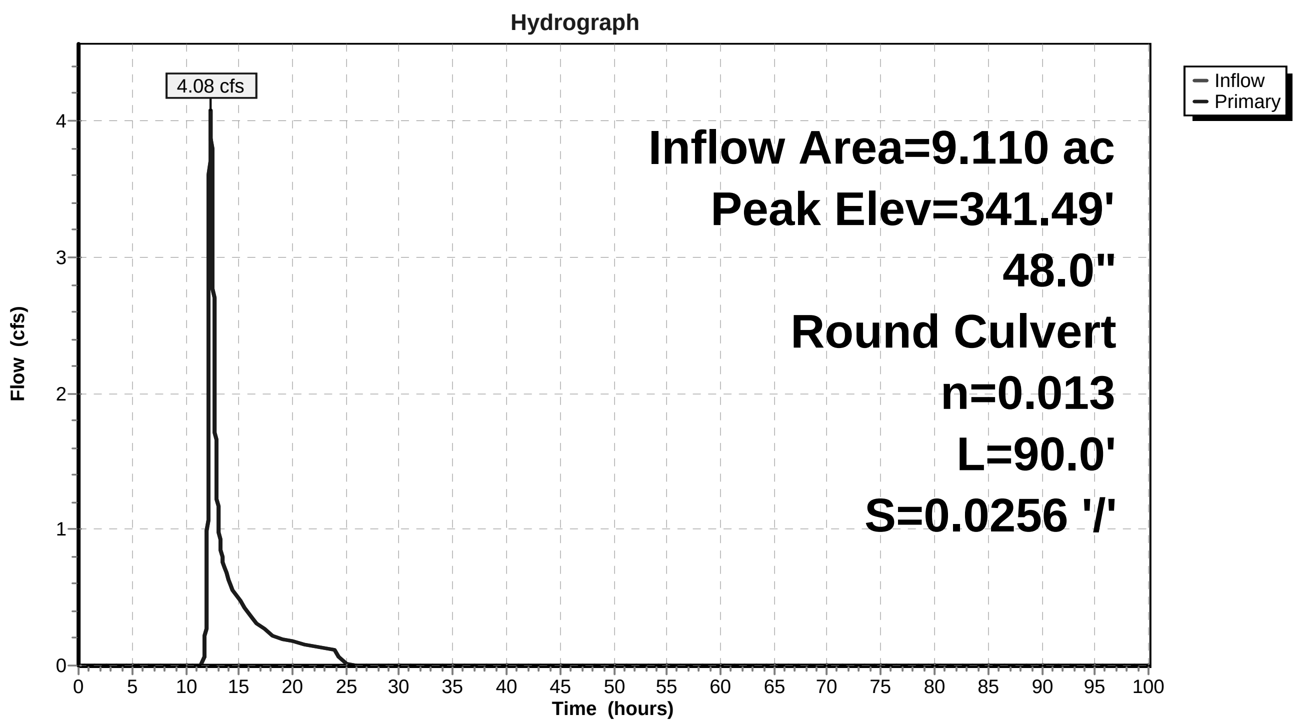
Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 0.65" for 1 yr event
Inflow = 4.08 cfs @ 12.33 hrs, Volume= 0.494 af
Outflow = 4.08 cfs @ 12.33 hrs, Volume= 0.494 af, Atten= 0%, Lag= 0.0 min
Primary = 4.08 cfs @ 12.33 hrs, Volume= 0.494 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.49' @ 12.33 hrs
Flood Elev= 345.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.80'	**48.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 340.80' / 338.50' S= 0.0256 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=4.08 cfs @ 12.33 hrs HW=341.49' TW=334.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.08 cfs @ 2.83 fps)

Pond P:



Summary for Pond P-1:

Inflow Area = 5.780 ac, 9.52% Impervious, Inflow Depth = 0.71" for 1 yr event
Inflow = 3.04 cfs @ 12.21 hrs, Volume= 0.342 af
Outflow = 0.09 cfs @ 22.97 hrs, Volume= 0.341 af, Atten= 97%, Lag= 646.0 min
Primary = 0.09 cfs @ 22.97 hrs, Volume= 0.341 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 268.55' Surf.Area= 1,982 sf Storage= 2,439 cf
Peak Elev= 270.79' @ 22.97 hrs Surf.Area= 7,221 sf Storage= 13,686 cf (11,246 cf above start)

Plug-Flow detention time= 1,811.9 min calculated for 0.285 af (83% of inflow)
Center-of-Mass det. time= 1,470.6 min (2,346.0 - 875.5)

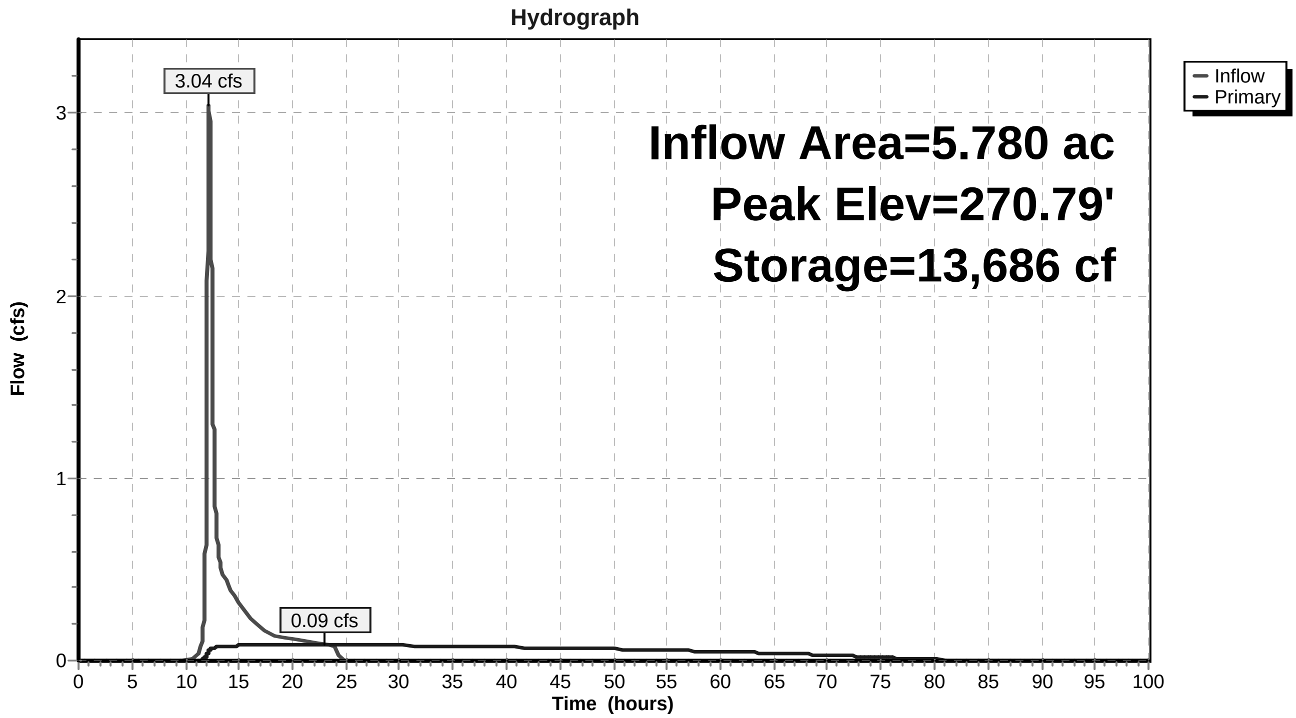
Volume	Invert	Avail.Storage	Storage Description
#1	264.55'	54,362 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
264.55	130	50.0	0	0	130
266.00	385	90.0	357	357	587
268.00	950	115.0	1,293	1,650	1,044
270.00	6,500	200.0	6,623	8,274	3,197
272.00	8,400	400.0	14,859	23,133	12,765
274.00	11,200	435.0	19,533	42,666	15,236
275.00	12,200	405.0	11,696	54,362	17,285

Device	Routing	Invert	Outlet Devices
#1	Primary	264.45'	**18.0" Round Culvert** L= 138.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 264.45' / 262.69' S= 0.0128 '/' Cc= 0.900 n= 0.013
#2	Device 1	268.55'	**1.5" Vert. Orifice** C= 0.600
#3	Device 1	271.25'	**18.0" W x 12.0" H Vert. Grate** C= 0.600
#4	Primary	274.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.09 cfs @ 22.97 hrs HW=270.79' TW=256.34' (Dynamic Tailwater)
1=Culvert (Passes 0.09 cfs of 18.16 cfs potential flow)
2=Orifice (Orifice Controls 0.09 cfs @ 7.10 fps)
3=Grate (Controls 0.00 cfs)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P-1:


Hydrograph
3.04 cfs
0.09 cfs
Inflow Area=5.780 ac
Peak Elev=270.79'
Storage=13,686 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2:

Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth = 0.73" for 1 yr event
Inflow = 11.23 cfs @ 12.26 hrs, Volume= 1.387 af
Outflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af, Atten= 97%, Lag= 651.0 min
Primary = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 333.05' Surf.Area= 3,307 sf Storage= 6,206 cf
Peak Elev= 335.33' @ 23.11 hrs Surf.Area= 27,825 sf Storage= 52,078 cf (45,872 cf above start)
Flood Elev= 344.75' Surf.Area= 52,000 sf Storage= 259,185 cf (252,979 cf above start)

Plug-Flow detention time= 1,760.6 min calculated for 1.242 af (90% of inflow)
Center-of-Mass det. time= 1,535.4 min (2,413.1 - 877.7)

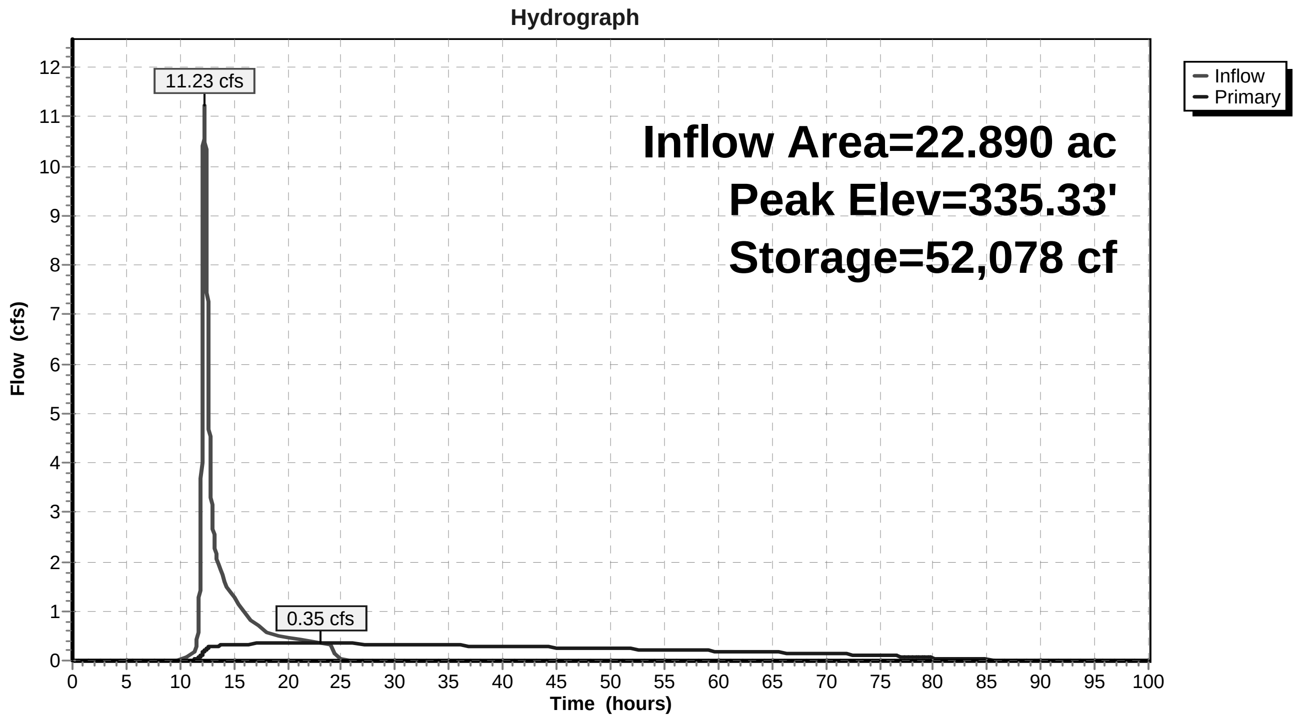
Volume	Invert	Avail.Storage	Storage Description
#1	329.05'	259,185 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
329.05	600	100.0	0	0	600
329.50	1,050	140.0	367	367	1,366
331.50	1,650	165.0	2,677	3,044	2,045
333.00	2,400	190.0	3,020	6,064	2,800
333.50	18,000	625.0	4,495	10,559	31,013
335.50	28,871	750.0	46,445	57,004	44,759
337.50	39,800	860.0	68,379	125,384	58,944
339.50	45,400	900.0	85,139	210,522	64,816
340.50	52,000	925.0	48,663	259,185	68,560

Device	Routing	Invert	Outlet Devices
#1	Primary	333.00'	**36.0" Round Culvert** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.00' / 332.87' S= 0.0050 '/' Cc= 0.900 n= 0.013
#2	Device 1	333.05'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	335.40'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	337.50'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.35 cfs @ 23.11 hrs HW=335.33' TW=333.02' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.35 cfs of 22.36 cfs potential flow)
 ├**2=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.06 fps)
 ├**3=Orifice/Grate** (Controls 0.00 cfs)
 └**4=Orifice/Grate** (Controls 0.00 cfs)

Pond P2:


Hydrograph
11.23 cfs
0.35 cfs
Inflow Area=22.890 ac
Peak Elev=335.33'
Storage=52,078 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
11
12
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2-DMH1:

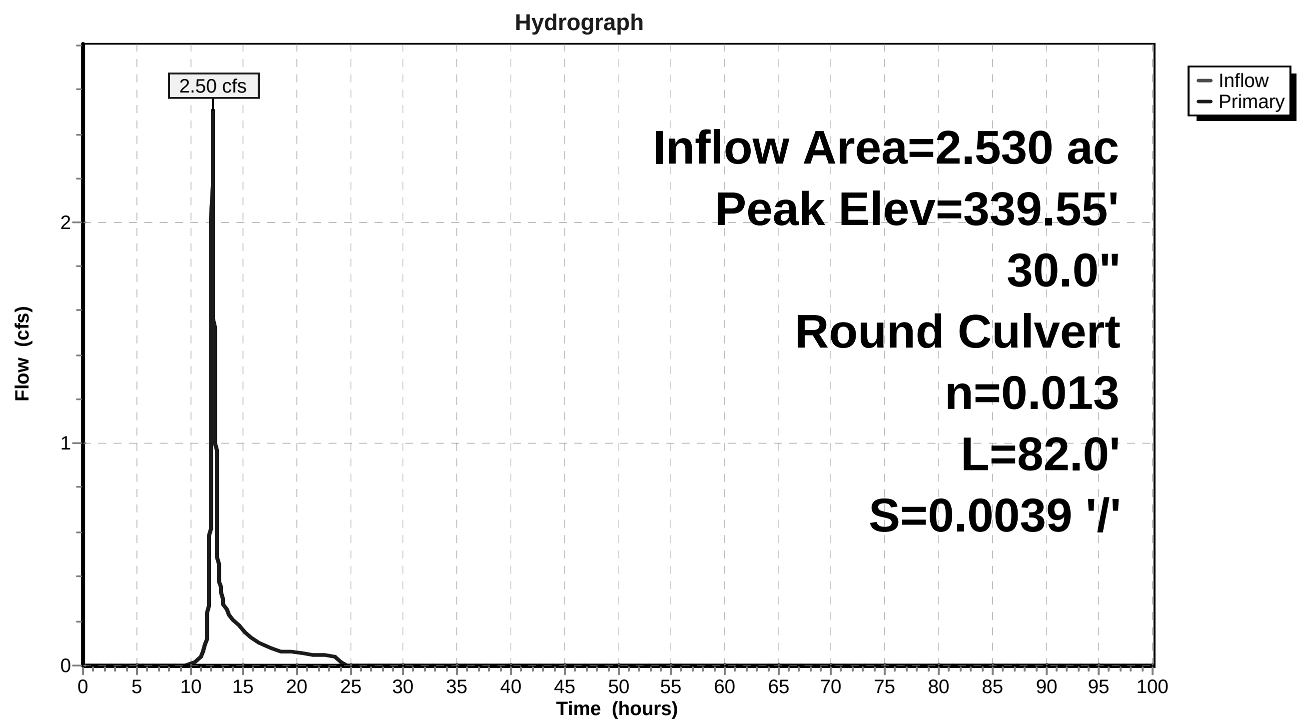
Inflow Area =	2.530 ac, 28.26% Impervious, Inflow Depth = 0.92" for 1 yr event			
Inflow =	2.50 cfs @	12.11 hrs, Volume=	0.194 af	
Outflow =	2.50 cfs @	12.11 hrs, Volume=	0.194 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.50 cfs @	12.11 hrs, Volume=	0.194 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 339.55' @ 12.11 hrs
Flood Elev= 345.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	338.82'	**30.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 338.82' / 338.50' S= 0.0039 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.50 cfs @ 12.11 hrs HW=339.55' TW=333.56' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 2.50 cfs @ 3.13 fps)

Pond P2-DMH1:



Summary for Pond P2-DMH2:

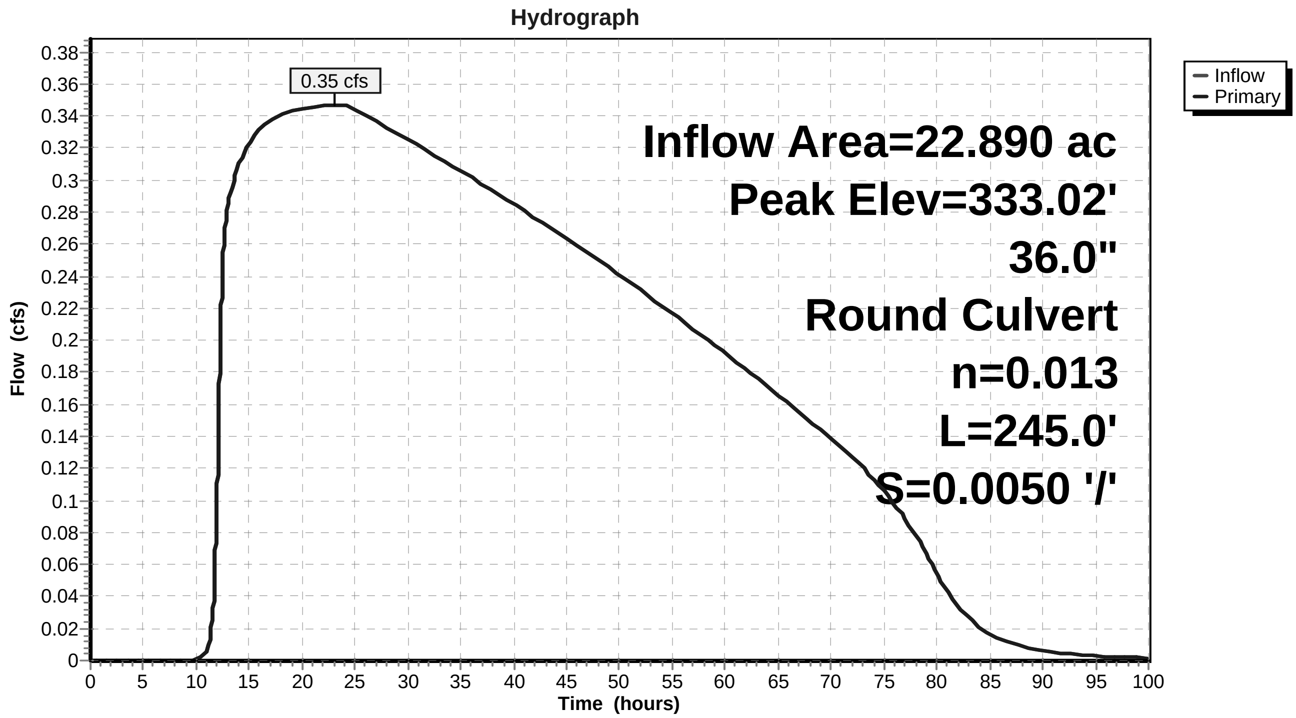
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 0.73" for 1 yr event
Inflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af
Outflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.02' @ 23.11 hrs
Flood Elev= 345.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	332.77'	**36.0" Round Culvert** L= 245.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 332.77' / 331.54' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.35 cfs @ 23.11 hrs HW=333.02' TW=331.69' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.35 cfs @ 1.94 fps)

Pond P2-DMH2:



Summary for Pond P2-DMH3:

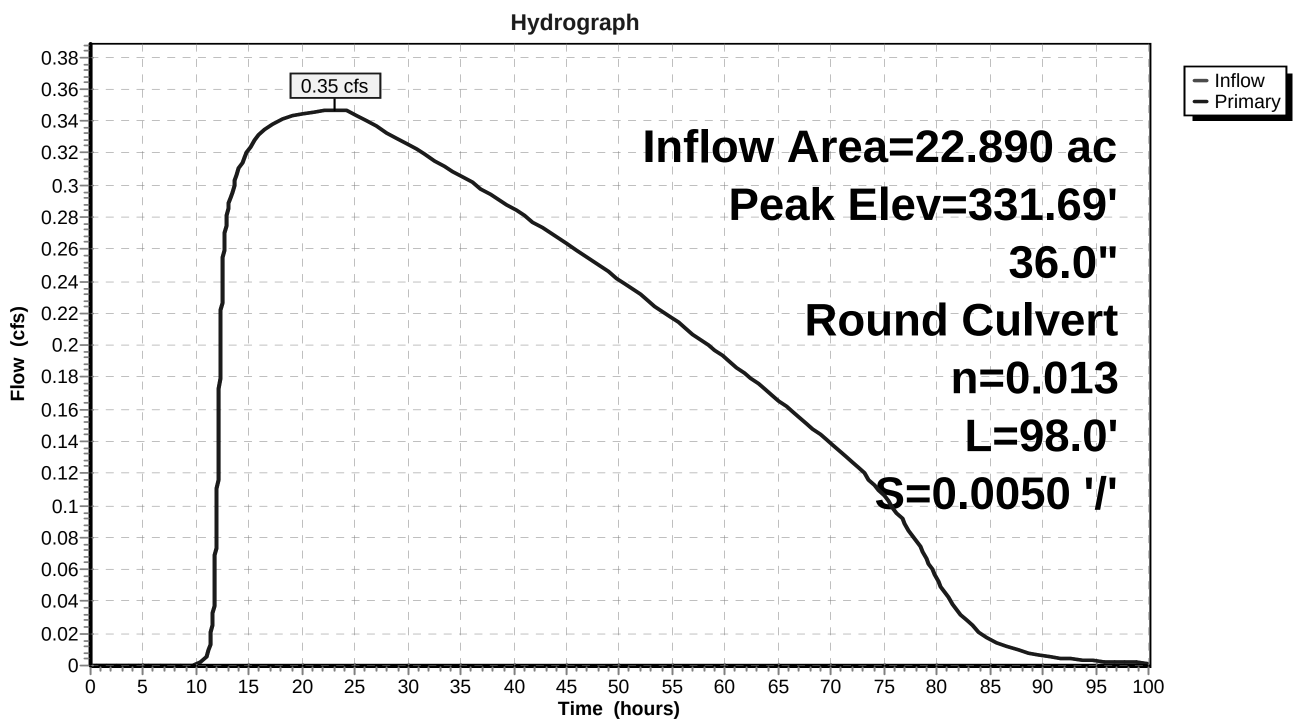
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 0.73" for 1 yr event
Inflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af
Outflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 331.69' @ 23.11 hrs
Flood Elev= 348.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	331.44'	**36.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 331.44' / 330.95' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.35 cfs @ 23.11 hrs HW=331.69' TW=330.06' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.35 cfs @ 1.92 fps)

Pond P2-DMH3:



Summary for Pond P2-DMH4:

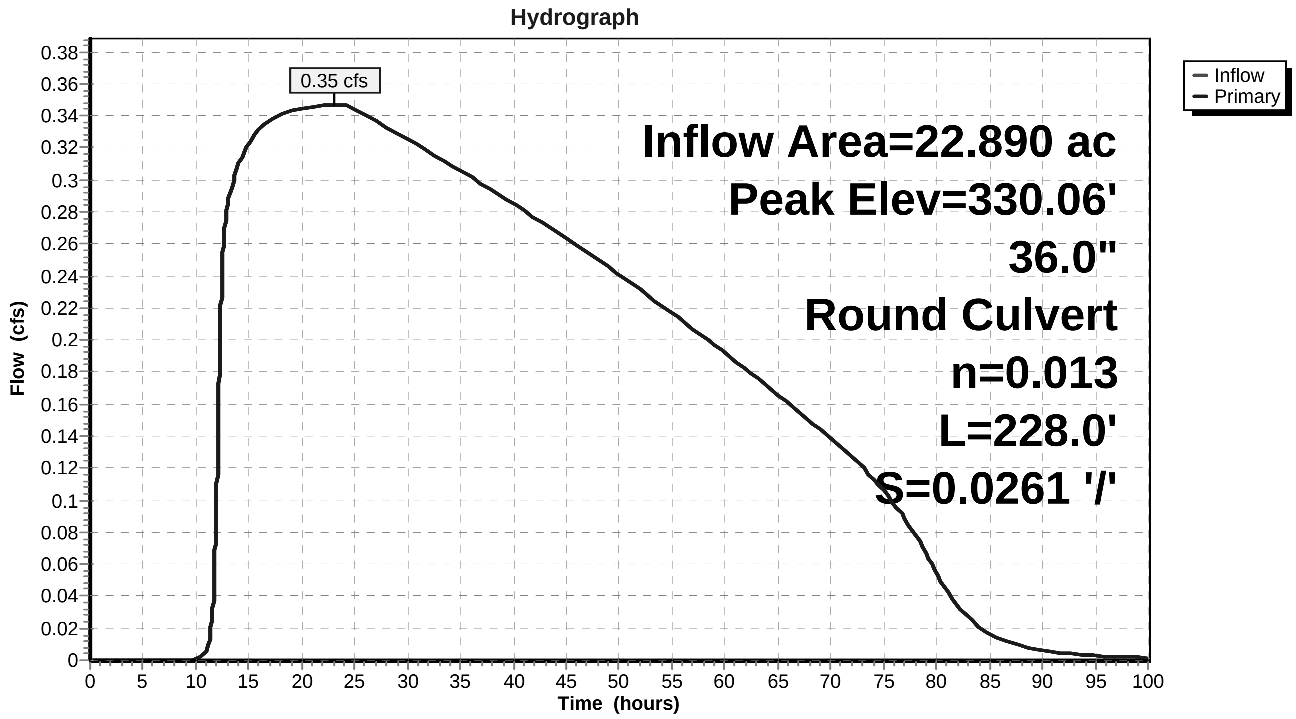
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 0.73" for 1 yr event
Inflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af
Outflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 330.06' @ 23.11 hrs
Flood Elev= 350.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	329.85'	**36.0" Round Culvert** L= 228.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 329.85' / 323.91' S= 0.0261 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.35 cfs @ 23.11 hrs HW=330.06' TW=314.02' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.35 cfs @ 1.57 fps)

Pond P2-DMH4:



Summary for Pond P2-DMH5:

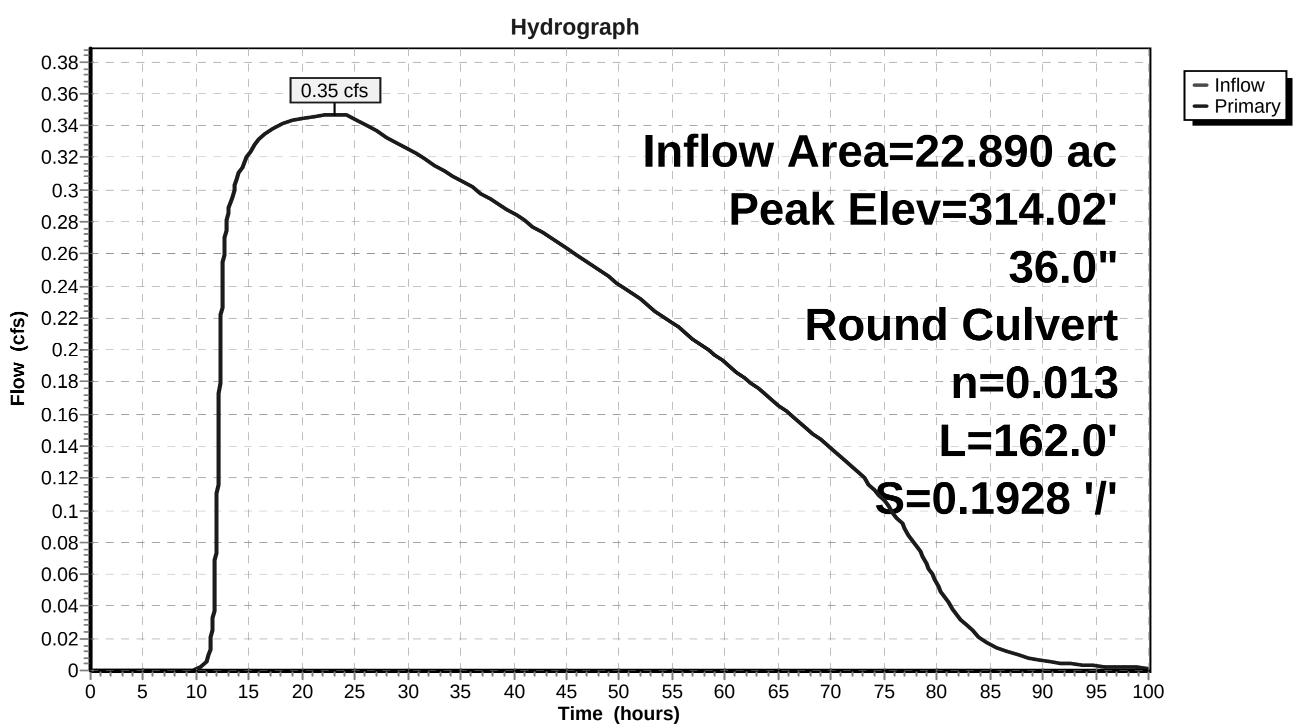
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 0.73" for 1 yr event
Inflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af
Outflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 314.02' @ 23.11 hrs
Flood Elev= 332.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	313.81'	**36.0" Round Culvert** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 313.81' / 282.58' S= 0.1928 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.35 cfs @ 23.11 hrs HW=314.02' TW=278.53' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.35 cfs @ 1.57 fps)

Pond P2-DMH5:



Summary for Pond P2-DMH6:

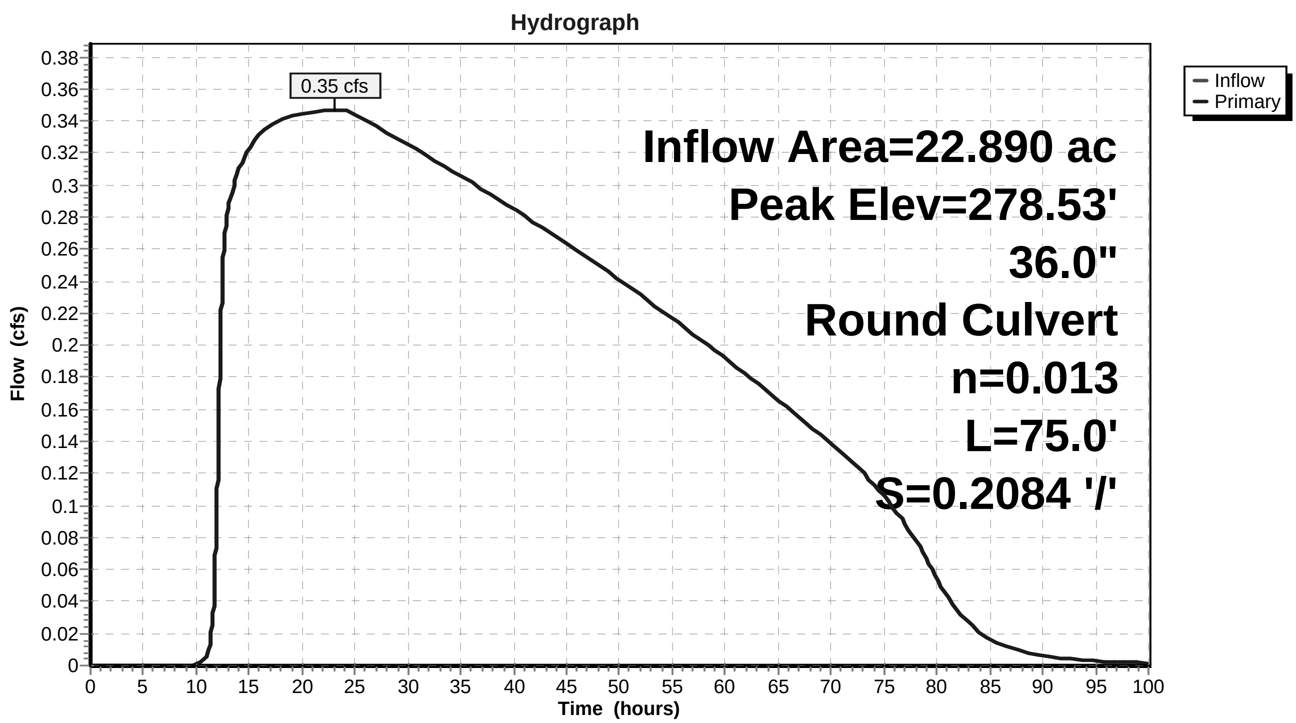
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 0.73" for 1 yr event
Inflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af
Outflow = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 23.11 hrs, Volume= 1.384 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 278.53' @ 23.11 hrs
Flood Elev= 287.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.32'	**36.0" Round Culvert** L= 75.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 278.32' / 262.69' S= 0.2084 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.35 cfs @ 23.11 hrs HW=278.53' TW=256.34' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.35 cfs @ 1.57 fps)

Pond P2-DMH6:



Summary for Pond P2-DMH7:

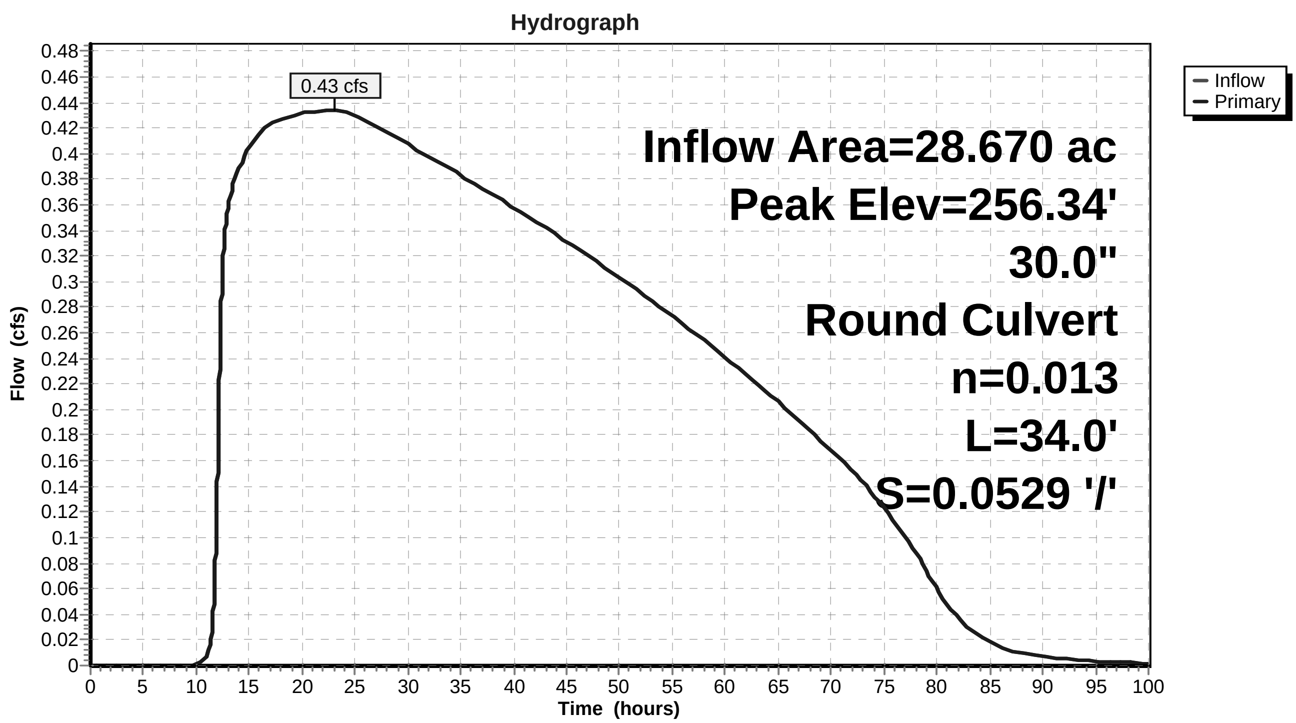
Inflow Area = 28.670 ac, 11.42% Impervious, Inflow Depth > 0.72" for 1 yr event
Inflow = 0.43 cfs @ 23.09 hrs, Volume= 1.726 af
Outflow = 0.43 cfs @ 23.09 hrs, Volume= 1.726 af, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 23.09 hrs, Volume= 1.726 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.34' @ 23.09 hrs
Flood Elev= 272.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	256.09'	**30.0" Round Culvert** L= 34.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 256.09' / 254.29' S= 0.0529 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.43 cfs @ 23.09 hrs HW=256.34' TW=254.35' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.43 cfs @ 1.70 fps)

Pond P2-DMH7:



Summary for Pond P3:

Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth = 0.76" for 1 yr event
Inflow = 2.43 cfs @ 12.12 hrs, Volume= 0.220 af
Outflow = 0.05 cfs @ 23.58 hrs, Volume= 0.219 af, Atten= 98%, Lag= 687.2 min
Primary = 0.05 cfs @ 23.58 hrs, Volume= 0.219 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 298.76' Surf.Area= 1,250 sf Storage= 1,395 cf
Peak Elev= 301.32' @ 23.58 hrs Surf.Area= 4,095 sf Storage= 8,859 cf (7,465 cf above start)

Plug-Flow detention time= 2,010.9 min calculated for 0.187 af (85% of inflow)
Center-of-Mass det. time= 1,675.9 min (2,543.2 - 867.3)

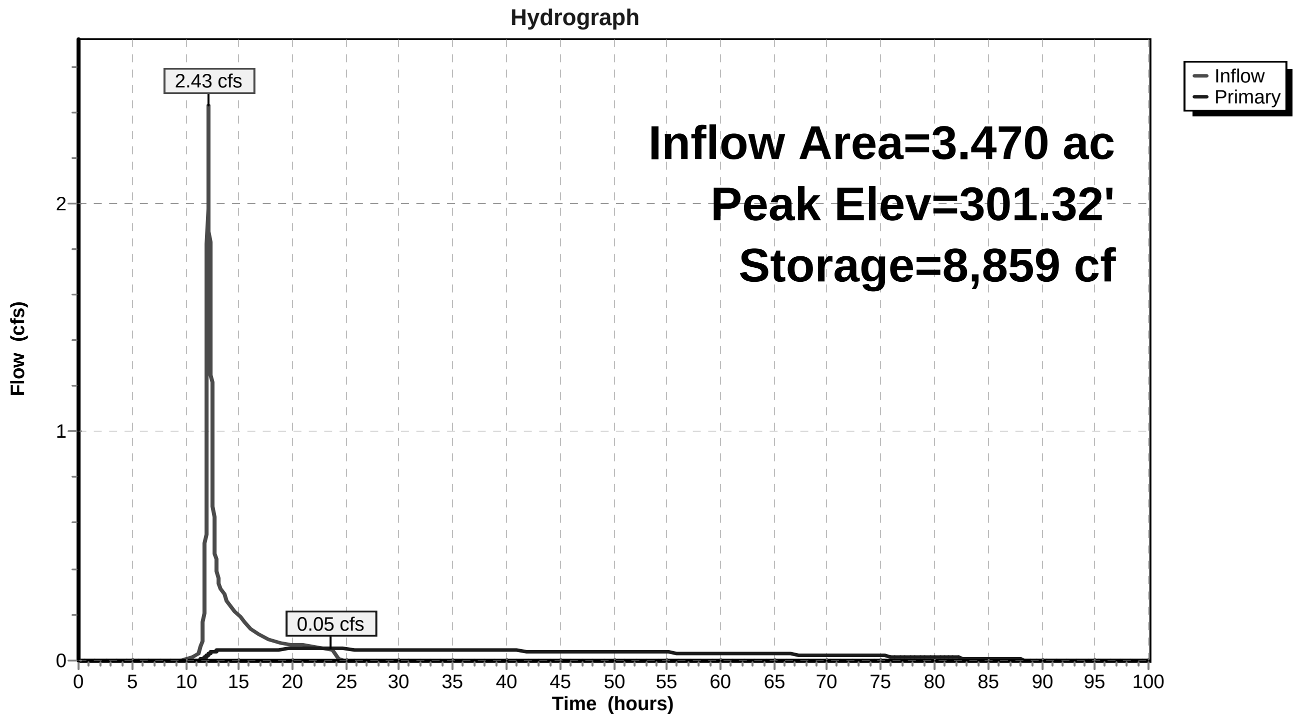
Volume	Invert	Avail.Storage	Storage Description
#1	295.50'	25,269 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
295.50	100	50.0	0	0	100
296.00	200	60.0	74	74	192
298.00	500	75.0	677	751	402
300.00	3,200	250.0	3,310	4,061	4,940
302.00	4,600	300.0	7,758	11,819	7,196
304.50	6,200	310.0	13,450	25,269	8,100

Device	Routing	Invert	Outlet Devices
#1	Primary	295.45'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 295.45' / 290.93' S= 0.0753 '/' Cc= 0.900 n= 0.013
#2	Device 1	298.76'	**1.1" Vert. Orifice** C= 0.600
#3	Device 1	302.00'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600
#4	Primary	303.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.05 cfs @ 23.58 hrs HW=301.32' TW=290.92' (Dynamic Tailwater)
1=Culvert (Passes 0.05 cfs of 19.25 cfs potential flow)
2=Orifice (Orifice Controls 0.05 cfs @ 7.63 fps)
3=Orifice/Grate (Controls 0.00 cfs)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P3:


Hydrograph
2.43 cfs
0.05 cfs
Inflow
Primary
Inflow Area=3.470 ac
Peak Elev=301.32'
Storage=8,859 cf
Flow (cfs)
Time (hours)
0
1
2
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P3-DMH1:

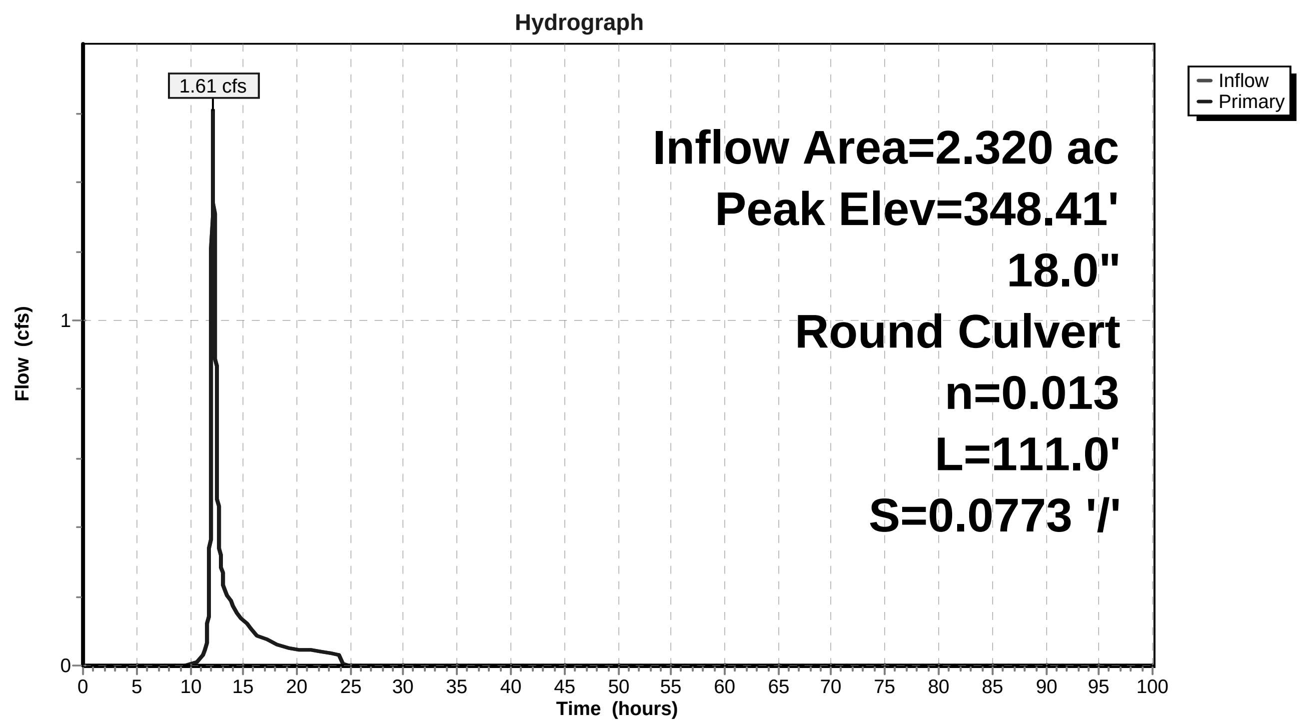
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 0.79" for 1 yr event
Inflow = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af
Outflow = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.41' @ 12.13 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.83'	**18.0" Round Culvert** L= 111.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.83' / 339.25' S= 0.0773 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.61 cfs @ 12.13 hrs HW=348.41' TW=324.13' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.61 cfs @ 2.58 fps)

Pond P3-DMH1:



Summary for Pond P3-DMH2:

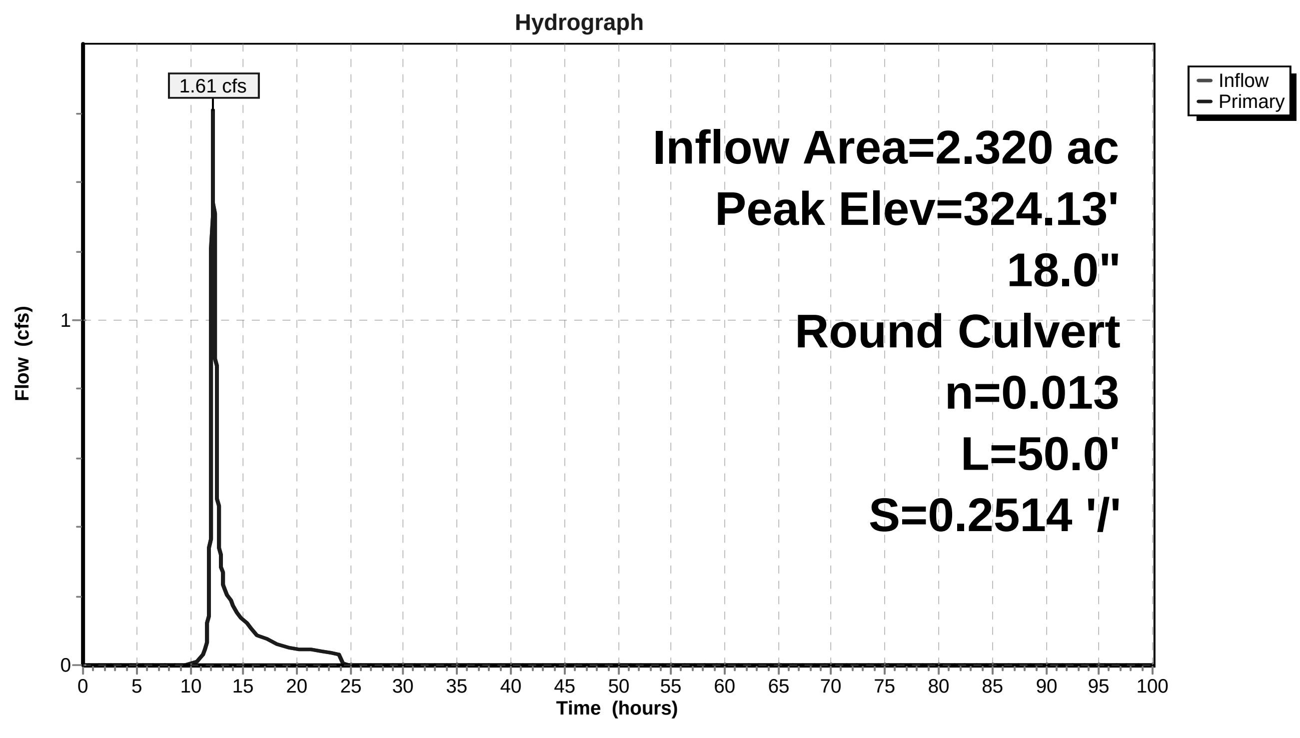
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 0.79" for 1 yr event
Inflow = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af
Outflow = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 324.13' @ 12.13 hrs
Flood Elev= 342.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	323.55'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 323.55' / 310.98' S= 0.2514 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.61 cfs @ 12.13 hrs HW=324.13' TW=303.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.61 cfs @ 2.58 fps)

Pond P3-DMH2:



Summary for Pond P3-DMH3A:

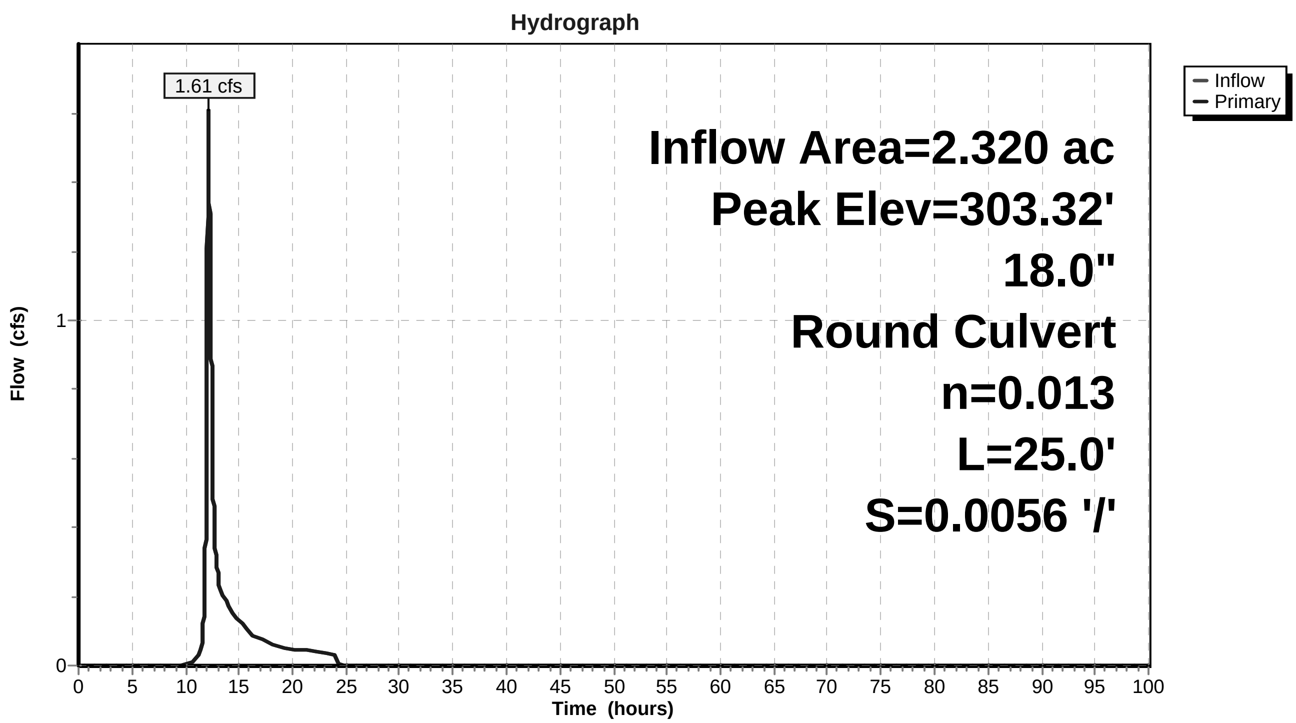
Inflow Area =	2.320 ac, 18.10% Impervious, Inflow Depth = 0.79" for 1 yr event			
Inflow =	1.61 cfs @	12.13 hrs, Volume=	0.153 af	
Outflow =	1.61 cfs @	12.13 hrs, Volume=	0.153 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.61 cfs @	12.13 hrs, Volume=	0.153 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 303.32' @ 12.13 hrs
Flood Elev= 321.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.64'	**18.0" Round Culvert** L= 25.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.64' / 302.50' S= 0.0056 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.61 cfs @ 12.13 hrs HW=303.32' TW=302.98' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 1.61 cfs @ 3.04 fps)

Pond P3-DMH3A:



Summary for Pond P3-DMH3B:

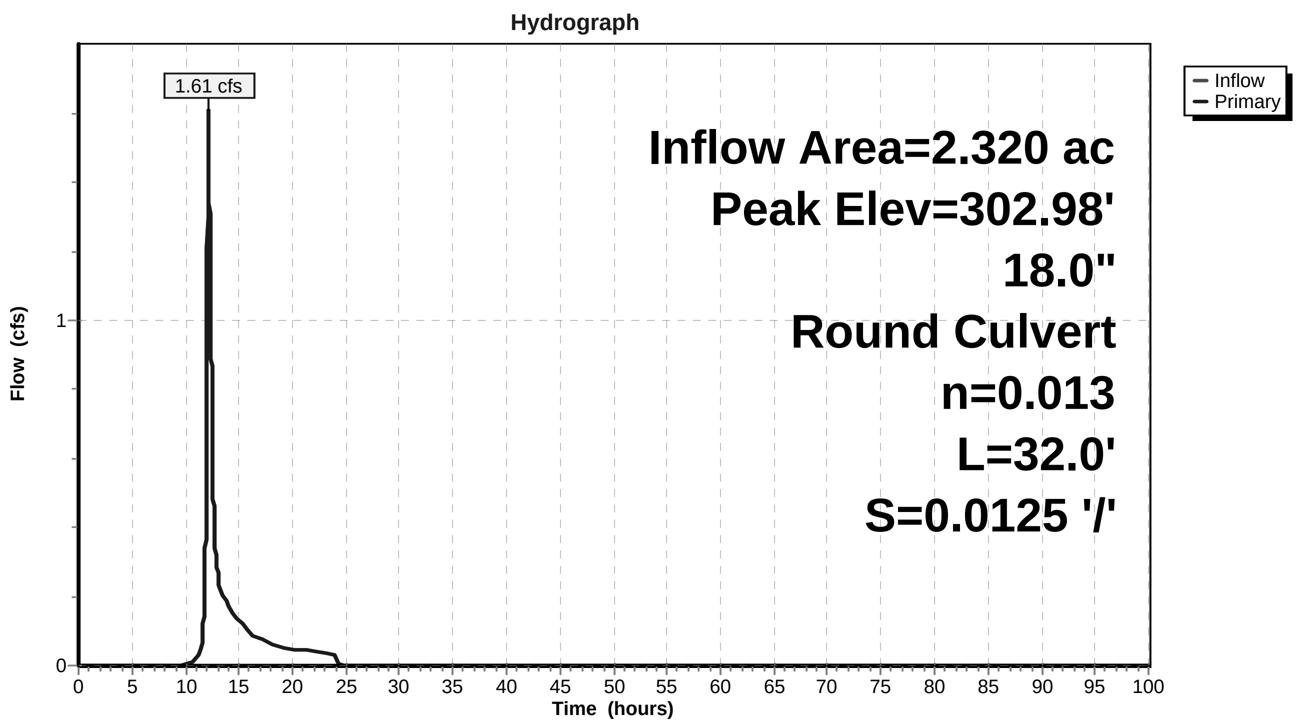
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 0.79" for 1 yr event
Inflow = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af
Outflow = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.13 hrs, Volume= 0.153 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 302.98' @ 12.13 hrs
Flood Elev= 305.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.40'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.40' / 302.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.61 cfs @ 12.13 hrs HW=302.98' TW=299.64' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 1.61 cfs @ 3.75 fps)

Pond P3-DMH3B:



Summary for Pond P3-DMH4:

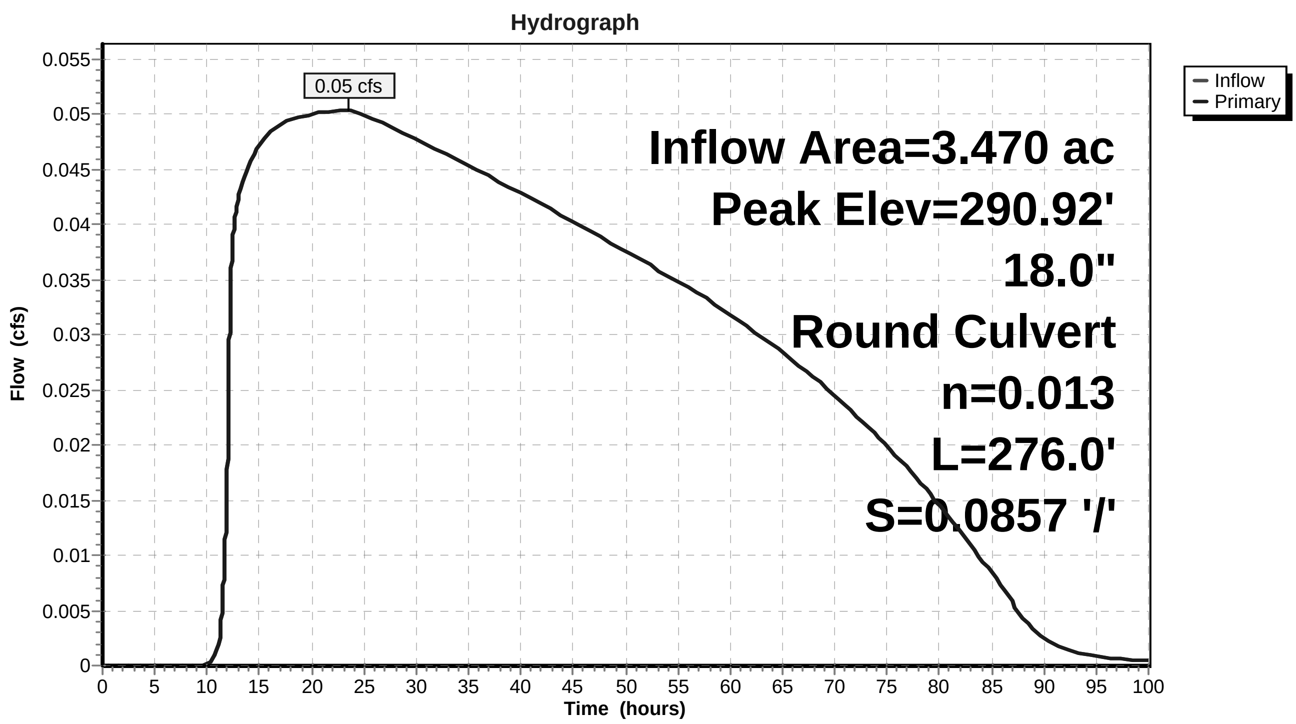
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 0.76" for 1 yr event
Inflow = 0.05 cfs @ 23.58 hrs, Volume= 0.219 af
Outflow = 0.05 cfs @ 23.57 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min
Primary = 0.05 cfs @ 23.57 hrs, Volume= 0.219 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 290.92' @ 23.57 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	290.83'	**18.0" Round Culvert** L= 276.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 290.83' / 267.17' S= 0.0857 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.05 cfs @ 23.57 hrs HW=290.92' TW=263.10' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.05 cfs @ 1.25 fps)

Pond P3-DMH4:



Summary for Pond P3-DMH5:

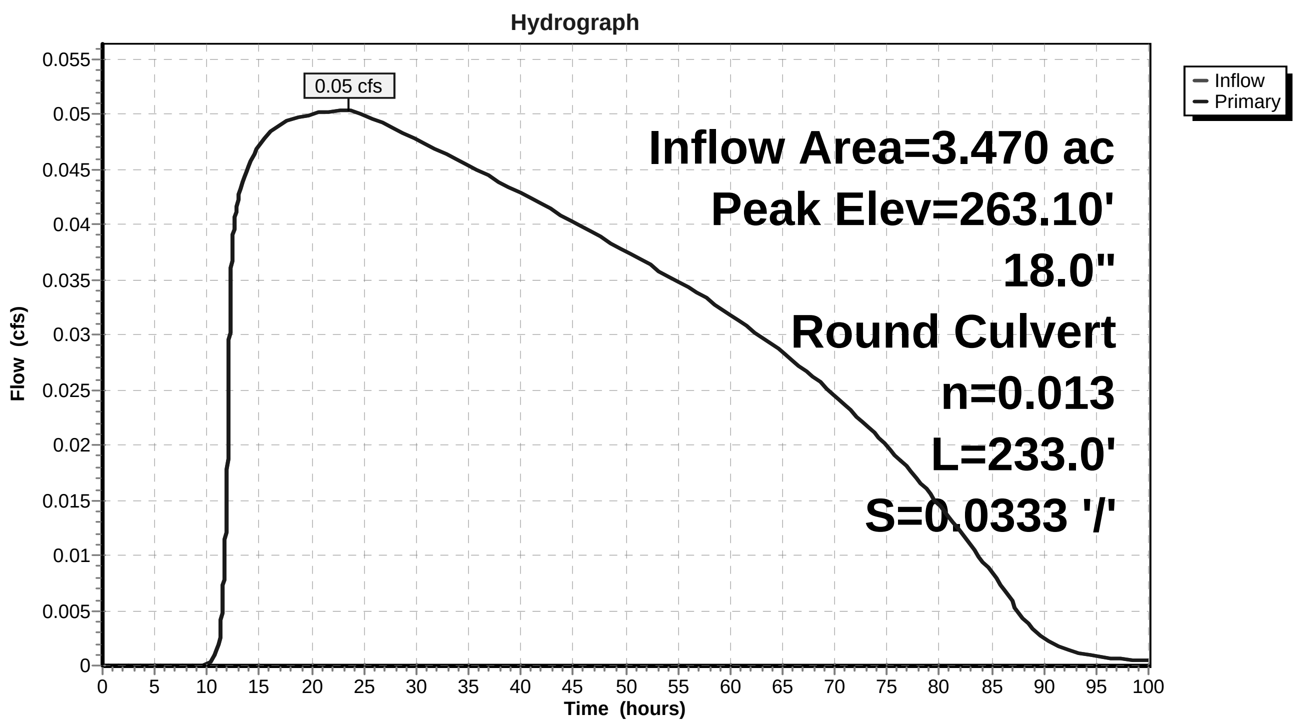
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 0.76" for 1 yr event
Inflow = 0.05 cfs @ 23.57 hrs, Volume= 0.219 af
Outflow = 0.05 cfs @ 23.58 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.5 min
Primary = 0.05 cfs @ 23.58 hrs, Volume= 0.219 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 263.10' @ 23.58 hrs
Flood Elev= 271.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	263.00'	**18.0" Round Culvert** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 263.00' / 255.25' S= 0.0333 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.05 cfs @ 23.58 hrs HW=263.10' TW=254.35' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.05 cfs @ 1.06 fps)

Pond P3-DMH5:



Summary for Pond WQV-P:

Inflow Area = 0.690 ac, 20.29% Impervious, Inflow Depth = 0.95" for 1 yr event
Inflow = 0.64 cfs @ 12.10 hrs, Volume= 0.054 af
Outflow = 0.02 cfs @ 19.67 hrs, Volume= 0.008 af, Atten= 98%, Lag= 454.4 min
Primary = 0.02 cfs @ 19.67 hrs, Volume= 0.008 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.31' @ 19.67 hrs Surf.Area= 1,214 sf Storage= 2,085 cf
Flood Elev= 258.00' Surf.Area= 2,100 sf Storage= 6,625 cf

Plug-Flow detention time= 742.3 min calculated for 0.008 af (15% of inflow)
Center-of-Mass det. time= 506.5 min (1,329.4 - 822.9)

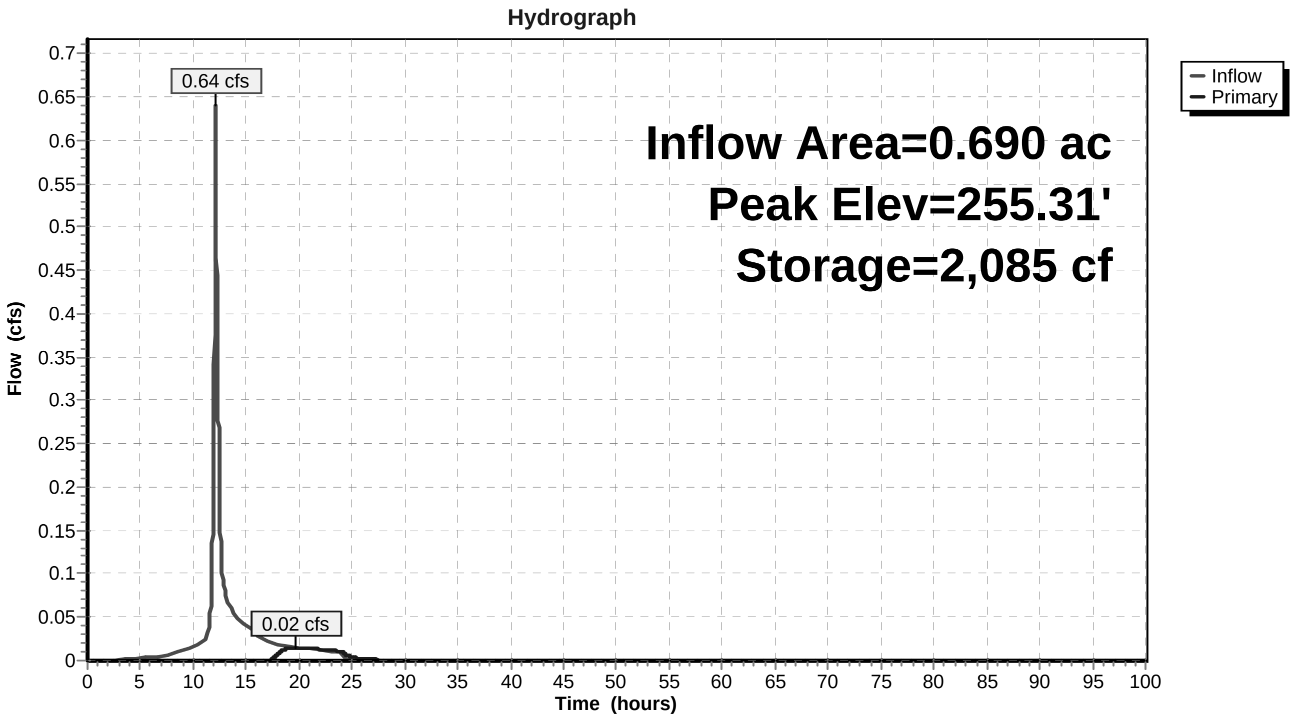
Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	6,625 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	175	0	0
254.00	675	850	850
256.00	1,500	2,175	3,025
258.00	2,100	3,600	6,625

Device	Routing	Invert	Outlet Devices
#1	Primary	255.25'	**8.0" Round Culvert** L= 22.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 255.25' / 254.00' S= 0.0568 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	255.25'	**36.0" W x 24.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=0.02 cfs @ 19.67 hrs HW=255.31' TW=252.62' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.02 cfs @ 1.02 fps)
  └─**2=Orifice/Grate** (Passes 0.02 cfs of 0.27 cfs potential flow)

Pond WQV-P:


Hydrograph
0.64 cfs
0.02 cfs
Inflow Area=0.690 ac
Peak Elev=255.31'
Storage=2,085 cf
Inflow
Primary
Flow (cfs)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0.5
0.55
0.6
0.65
0.7
Time (hours)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Subcatchment 1a:

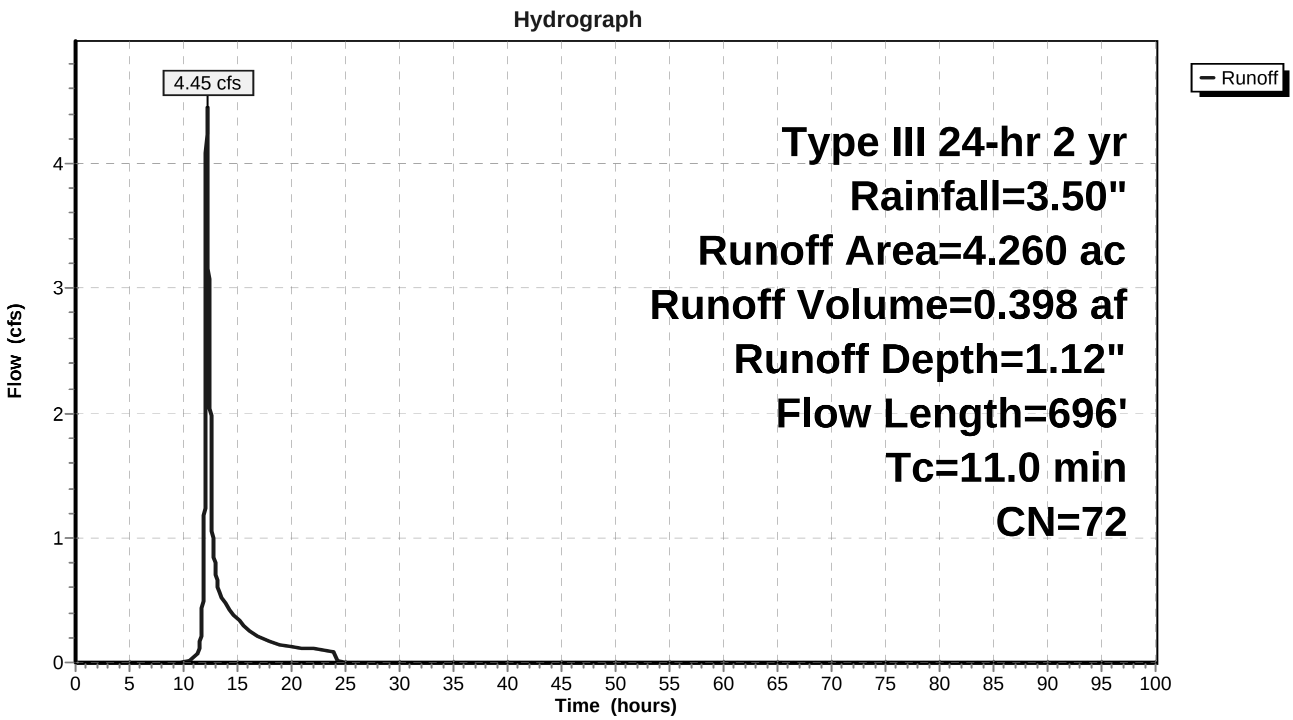
Runoff = 4.45 cfs @ 12.16 hrs, Volume= 0.398 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
2.530	73	Woods, Fair, HSG C
0.040	74	>75% Grass cover, Good, HSG C
4.260	72	Weighted Average
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

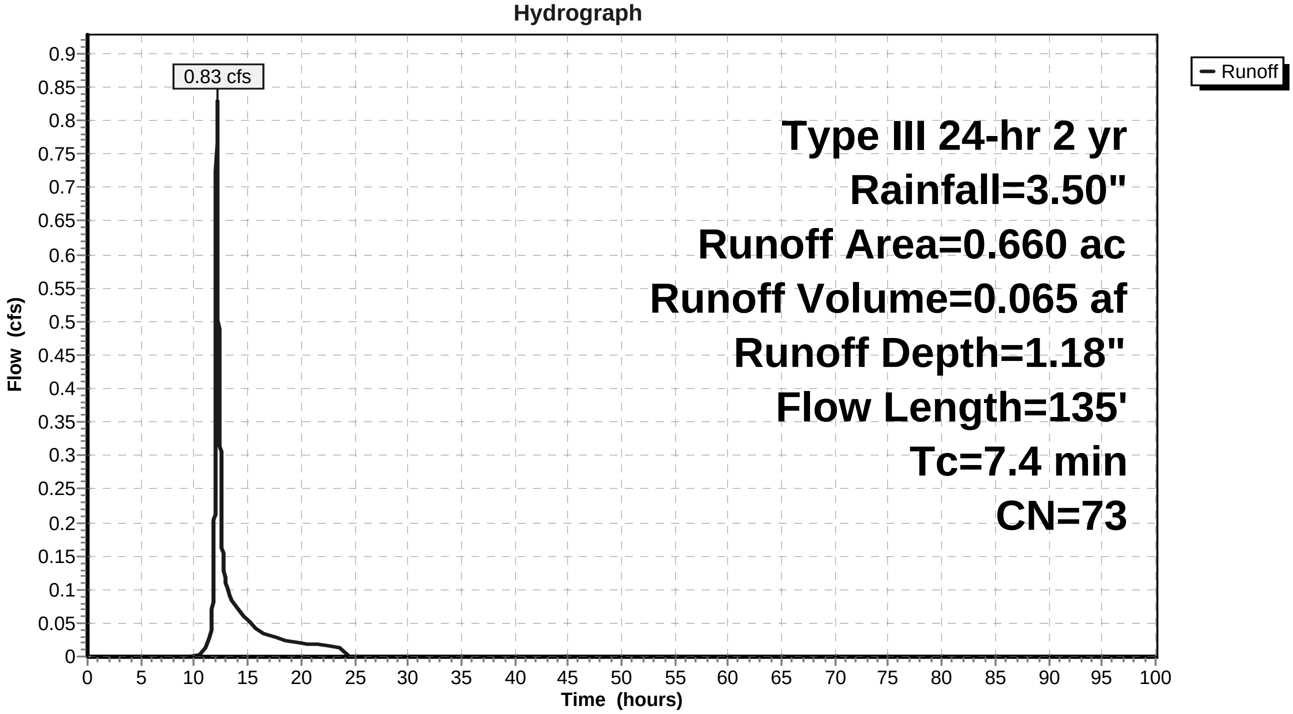
Runoff = 0.83 cfs @ 12.11 hrs, Volume= 0.065 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.350	73	Woods, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.060	70	Brush, Fair, HSG C
0.660	73	Weighted Average
0.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	10	0.3800	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.0	40	0.3800	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	15	0.3800	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	35	0.3800	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	35	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.4	135	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

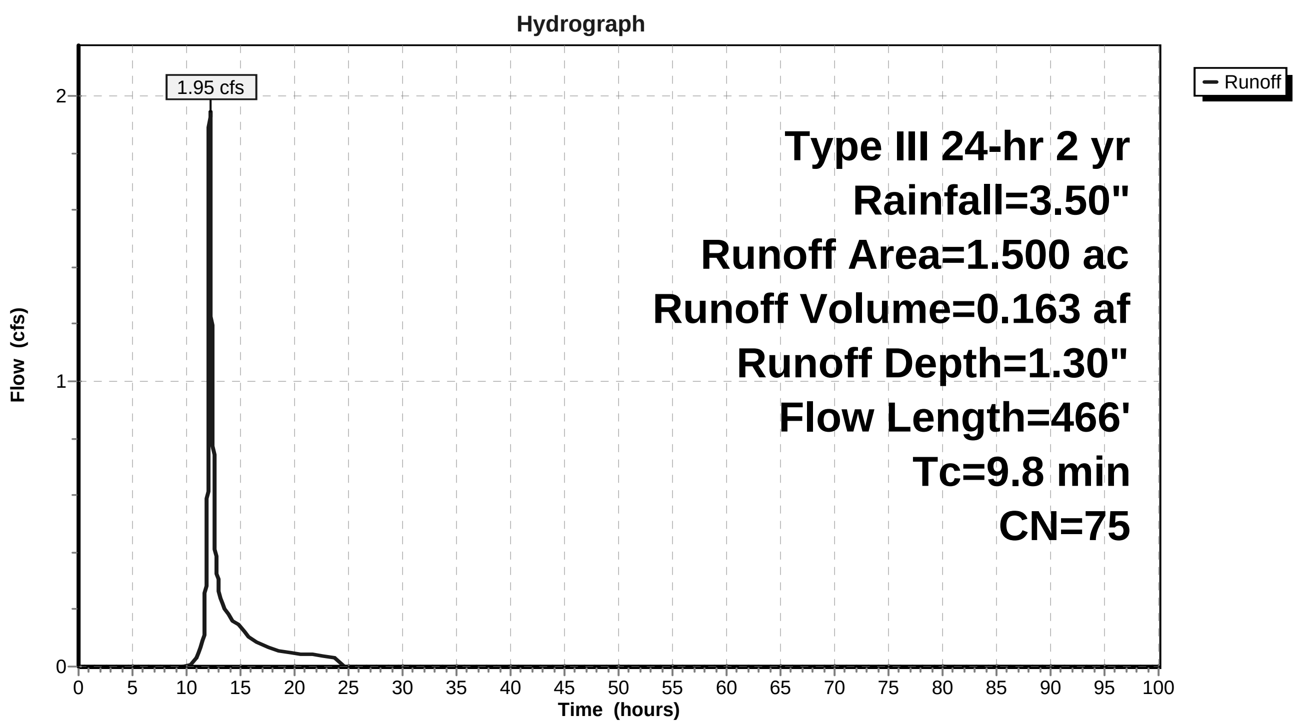
Runoff = 1.95 cfs @ 12.14 hrs, Volume= 0.163 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
1.200	73	Woods, Fair, HSG C
0.100	74	>75% Grass cover, Good, HSG C
0.140	79	50-75% Grass cover, Fair, HSG C
0.060	98	Paved parking & roofs
1.500	75	Weighted Average
1.440		96.00% Pervious Area
0.060		4.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	200	0.2600	8.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	166	0.0150	5.76	15.36	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
9.8	466	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

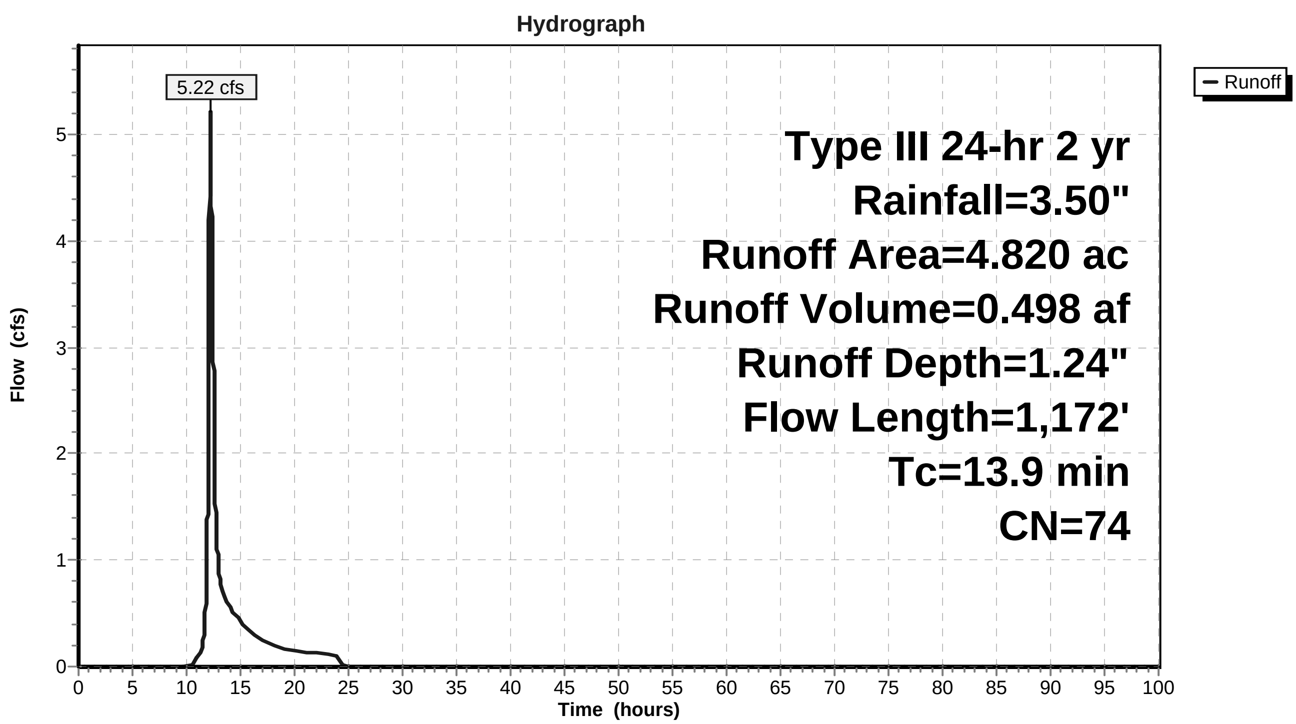
Runoff = 5.22 cfs @ 12.20 hrs, Volume= 0.498 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
3.910	73	Woods, Fair, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking & roofs
4.820	74	Weighted Average
4.670		96.89% Pervious Area
0.150		3.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.7	850	0.1040	5.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	222	0.0450	9.97	26.60	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
13.9	1,172	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

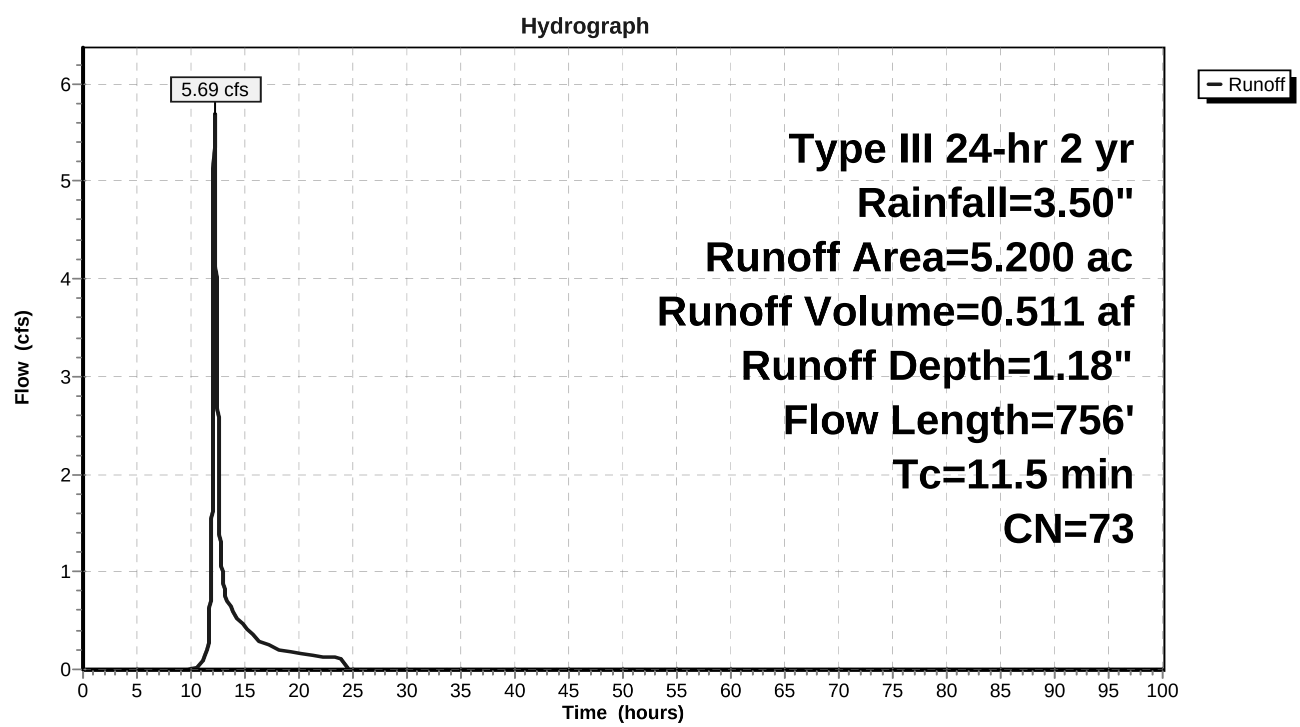
Runoff = 5.69 cfs @ 12.17 hrs, Volume= 0.511 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
4.160	73	Woods, Fair, HSG C
5.200	73	Weighted Average
5.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	656	0.0910	4.86		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	756	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

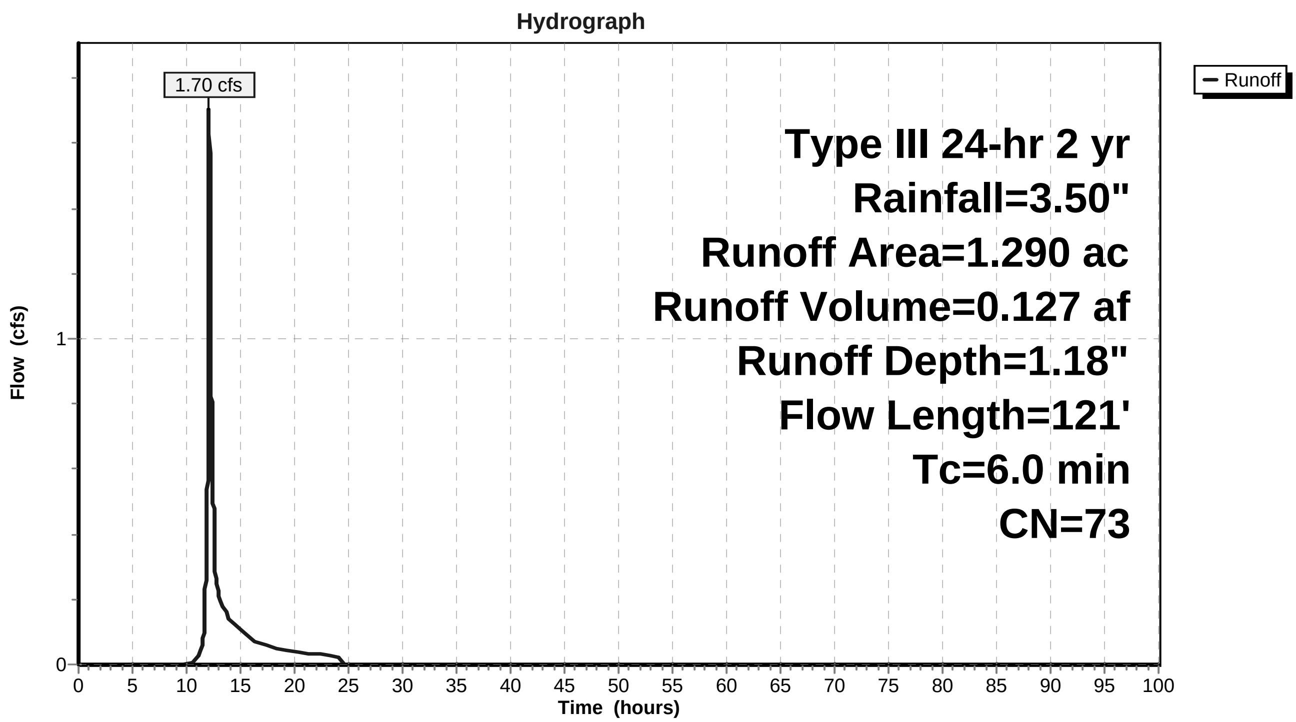
Runoff = 1.70 cfs @ 12.10 hrs, Volume= 0.127 af, Depth= 1.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.610	74	>75% Grass cover, Good, HSG C
0.680	73	Woods, Fair, HSG C
1.290	73	Weighted Average
1.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	100	0.3300	0.37		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.1	21	0.1420	6.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.5	121	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2b:



Summary for Subcatchment 2c:

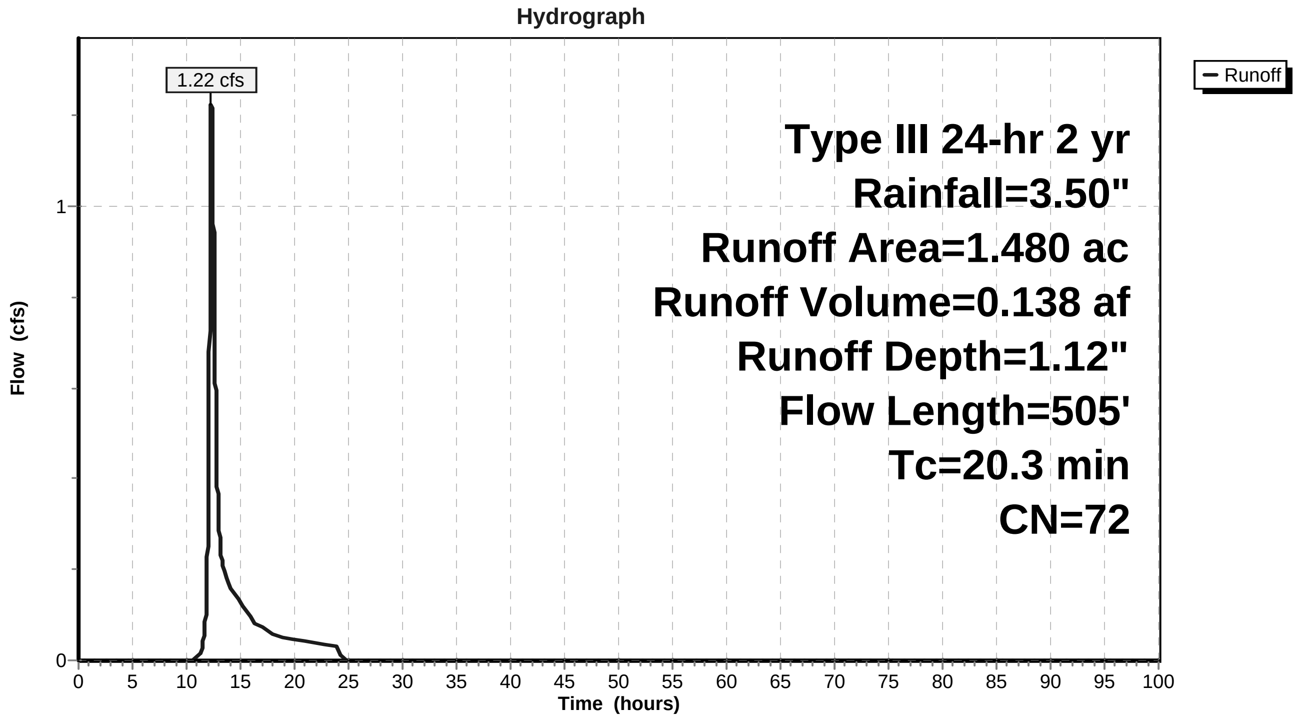
Runoff = 1.22 cfs @ 12.30 hrs, Volume= 0.138 af, Depth= 1.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.800	73	Woods, Fair, HSG C
0.680	70	Brush, Fair, HSG C
1.480	72	Weighted Average
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0250	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	405	0.0790	4.53		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.3	505	Total			

Subcatchment 2c:



Summary for Subcatchment CB10A:

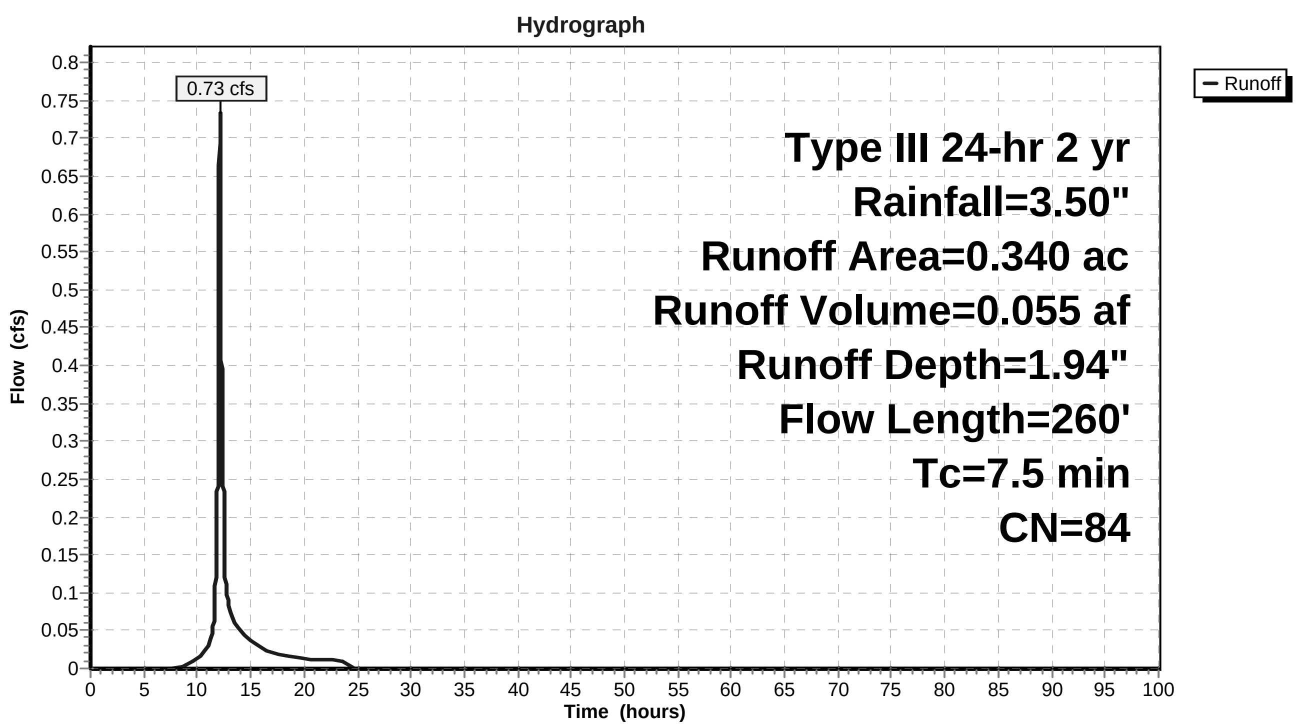
Runoff = 0.73 cfs @ 12.11 hrs, Volume= 0.055 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.200	74	>75% Grass cover, Good, HSG C
0.340	84	Weighted Average
0.200		58.82% Pervious Area
0.140		41.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0600	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.6	40	0.0200	1.20		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	160	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	260	Total			

Subcatchment CB10A:



Summary for Subcatchment CB10B:

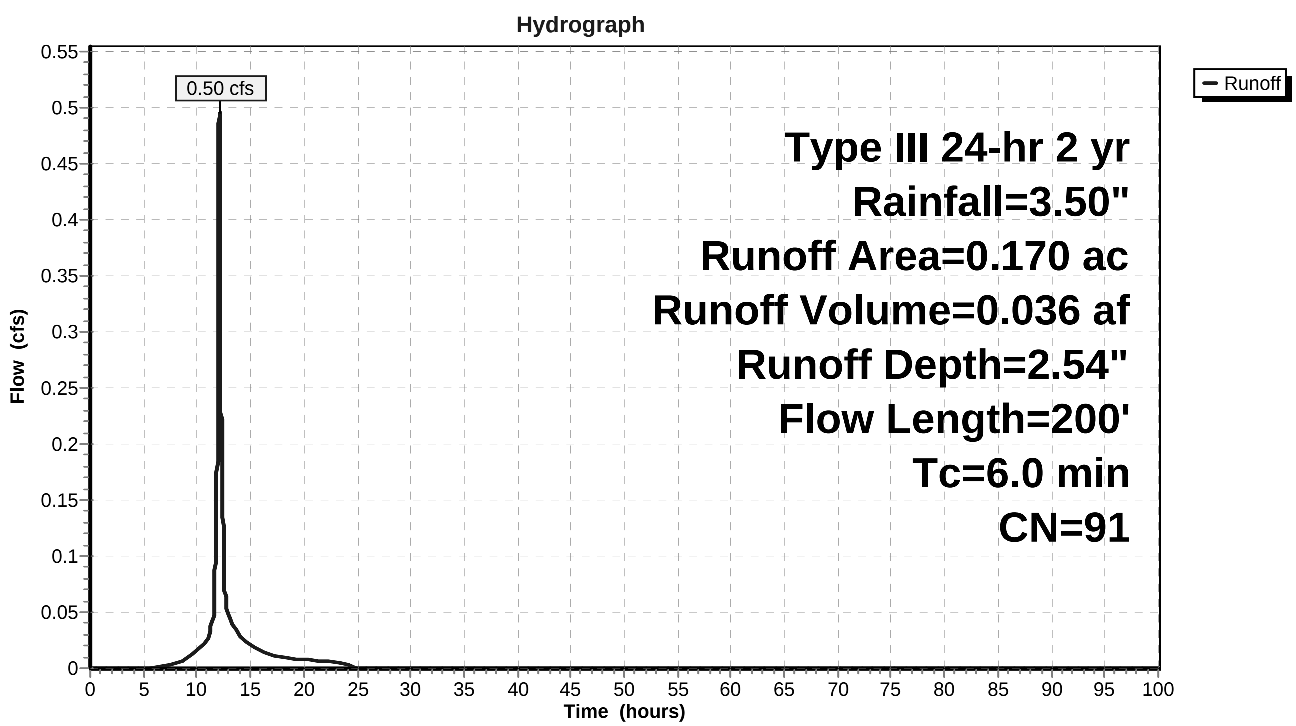
Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.120	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.170	91	Weighted Average
0.050		29.41% Pervious Area
0.120		70.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	80	0.0100	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	100	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB10B:



Summary for Subcatchment CB11A:

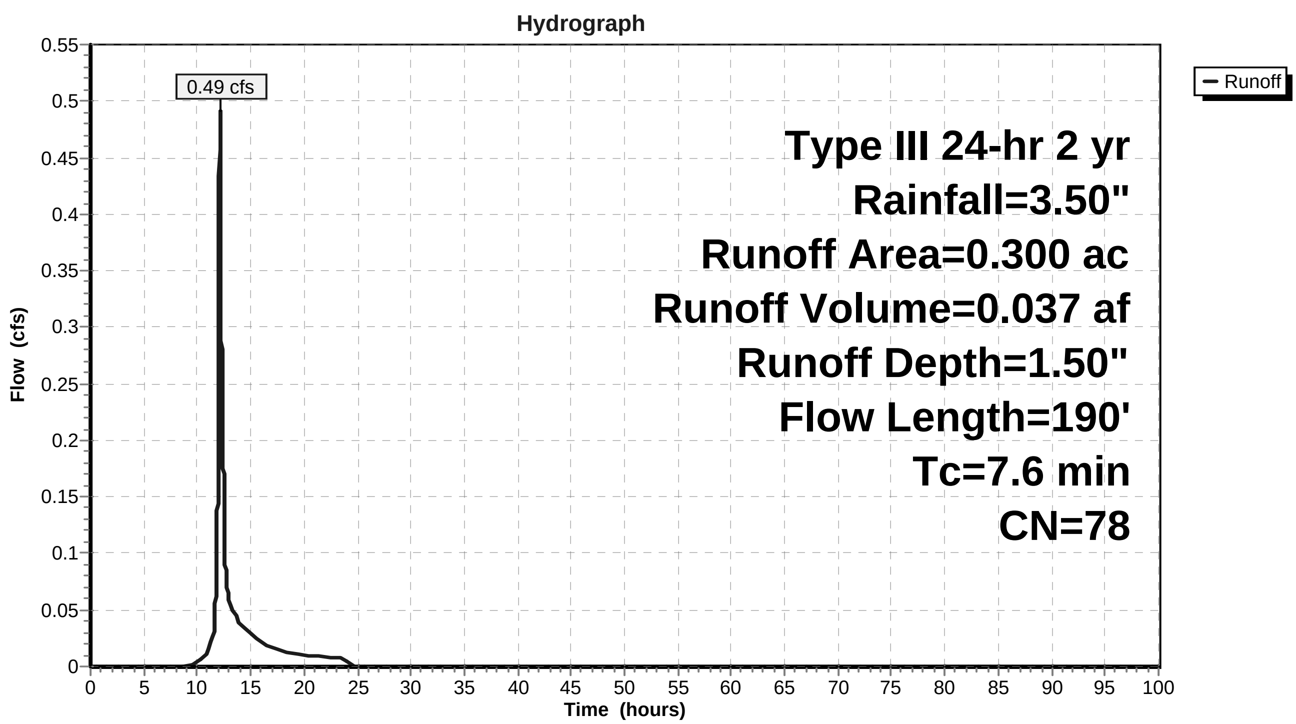
Runoff = 0.49 cfs @ 12.11 hrs, Volume= 0.037 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.300	78	Weighted Average
0.250		83.33% Pervious Area
0.050		16.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	15	0.2500	8.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	75	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.6	190	Total			

Subcatchment CB11A:



Summary for Subcatchment CB11B:

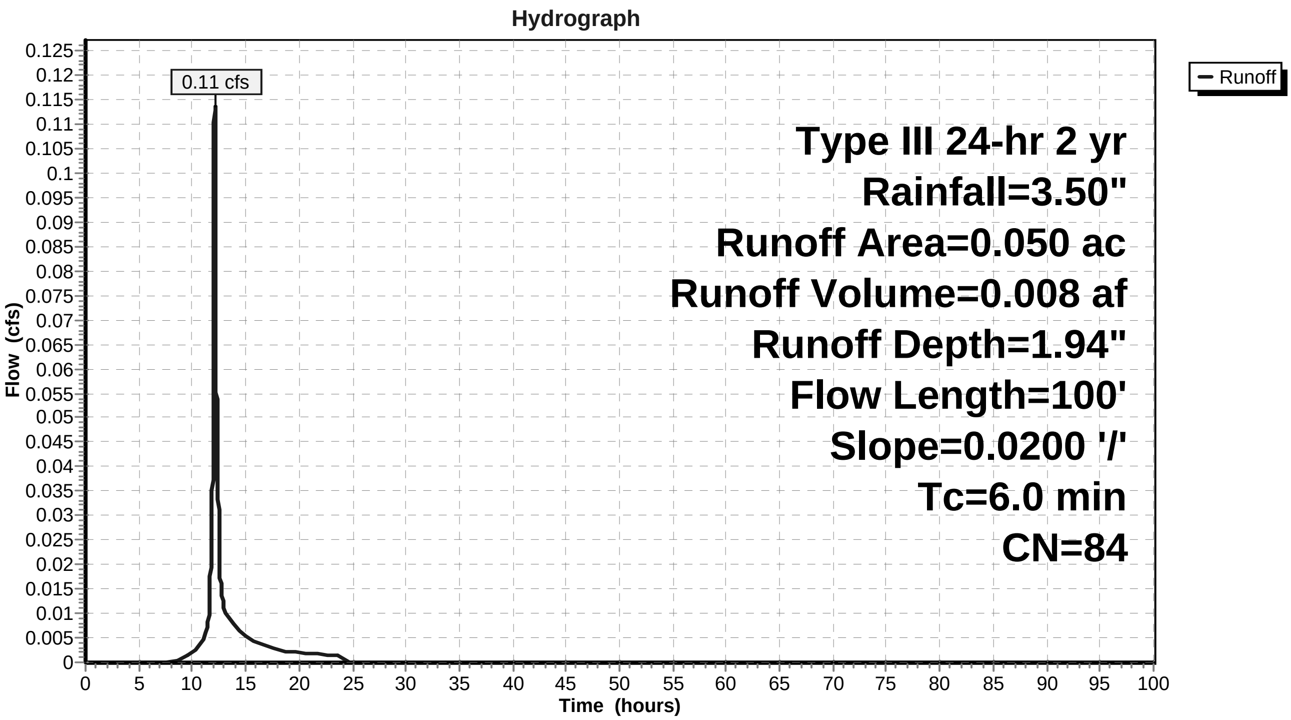
Runoff = 0.11 cfs @ 12.09 hrs, Volume= 0.008 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.030	74	>75% Grass cover, Good, HSG C
0.050	84	Weighted Average
0.030		60.00% Pervious Area
0.020		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.2	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB11B:



Summary for Subcatchment CB12A:

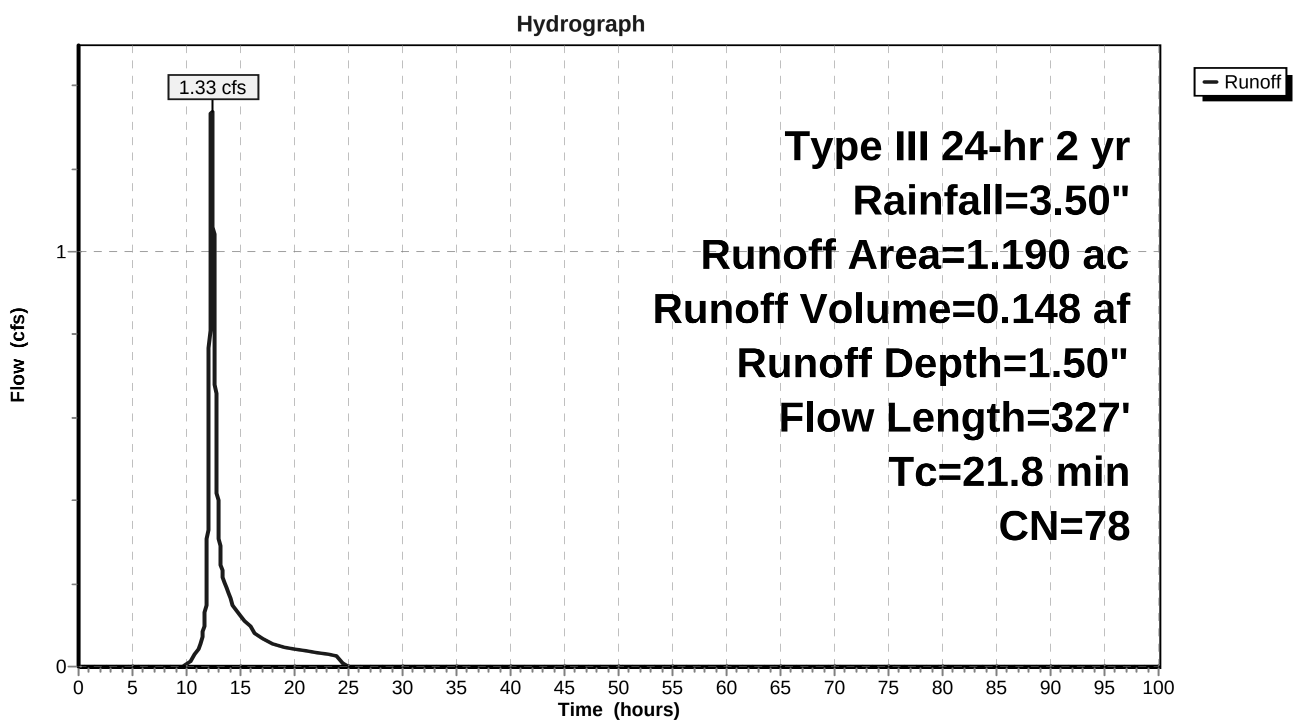
Runoff = 1.33 cfs @ 12.32 hrs, Volume= 0.148 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.590	74	>75% Grass cover, Good, HSG C
0.400	73	Woods, Fair, HSG C
1.190	78	Weighted Average
0.990		83.19% Pervious Area
0.200		16.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	70	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.2	30	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	177	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.8	327	Total			

Subcatchment CB12A:



Summary for Subcatchment CB12B:

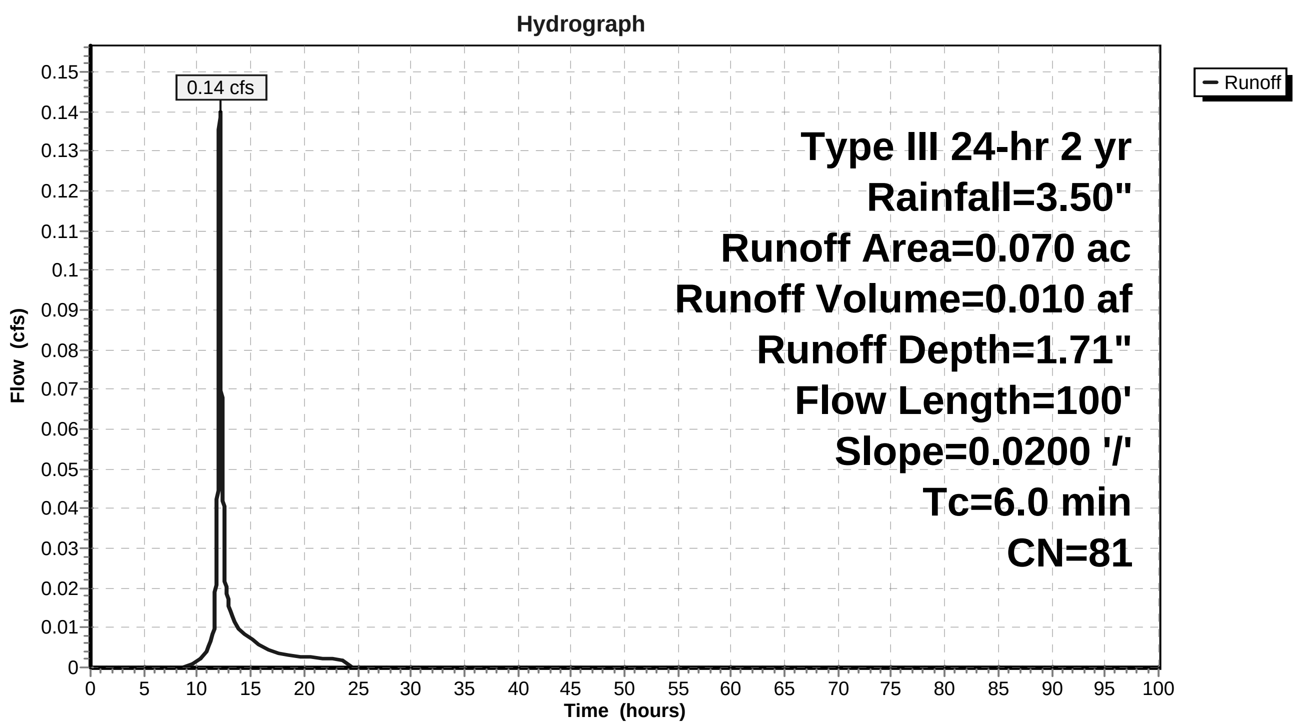
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB12B:



Summary for Subcatchment CB13A:

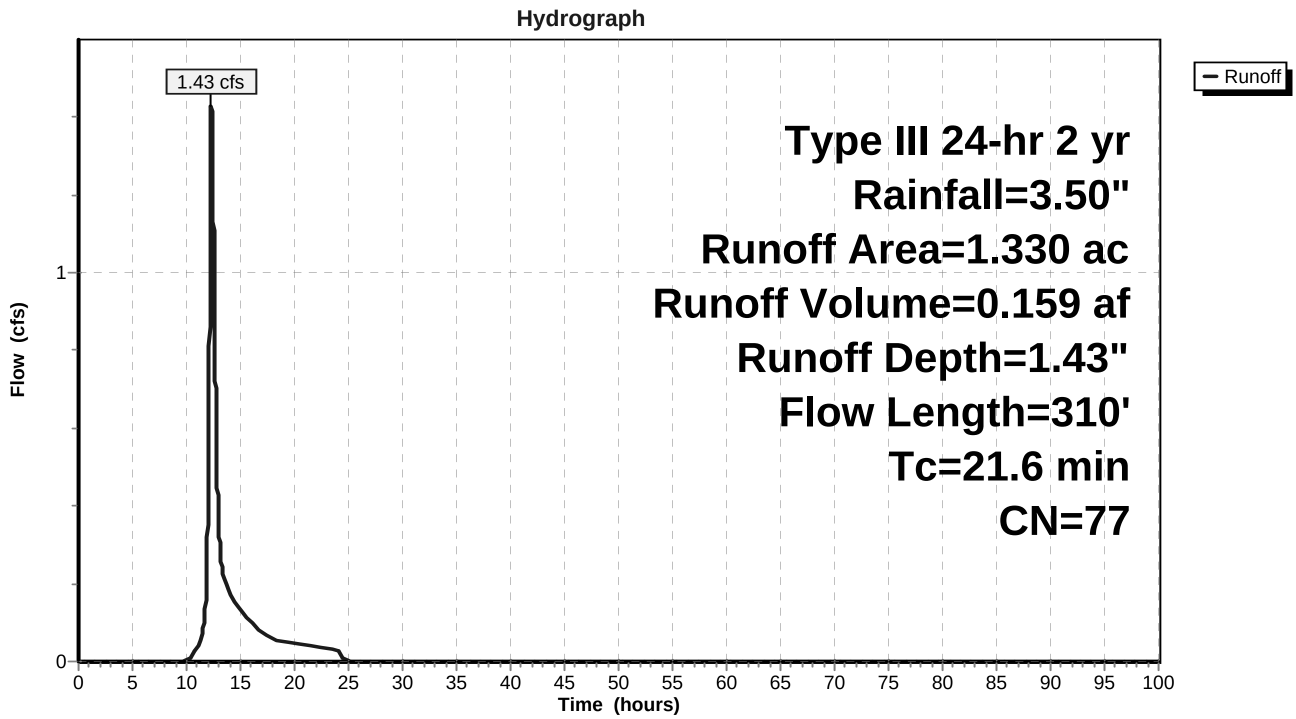
Runoff = 1.43 cfs @ 12.31 hrs, Volume= 0.159 af, Depth= 1.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.500	73	Woods, Fair, HSG C
0.630	74	>75% Grass cover, Good, HSG C
1.330	77	Weighted Average
1.130		84.96% Pervious Area
0.200		15.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	90	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	120	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.6	310	Total			

Subcatchment CB13A:



Summary for Subcatchment CB13B:

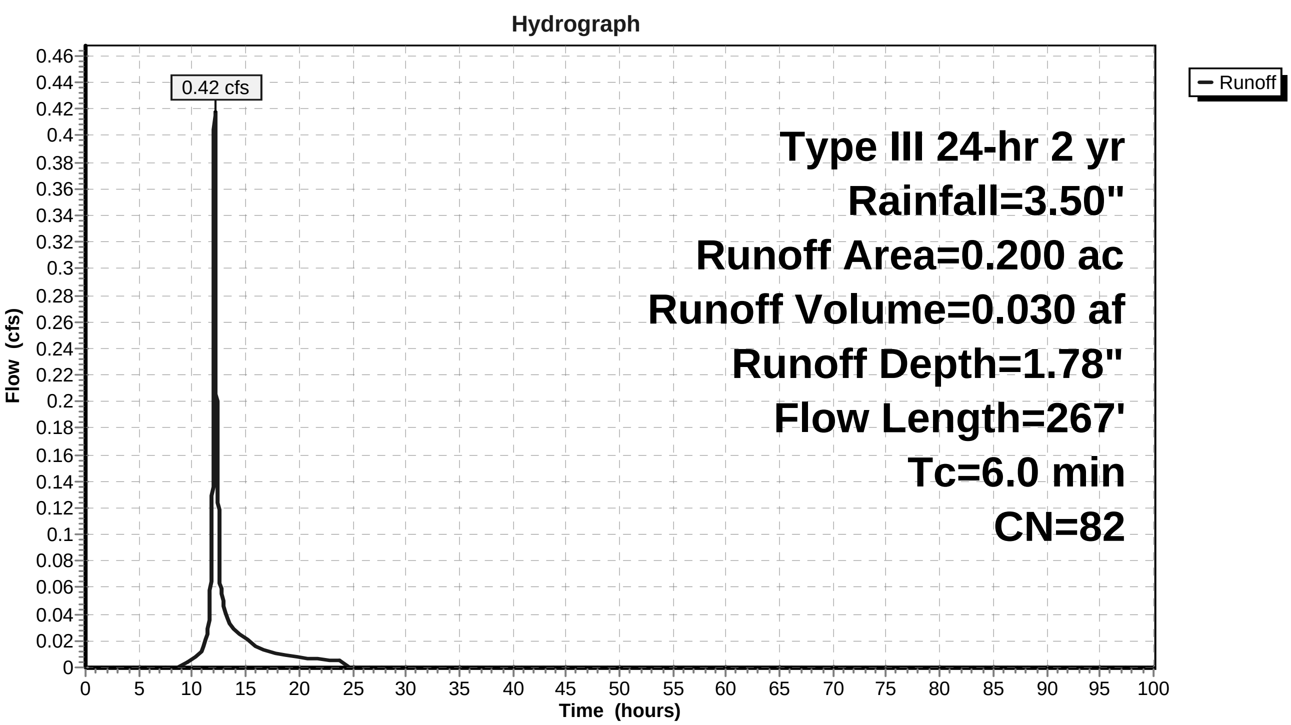
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.030 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.200	82	Weighted Average
0.130		65.00% Pervious Area
0.070		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
2.0	247	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.3	267	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB13B:



Summary for Subcatchment CB14A:

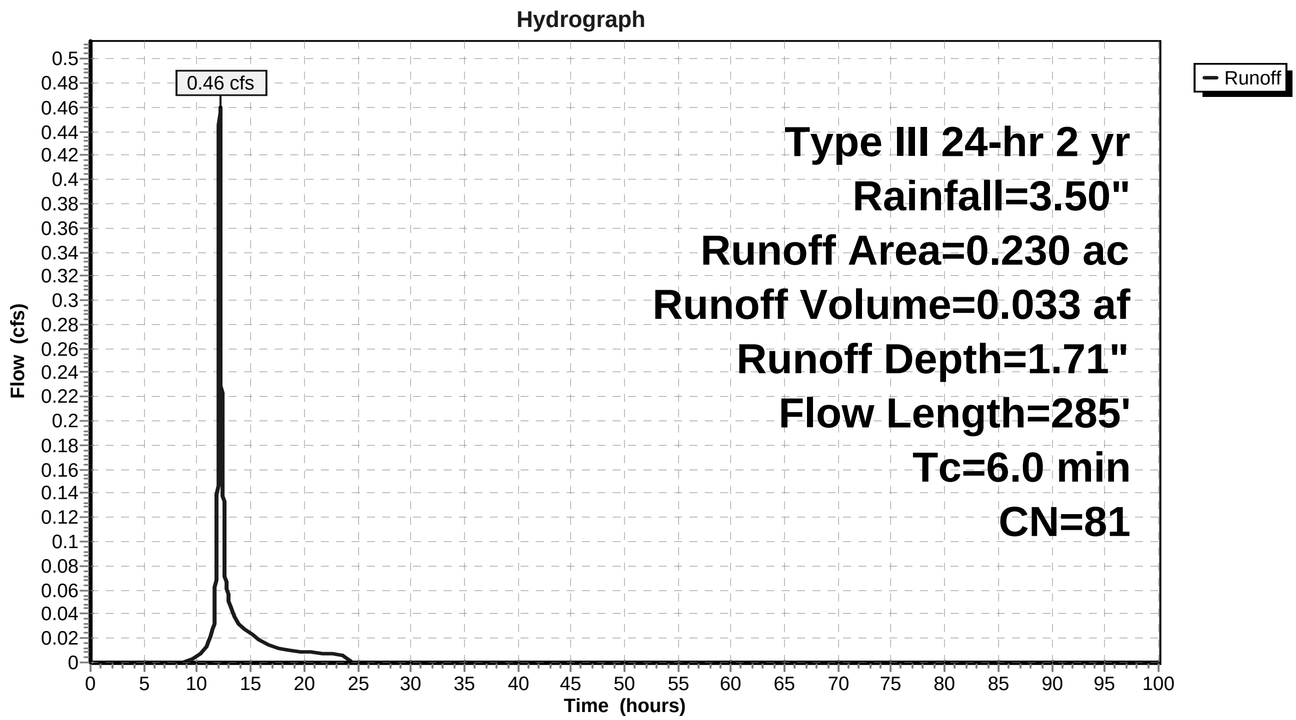
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.160	74	>75% Grass cover, Good, HSG C
0.230	81	Weighted Average
0.160		69.57% Pervious Area
0.070		30.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14A:



Summary for Subcatchment CB14B:

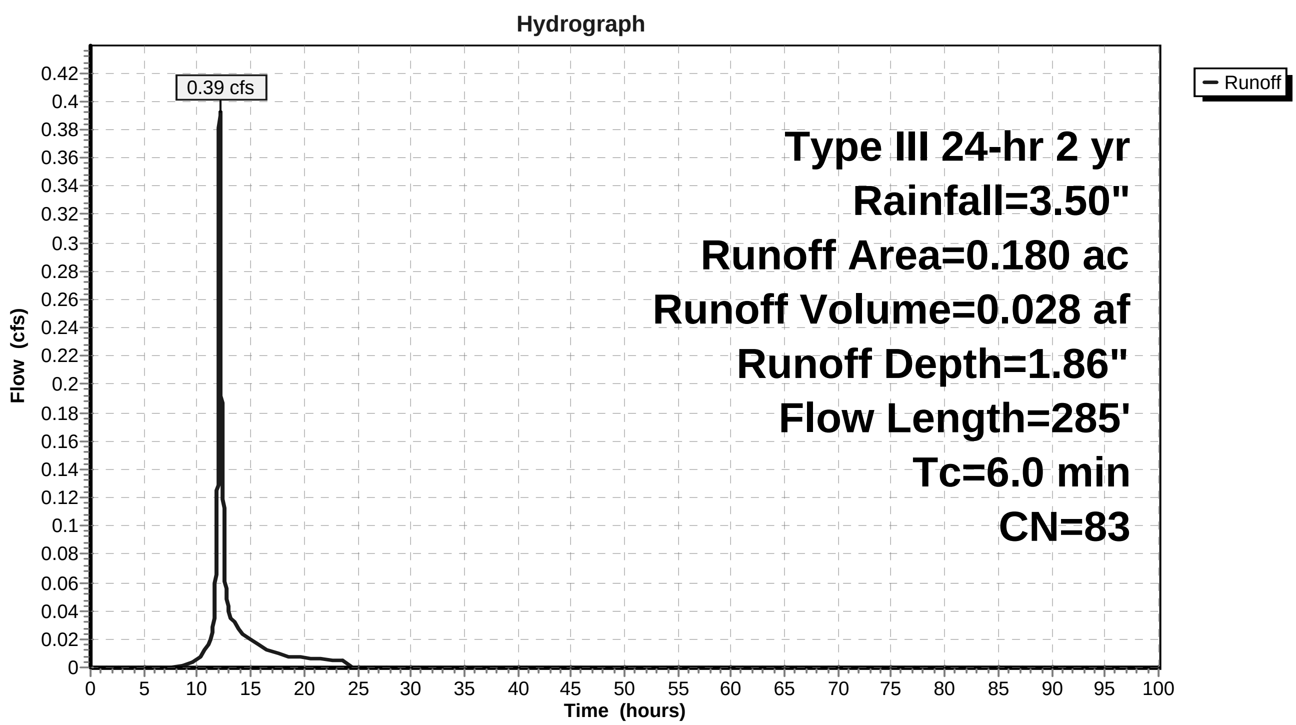
Runoff = 0.39 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 1.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.110	74	>75% Grass cover, Good, HSG C
0.180	83	Weighted Average
0.110		61.11% Pervious Area
0.070		38.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14B:



Summary for Subcatchment CB15A:

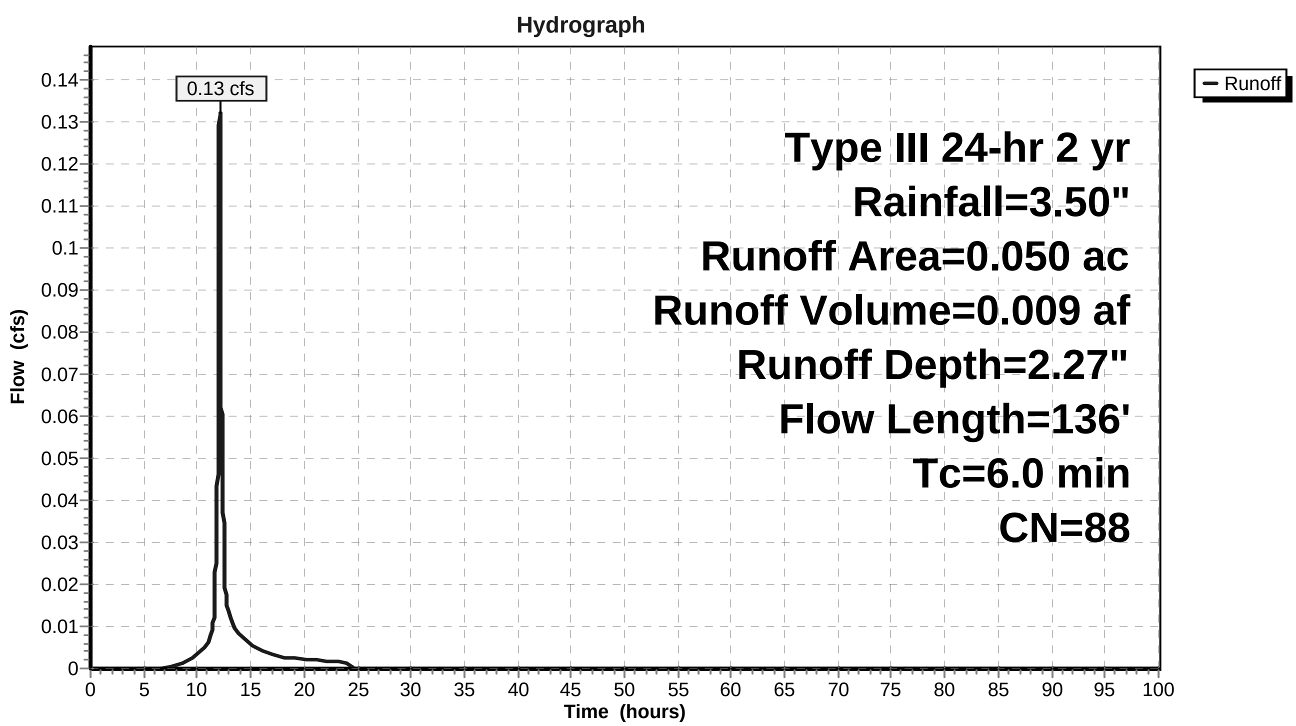
Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15A:



Summary for Subcatchment CB15B:

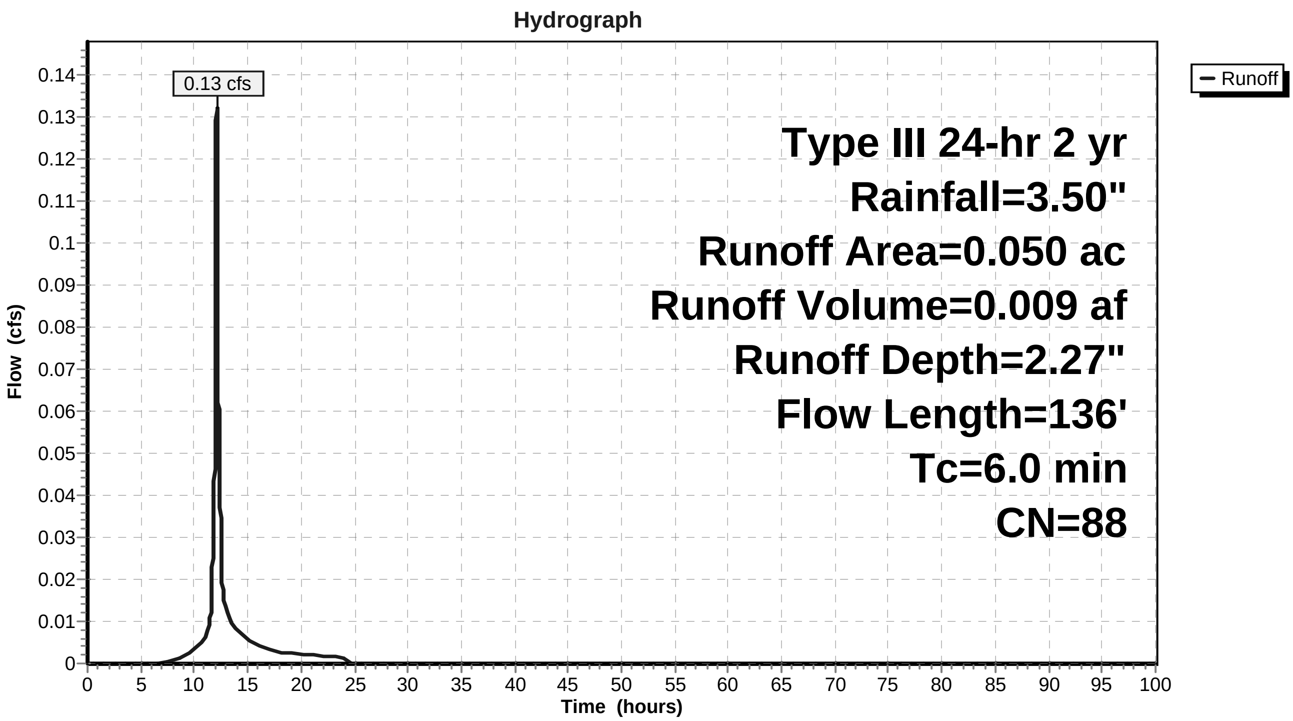
Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15B:



Summary for Subcatchment CB16A:

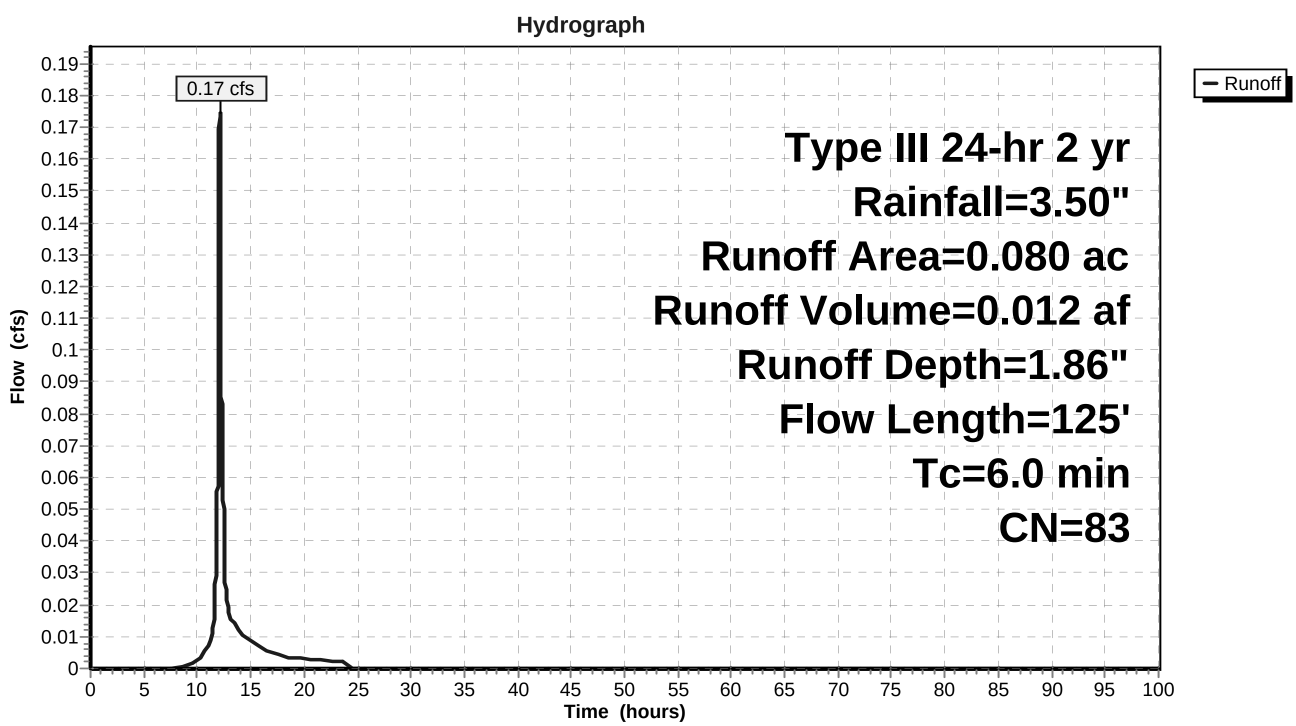
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 1.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.080	83	Weighted Average
0.050		62.50% Pervious Area
0.030		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16A:



Summary for Subcatchment CB16B:

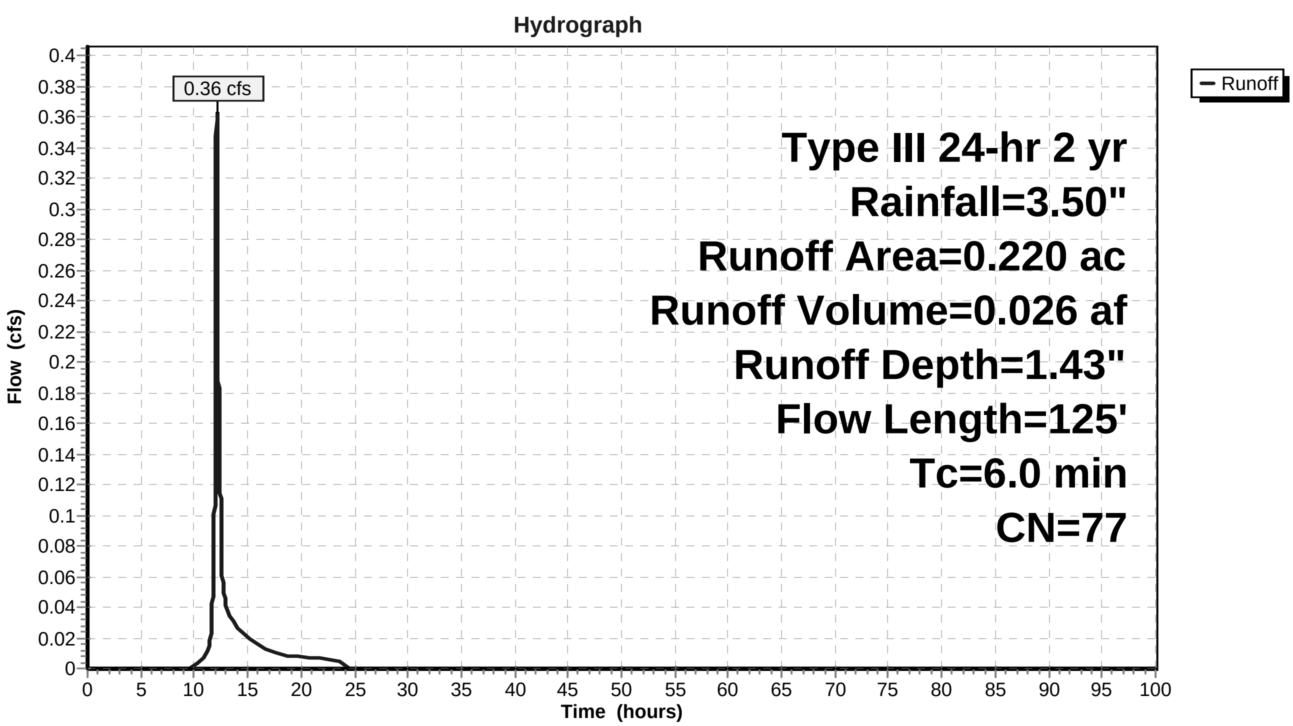
Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 1.43"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.190	74	>75% Grass cover, Good, HSG C
0.220	77	Weighted Average
0.190		86.36% Pervious Area
0.030		13.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16B:



Summary for Subcatchment CB17A:

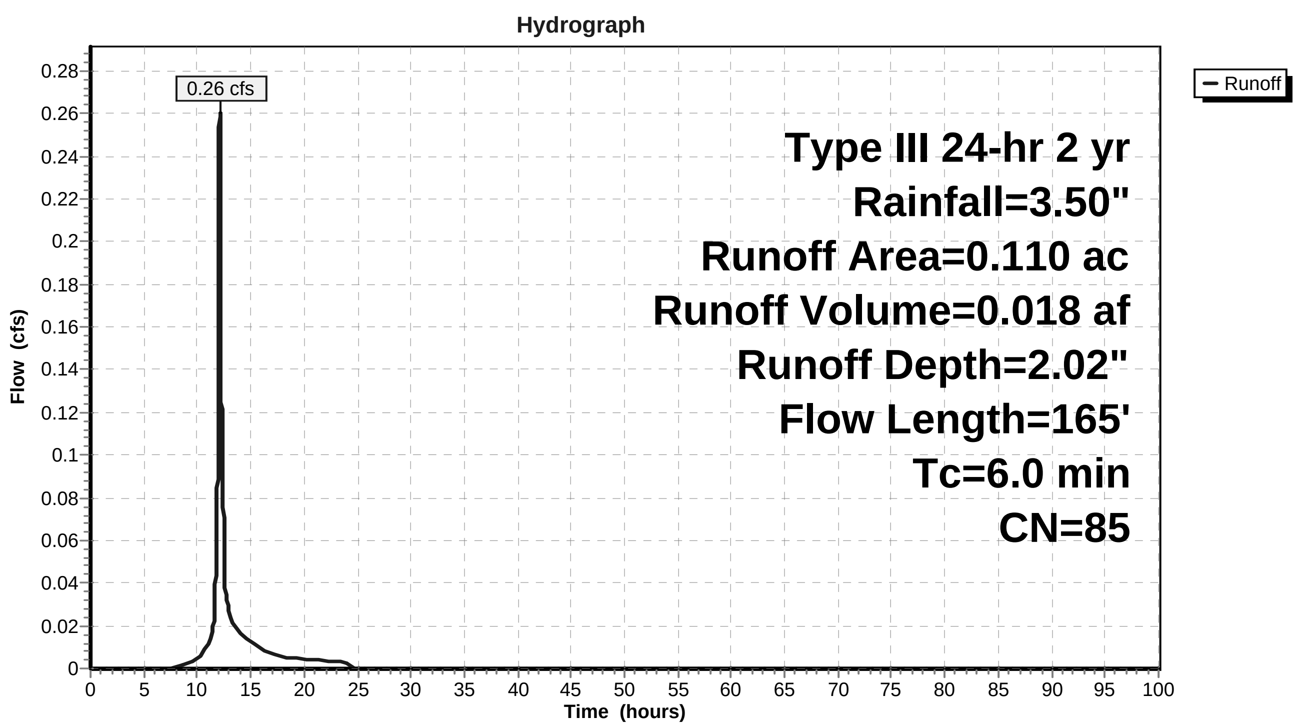
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 2.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.110	85	Weighted Average
0.060		54.55% Pervious Area
0.050		45.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17A:



Summary for Subcatchment CB17B:

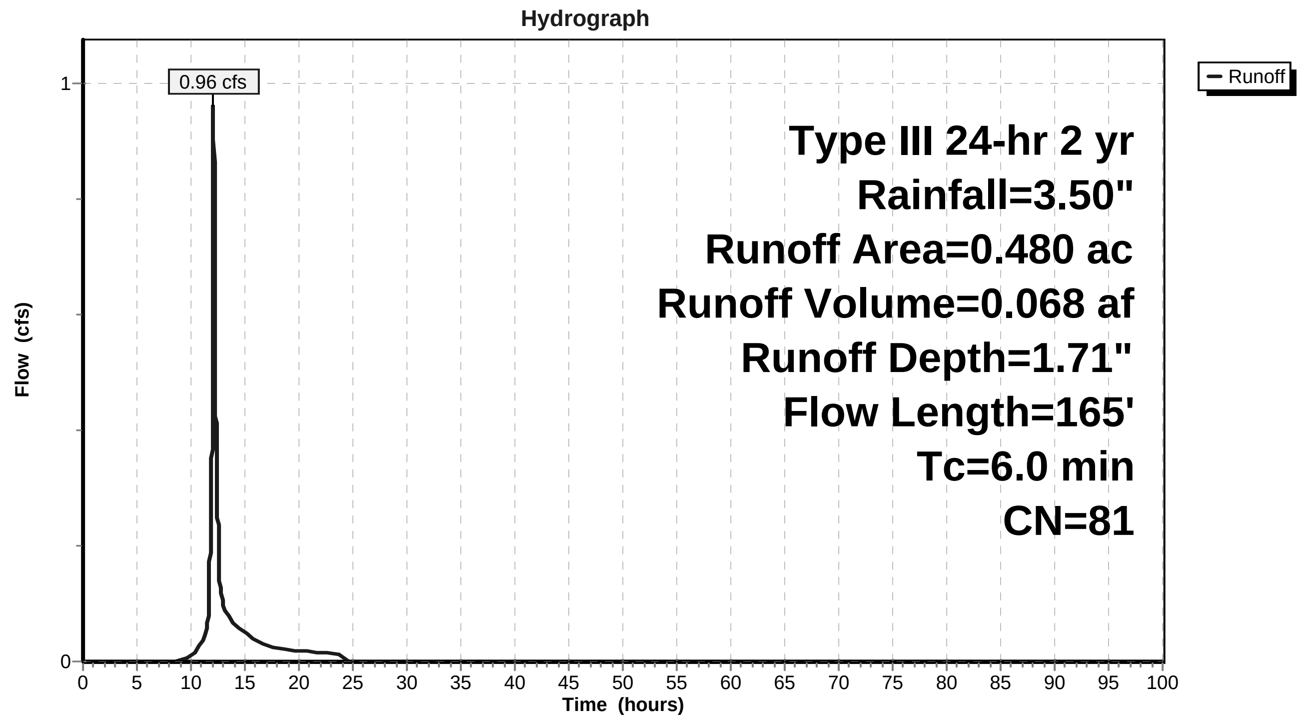
Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.068 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.100	73	Woods, Fair, HSG C
0.240	74	>75% Grass cover, Good, HSG C
0.480	81	Weighted Average
0.340		70.83% Pervious Area
0.140		29.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17B:



Summary for Subcatchment CB18A:

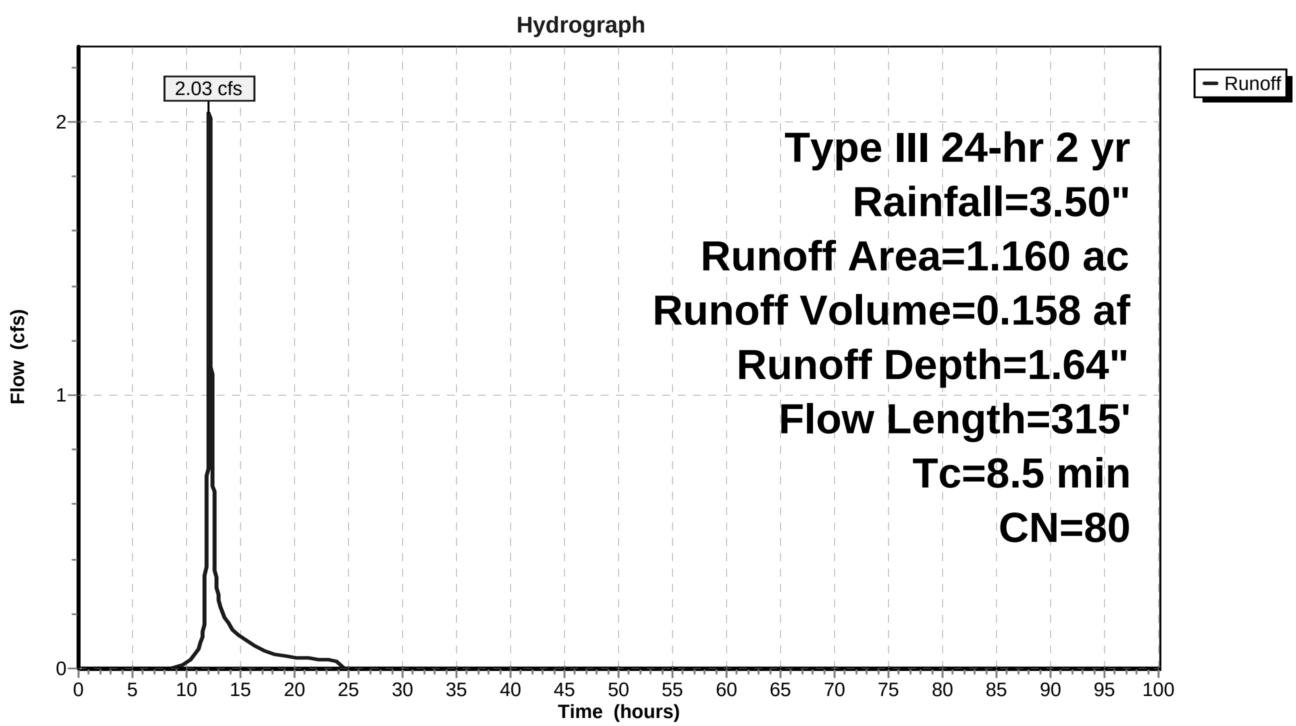
Runoff = 2.03 cfs @ 12.12 hrs, Volume= 0.158 af, Depth= 1.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.310	98	Paved parking & roofs
0.850	74	>75% Grass cover, Good, HSG C
1.160	80	Weighted Average
0.850		73.28% Pervious Area
0.310		26.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	130	0.0400	3.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	85	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	315	Total			

Subcatchment CB18A:



Summary for Subcatchment CB18B:

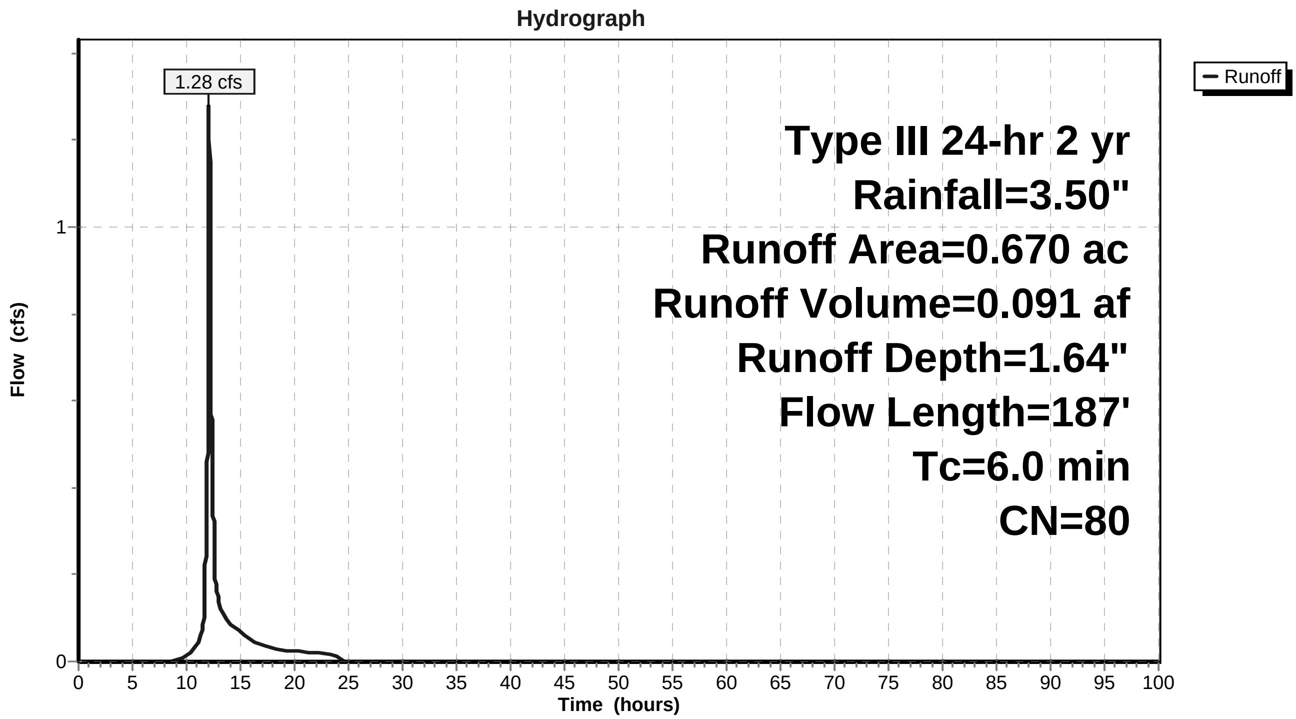
Runoff = 1.28 cfs @ 12.09 hrs, Volume= 0.091 af, Depth= 1.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.170	98	Paved parking & roofs
0.050	73	Woods, Fair, HSG C
0.450	74	>75% Grass cover, Good, HSG C
0.670	80	Weighted Average
0.500		74.63% Pervious Area
0.170		25.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	87	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	187	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB18B:



Summary for Subcatchment CB1A:

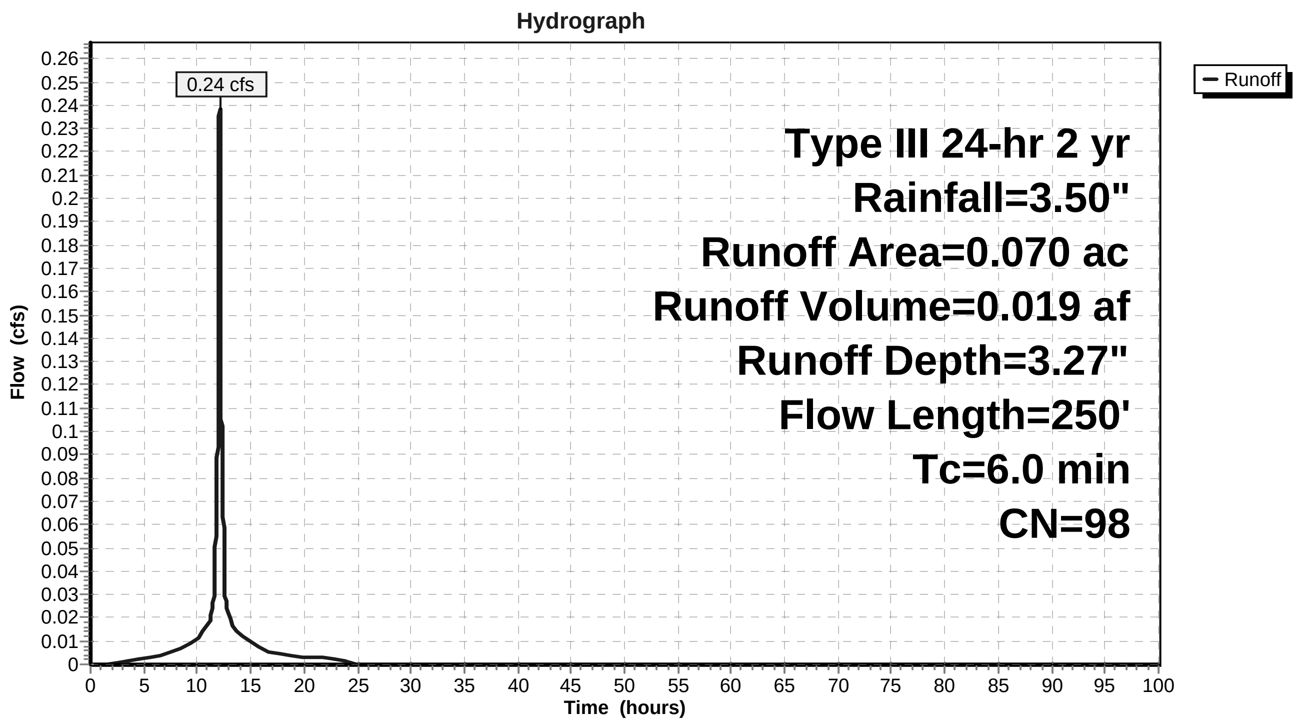
Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.019 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1A:



Summary for Subcatchment CB1B:

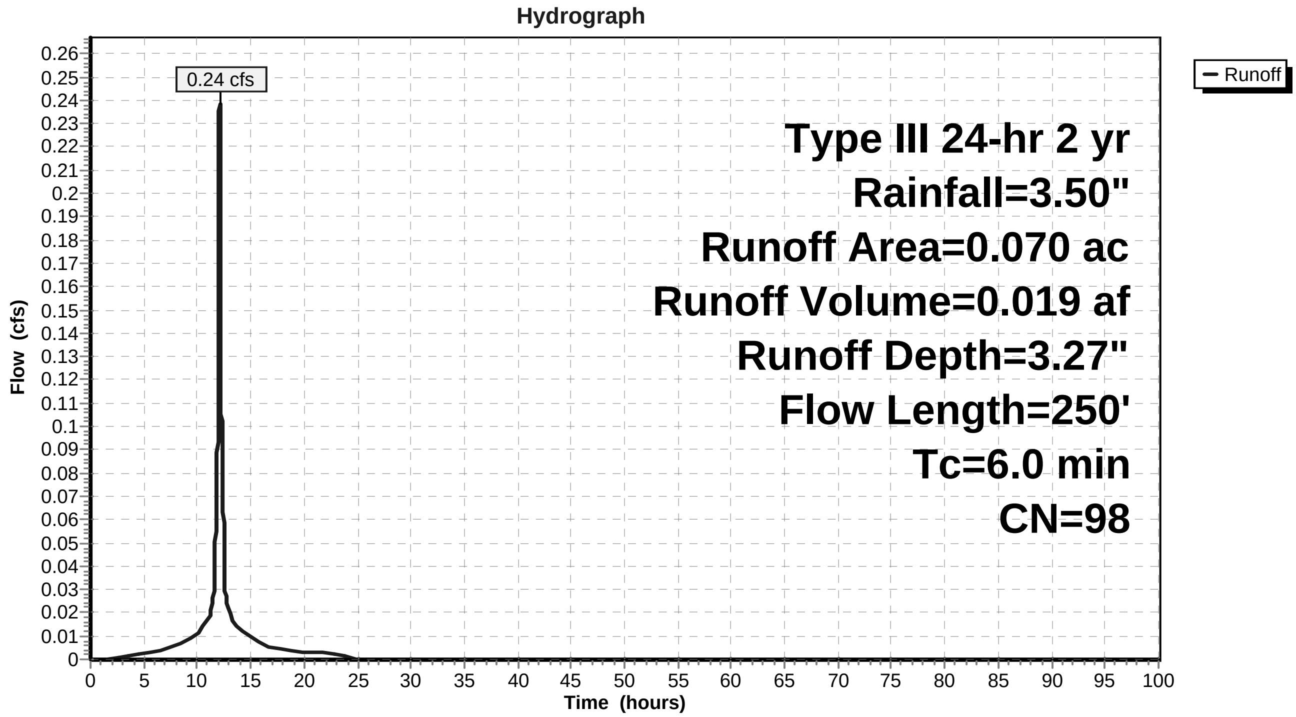
Runoff = 0.24 cfs @ 12.08 hrs, Volume= 0.019 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1B:



Summary for Subcatchment CB1C:

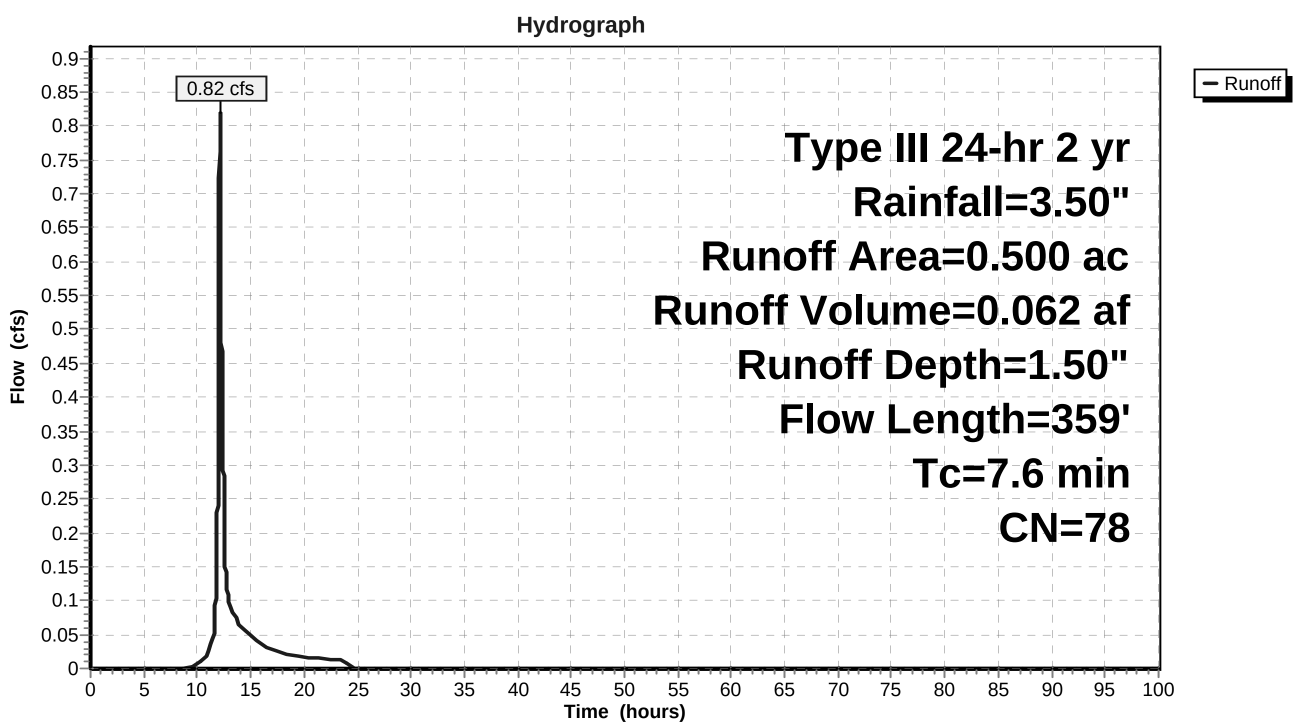
Runoff = 0.82 cfs @ 12.11 hrs, Volume= 0.062 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.020	89	Gravel roads, HSG C
0.080	98	Paved parking & roofs
0.300	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.500	78	Weighted Average
0.420		84.00% Pervious Area
0.080		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.2600	0.34		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	259	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	359	Total			

Subcatchment CB1C:



Summary for Subcatchment CB2A:

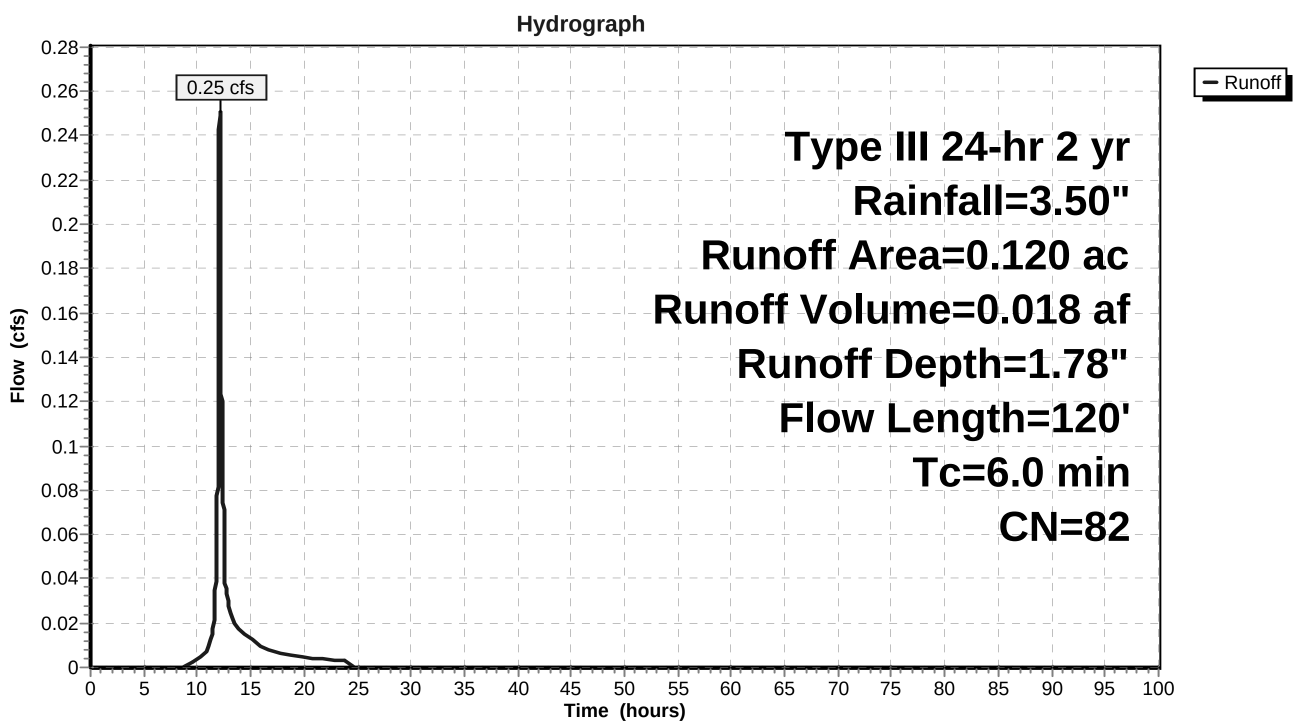
Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.080	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.120	82	Weighted Average
0.080		66.67% Pervious Area
0.040		33.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2A:



Summary for Subcatchment CB2B:

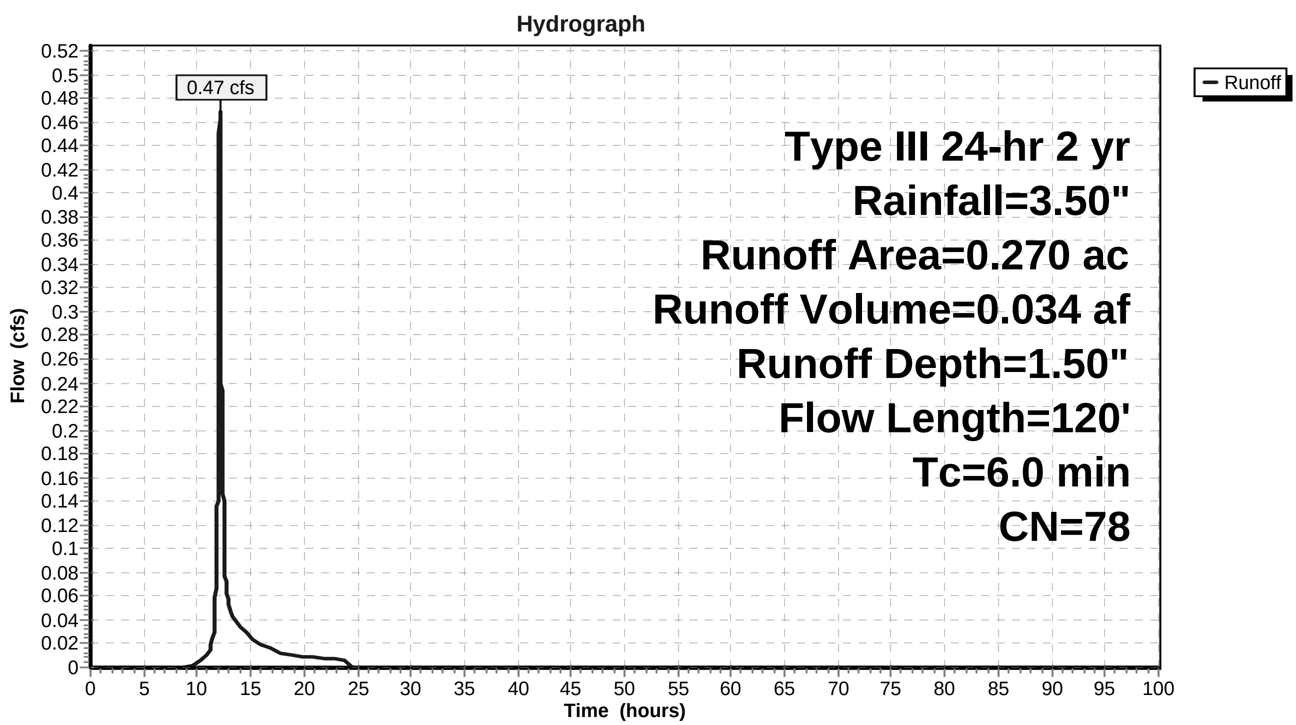
Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.034 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.270	78	Weighted Average
0.230		85.19% Pervious Area
0.040		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2B:



Summary for Subcatchment CB3A:

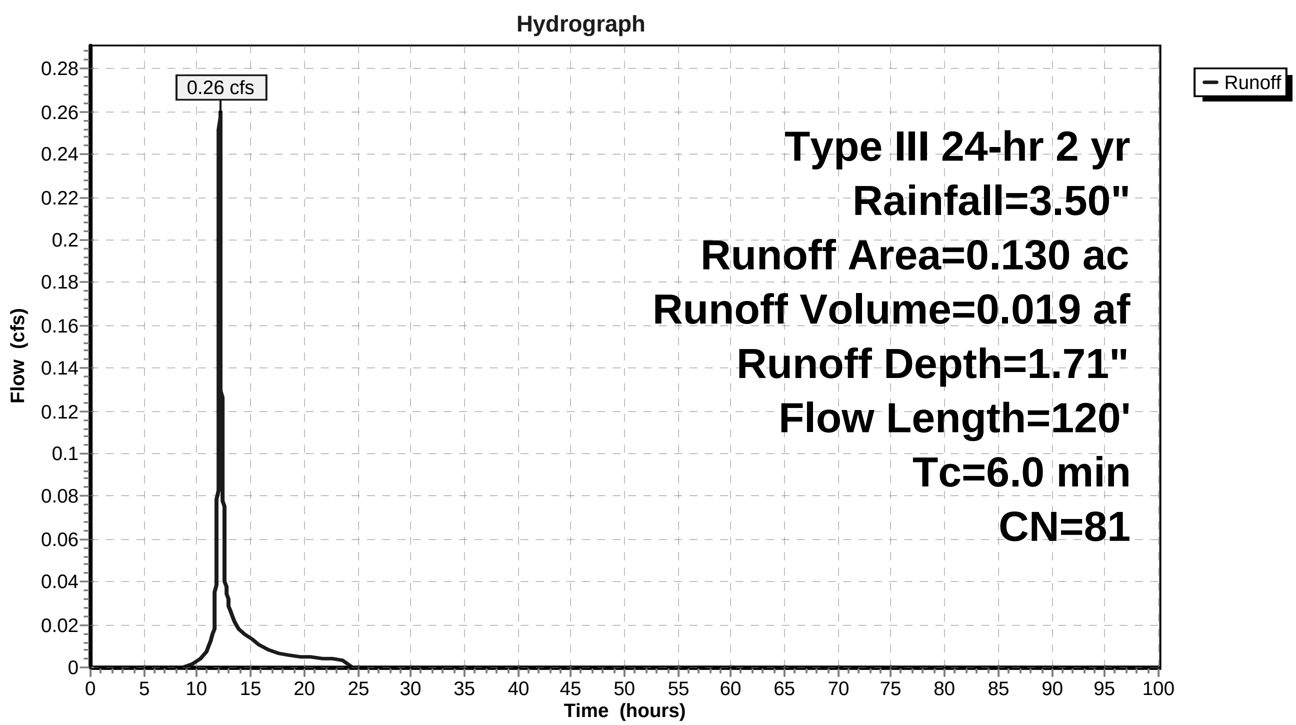
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.090	74	>75% Grass cover, Good, HSG C
0.130	81	Weighted Average
0.090		69.23% Pervious Area
0.040		30.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	100	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3A:



Summary for Subcatchment CB3B:

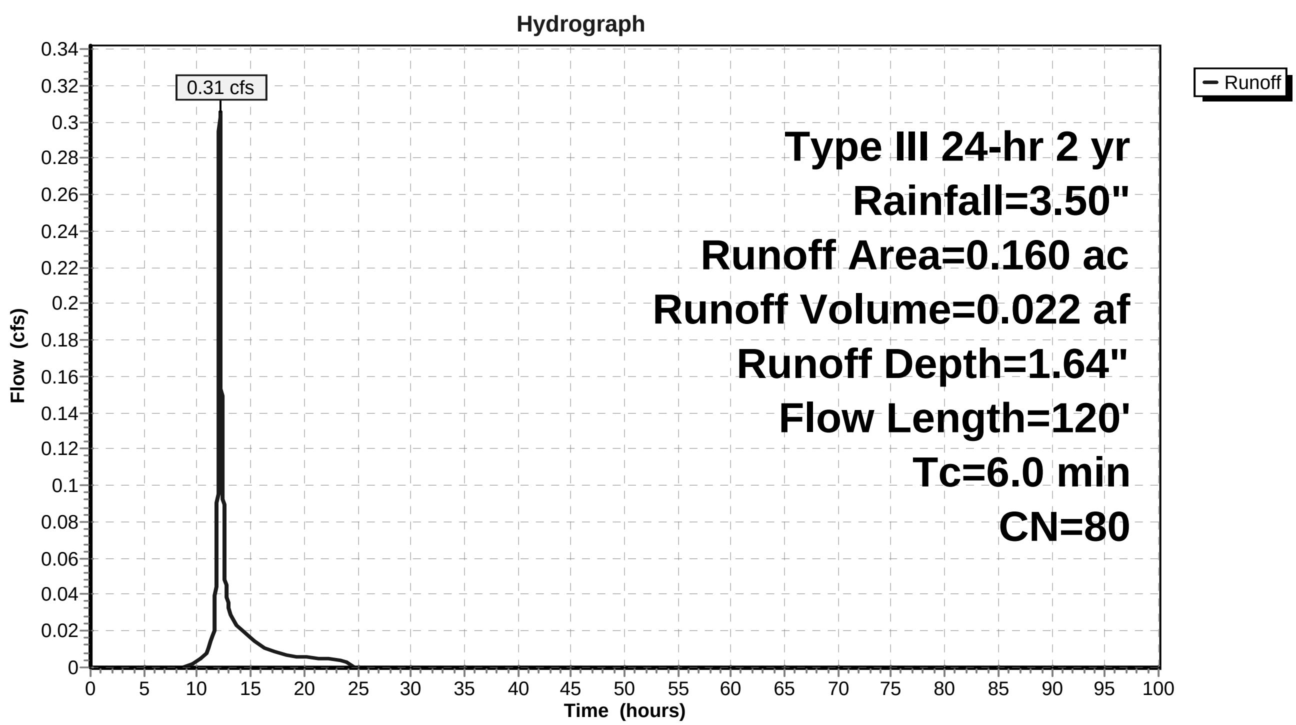
Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 1.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.120	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.160	80	Weighted Average
0.120		75.00% Pervious Area
0.040		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3B:



Summary for Subcatchment CB4A:

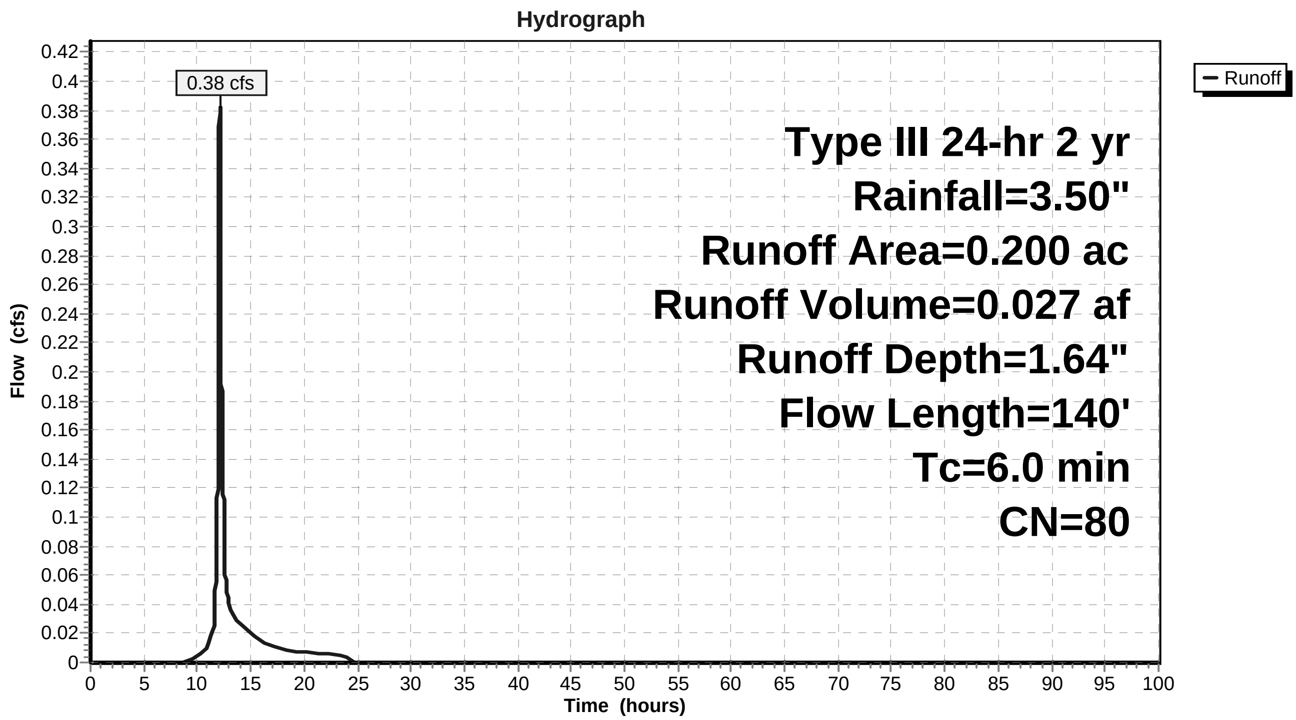
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 1.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.200	80	Weighted Average
0.150		75.00% Pervious Area
0.050		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4A:



Summary for Subcatchment CB4B:

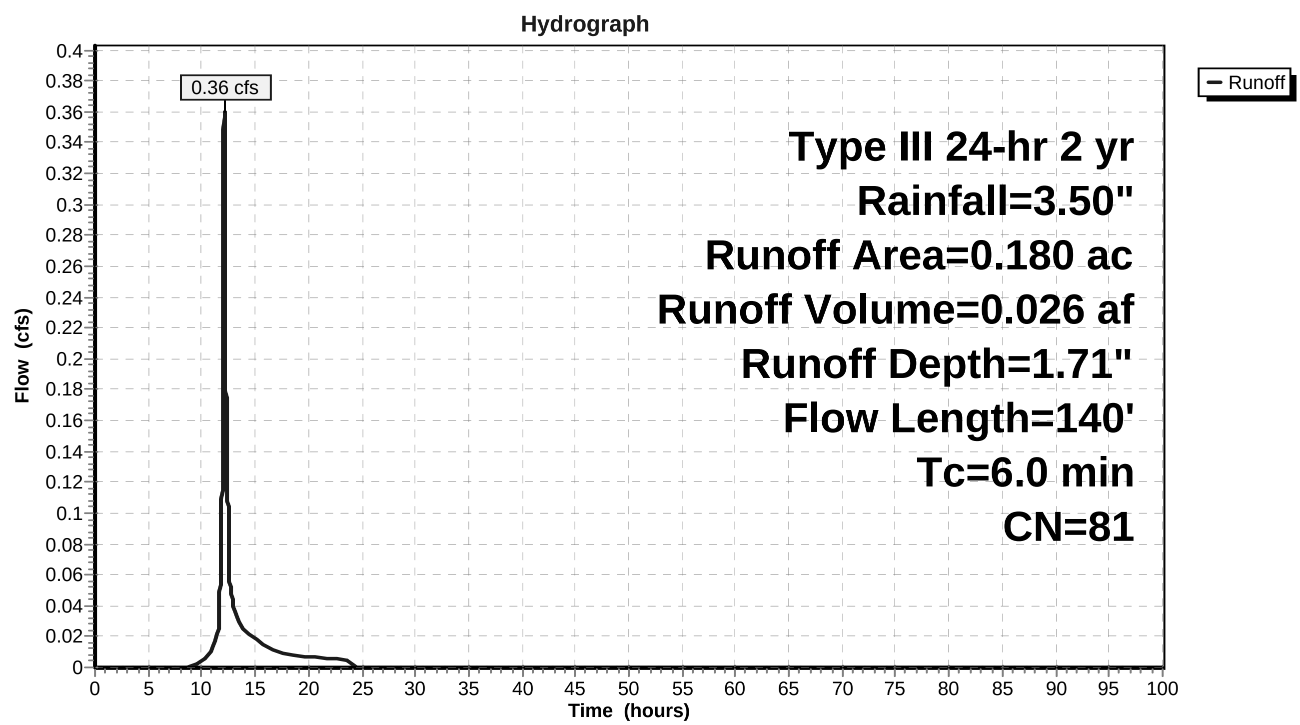
Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.180	81	Weighted Average
0.130		72.22% Pervious Area
0.050		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4B:



Summary for Subcatchment CB5A:

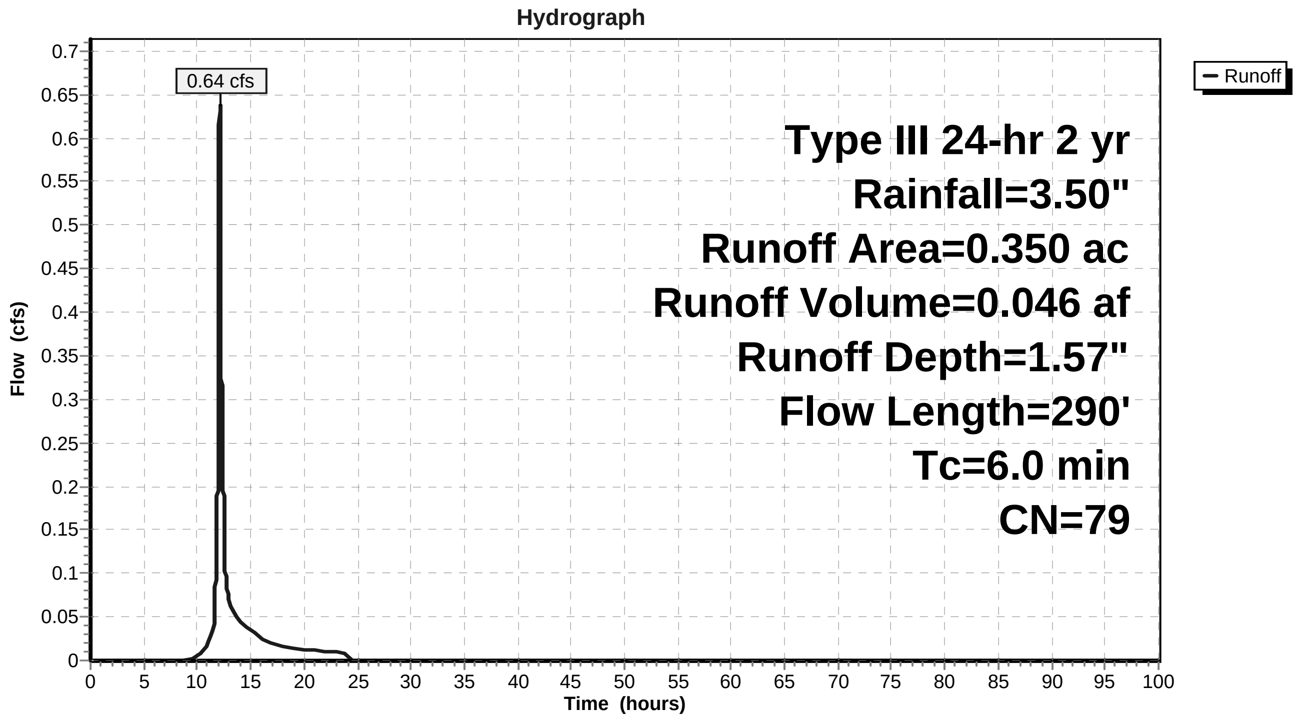
Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af, Depth= 1.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.140	73	Woods, Fair, HSG C
0.350	79	Weighted Average
0.270		77.14% Pervious Area
0.080		22.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	270	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	290	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5A:



Summary for Subcatchment CB5B:

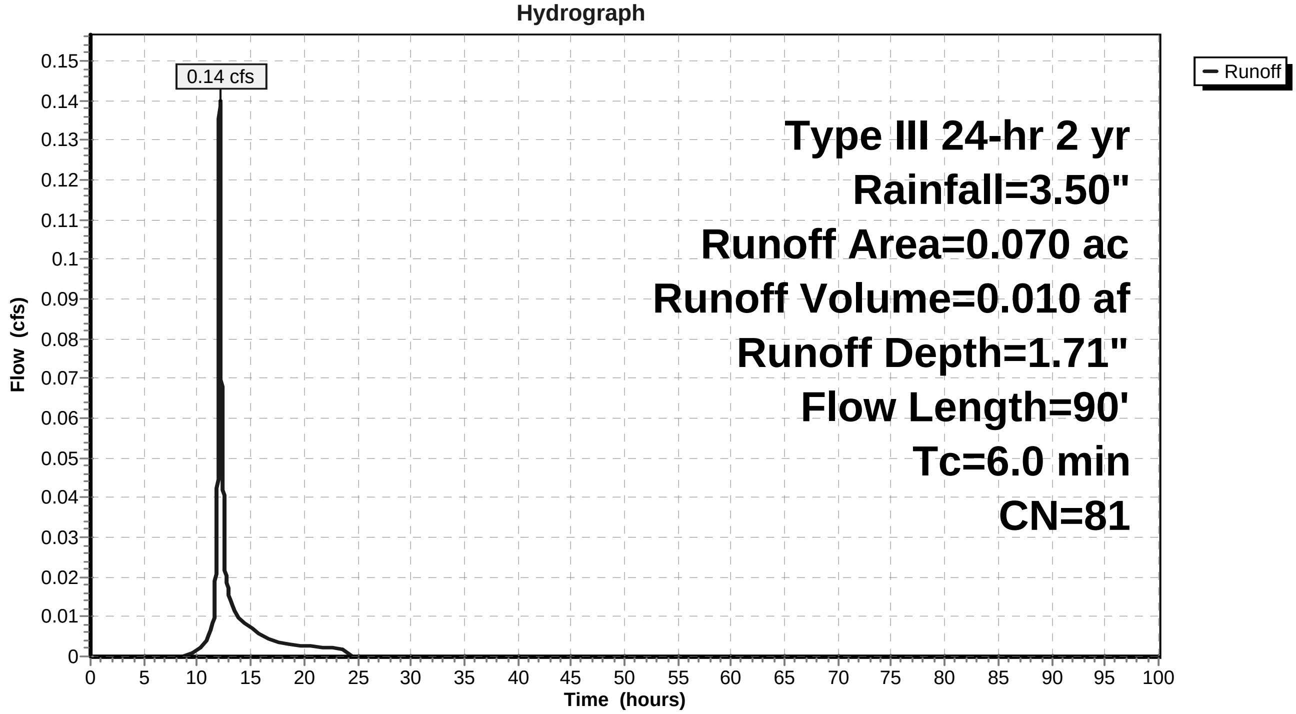
Runoff = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.050	74	>75% Grass cover, Good, HSG C
0.020	98	Paved parking & roofs
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	70	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	90	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5B:



Summary for Subcatchment CB6A:

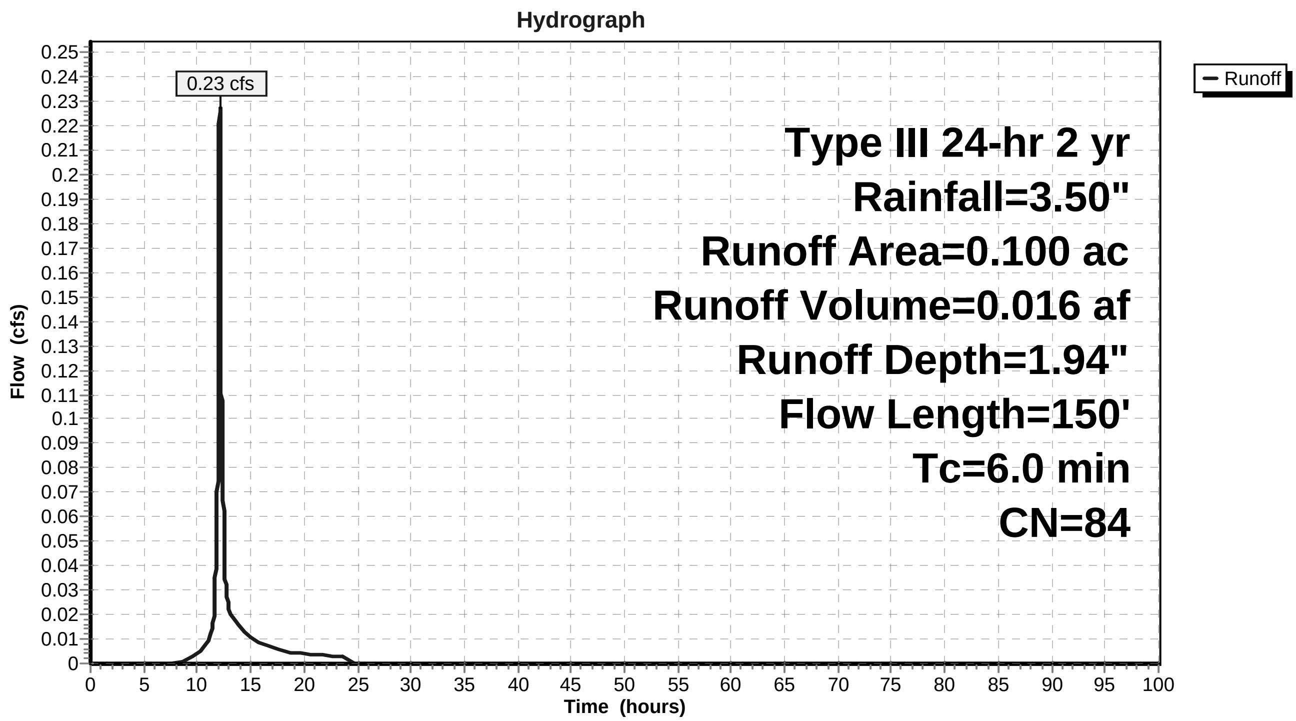
Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.7	80	0.0500	1.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6A:



Summary for Subcatchment CB6B:

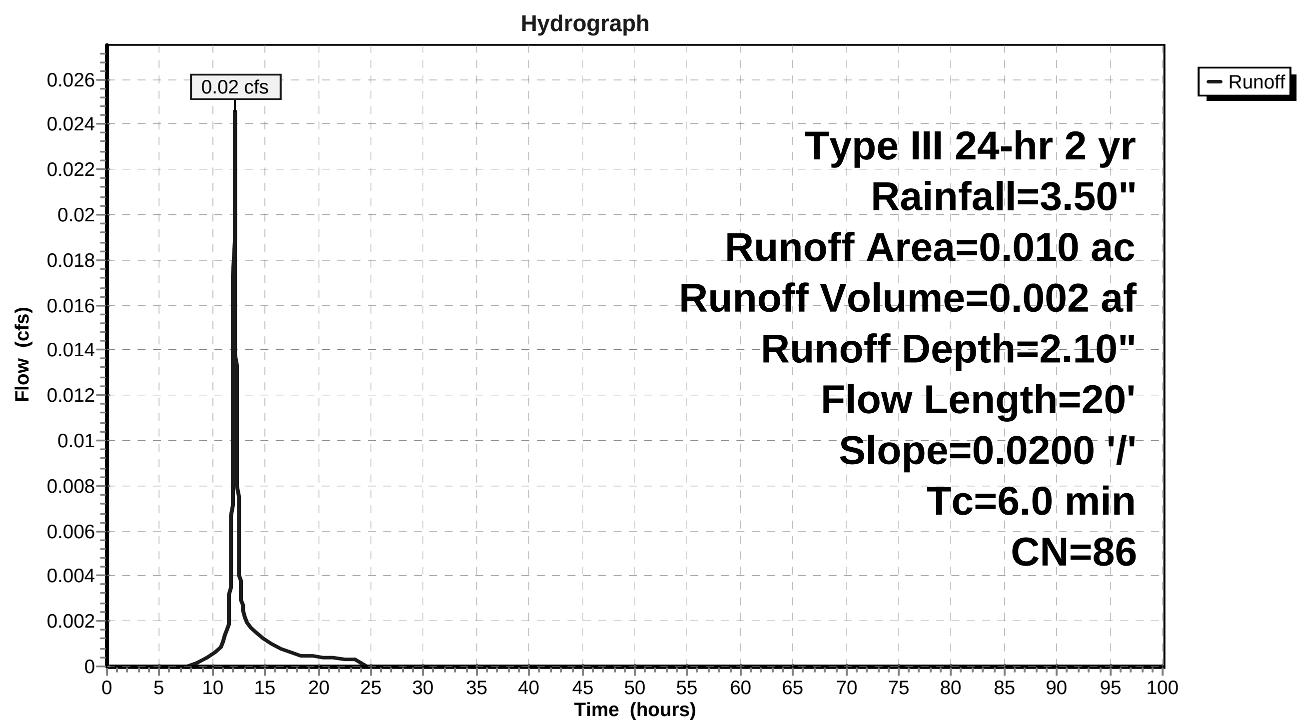
Runoff = 0.02 cfs @ 12.09 hrs, Volume= 0.002 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.005	74	>75% Grass cover, Good, HSG C
0.005	98	Paved parking & roofs
0.010	86	Weighted Average
0.005		50.00% Pervious Area
0.005		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6B:



Summary for Subcatchment CB7A:

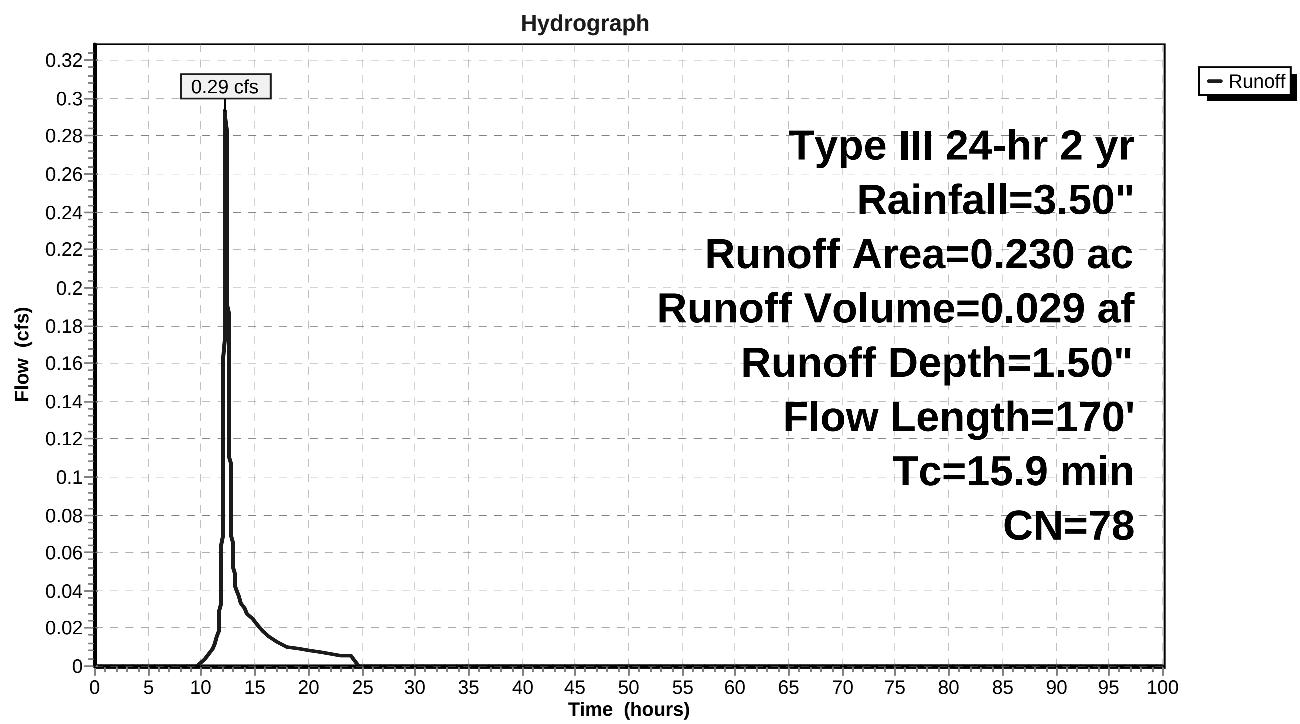
Runoff = 0.29 cfs @ 12.23 hrs, Volume= 0.029 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.130	73	Woods, Fair, HSG C
0.060	74	>75% Grass cover, Good, HSG C
0.230	78	Weighted Average
0.190		82.61% Pervious Area
0.040		17.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	30	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	40	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.9	170	Total			

Subcatchment CB7A:



Summary for Subcatchment CB7B:

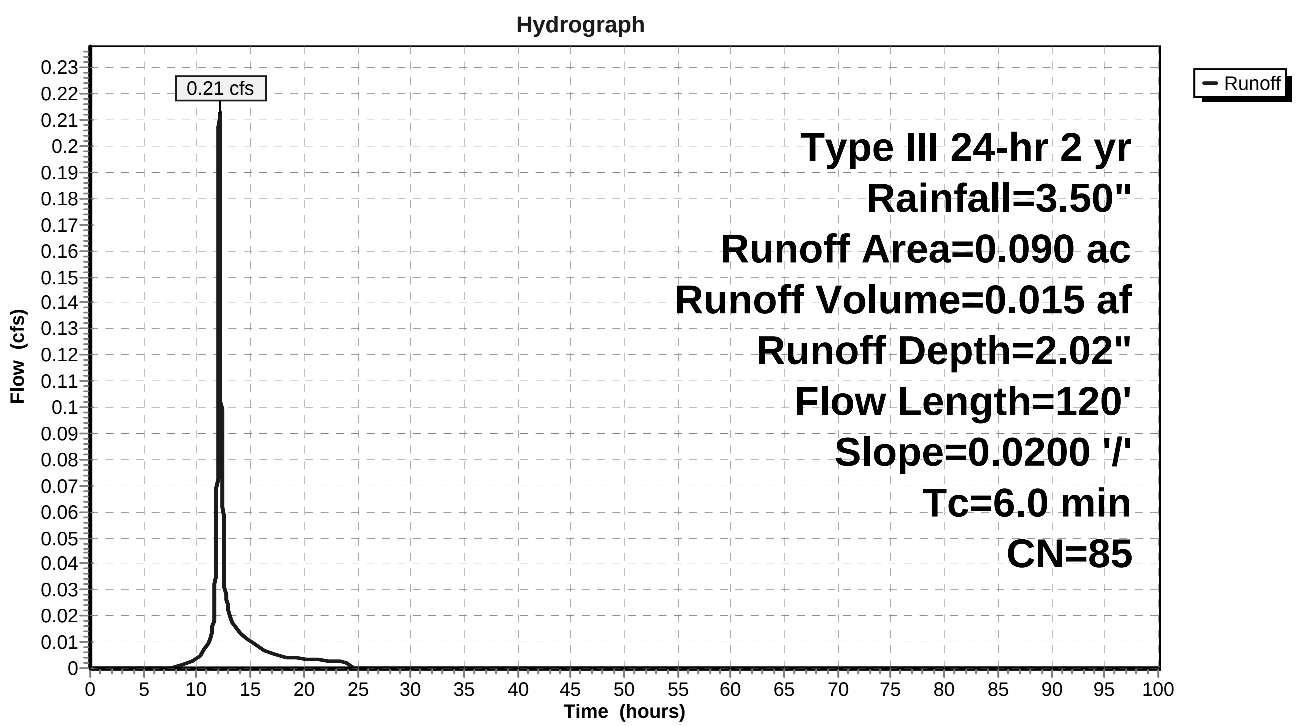
Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 2.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.090	85	Weighted Average
0.050		55.56% Pervious Area
0.040		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB7B:



Summary for Subcatchment CB8A:

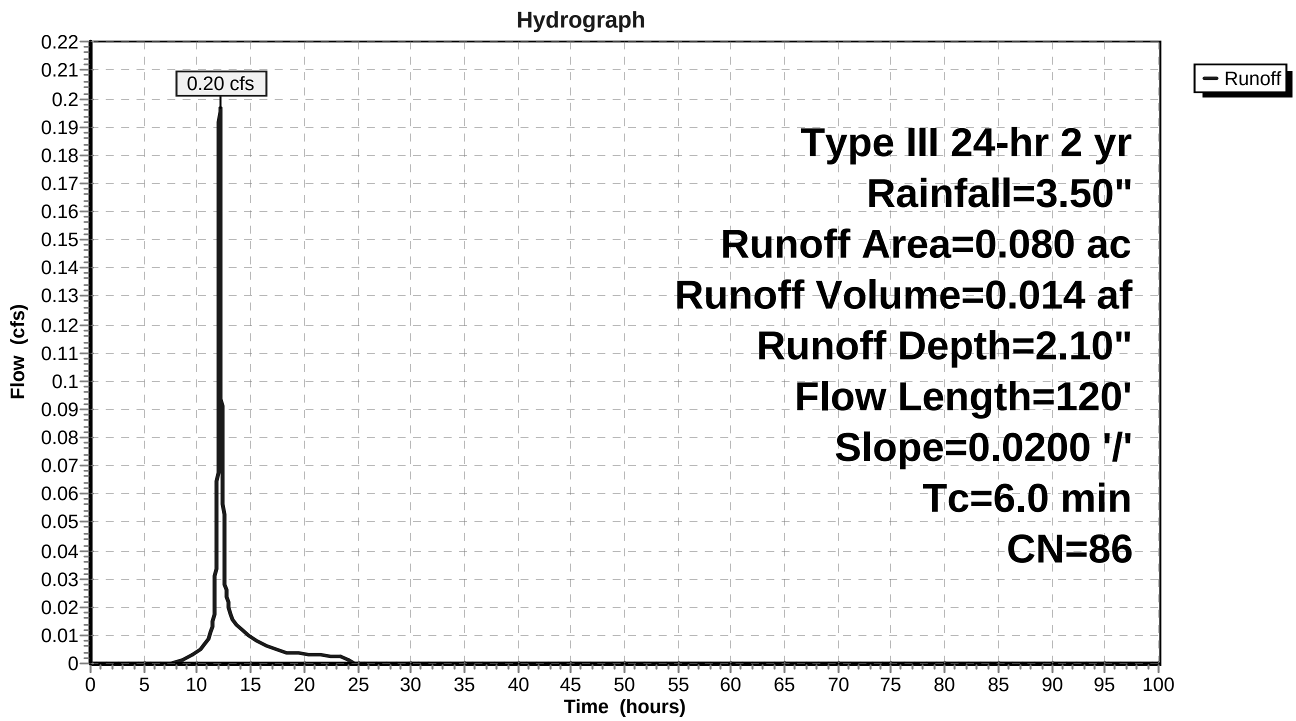
Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 2.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.040	74	>75% Grass cover, Good, HSG C
0.080	86	Weighted Average
0.040		50.00% Pervious Area
0.040		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8A:



Summary for Subcatchment CB8B:

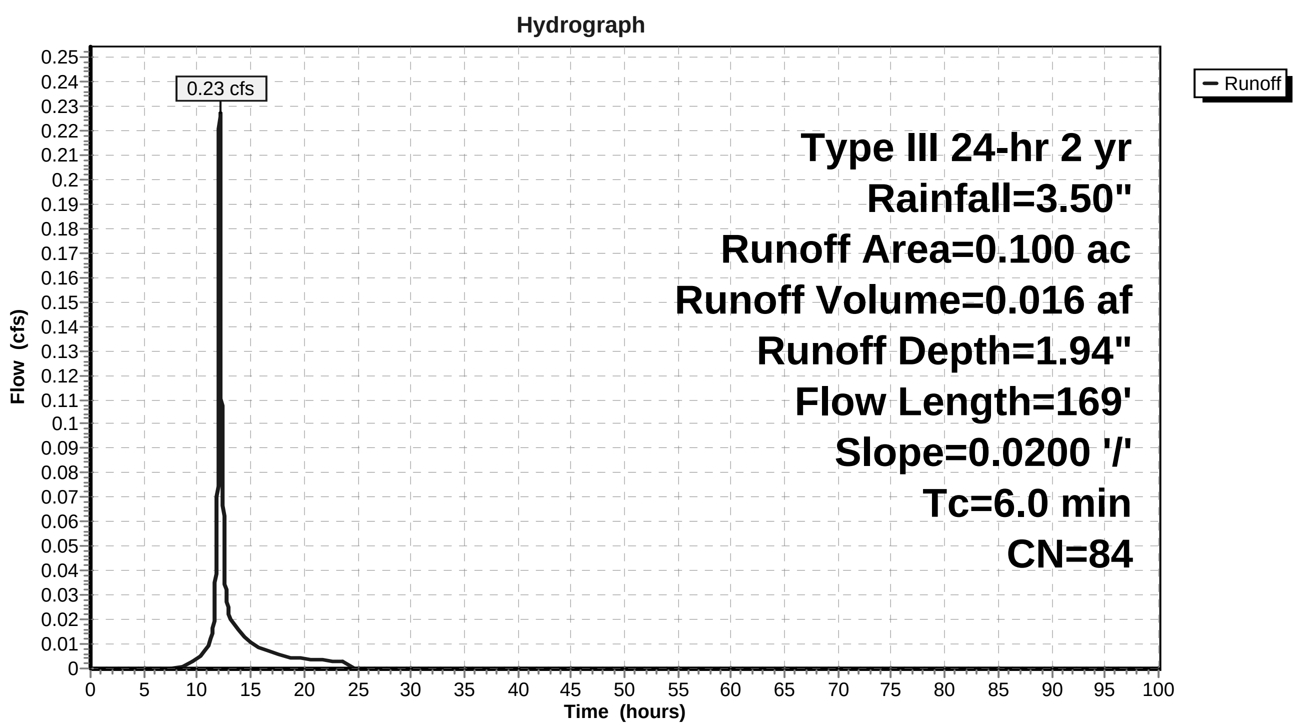
Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	169	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8B:



Summary for Subcatchment CB9A:

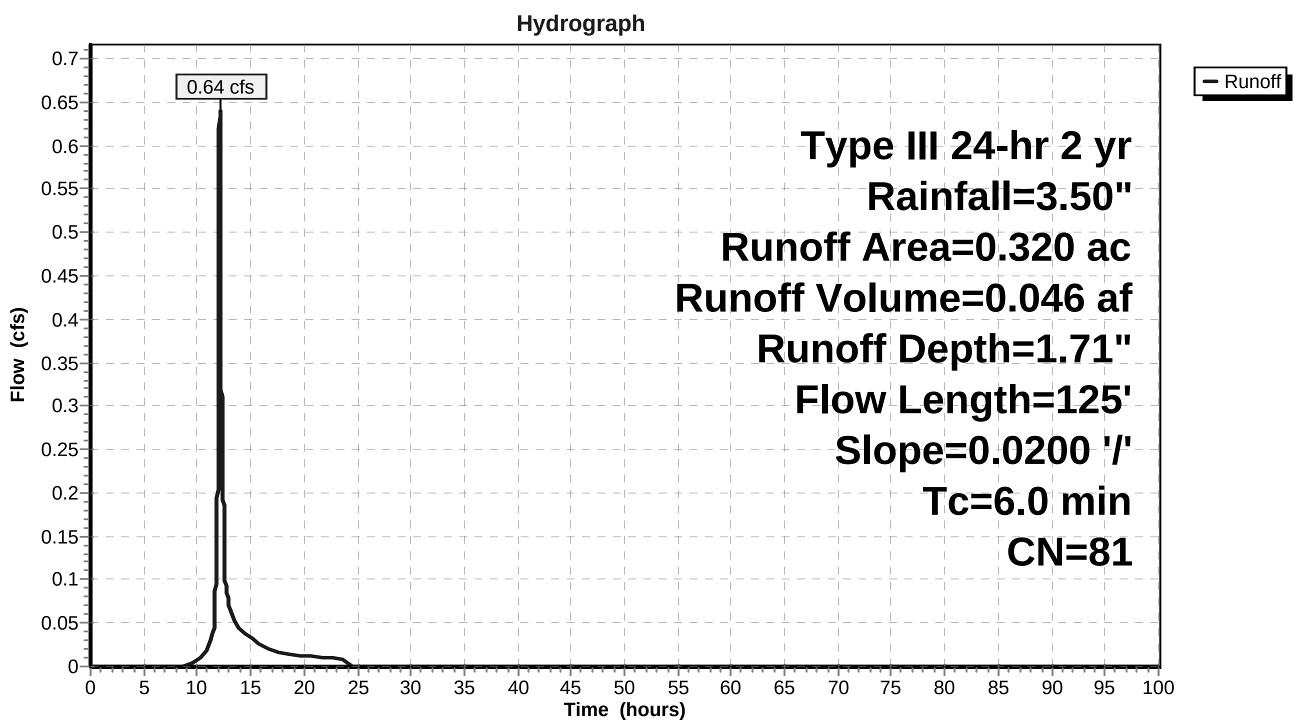
Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.100	98	Paved parking & roofs
0.120	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.320	81	Weighted Average
0.220		68.75% Pervious Area
0.100		31.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9A:



Summary for Subcatchment CB9B:

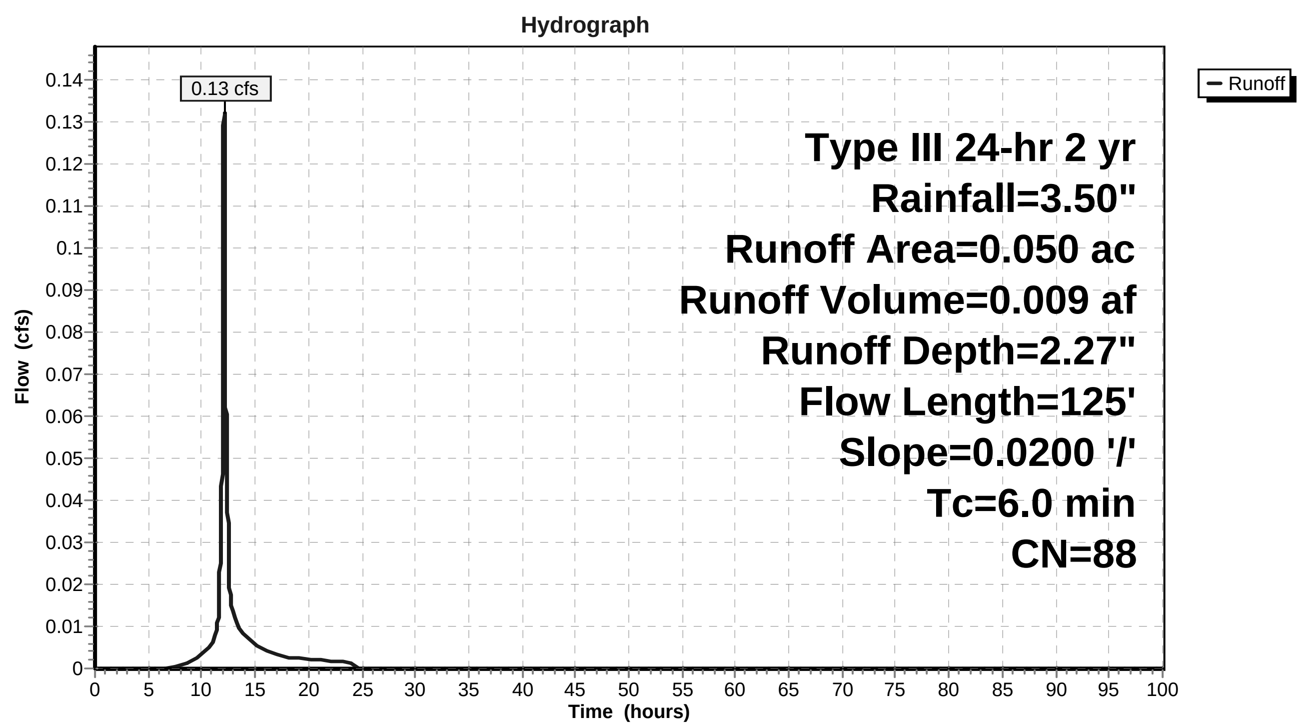
Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.009 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.020	74	>75% Grass cover, Good, HSG C
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9B:



Summary for Subcatchment I-14A:

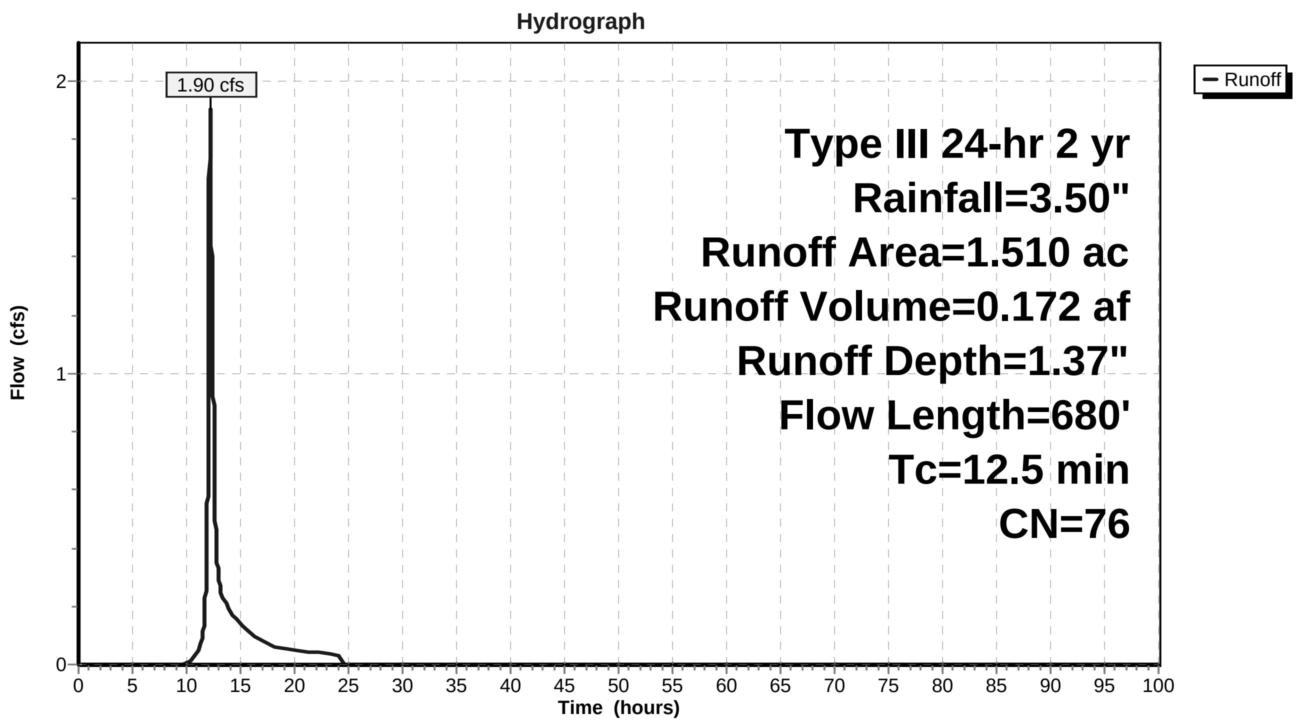
Runoff = 1.90 cfs @ 12.18 hrs, Volume= 0.172 af, Depth= 1.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.160	98	Paved parking & roofs
0.140	73	Woods, Fair, HSG C
1.210	74	>75% Grass cover, Good, HSG C
1.510	76	Weighted Average
1.350		89.40% Pervious Area
0.160		10.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.2	80	0.1250	5.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.5	500	0.0160	2.39	11.95	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
12.5	680	Total			

Subcatchment I-14A:



Summary for Subcatchment IN-CB1A:

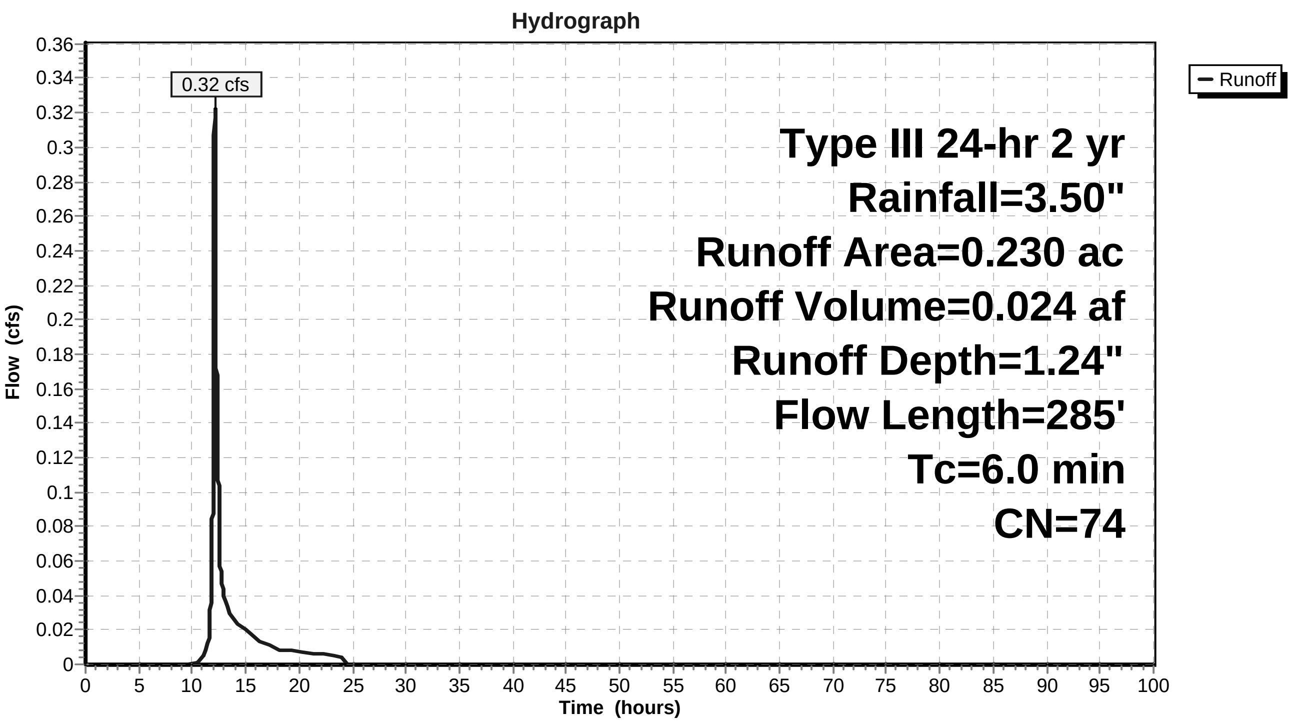
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	55	0.9000	0.50		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	230	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.5	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment IN-CB1A:



Summary for Subcatchment P-2:

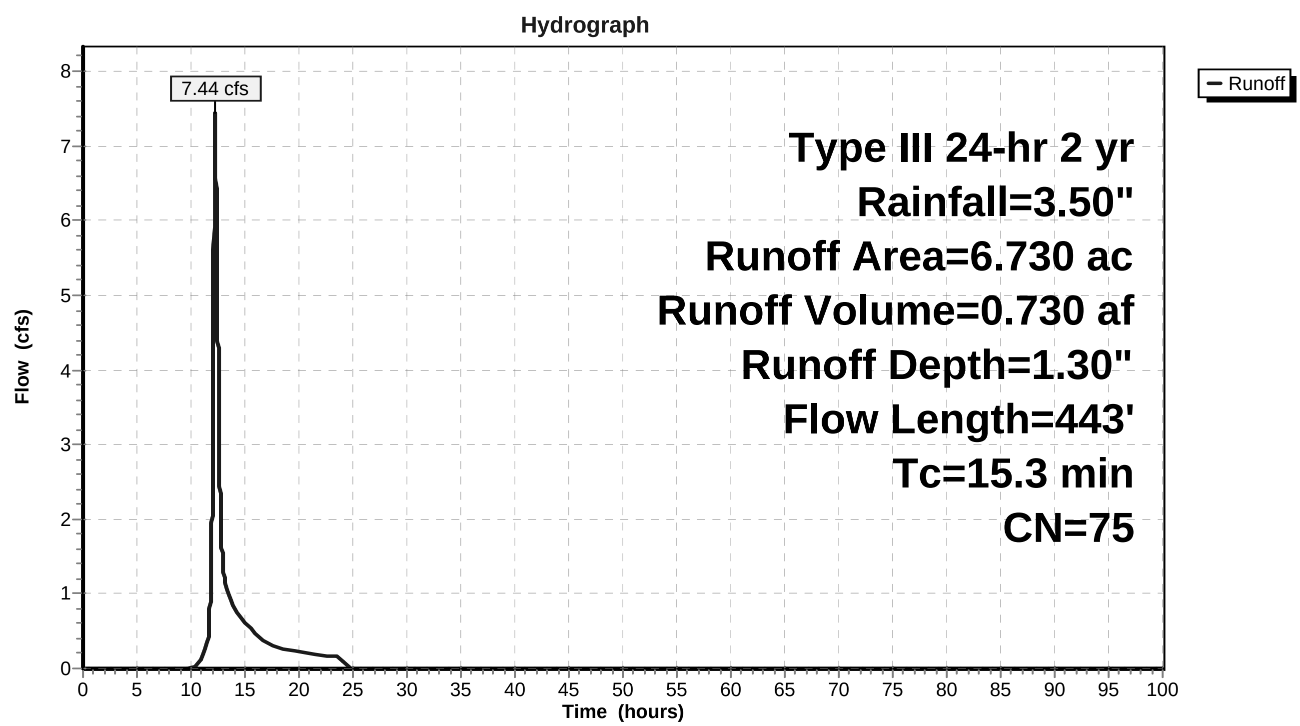
Runoff = 7.44 cfs @ 12.22 hrs, Volume= 0.730 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
3.680	73	Woods, Fair, HSG C
0.200	98	Paved parking & roofs
2.720	74	>75% Grass cover, Good, HSG C
0.130	98	Water Surface, HSG C
6.730	75	Weighted Average
6.400		95.10% Pervious Area
0.330		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.6	343	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.3	443	Total			

Subcatchment P-2:



Summary for Subcatchment P-3:

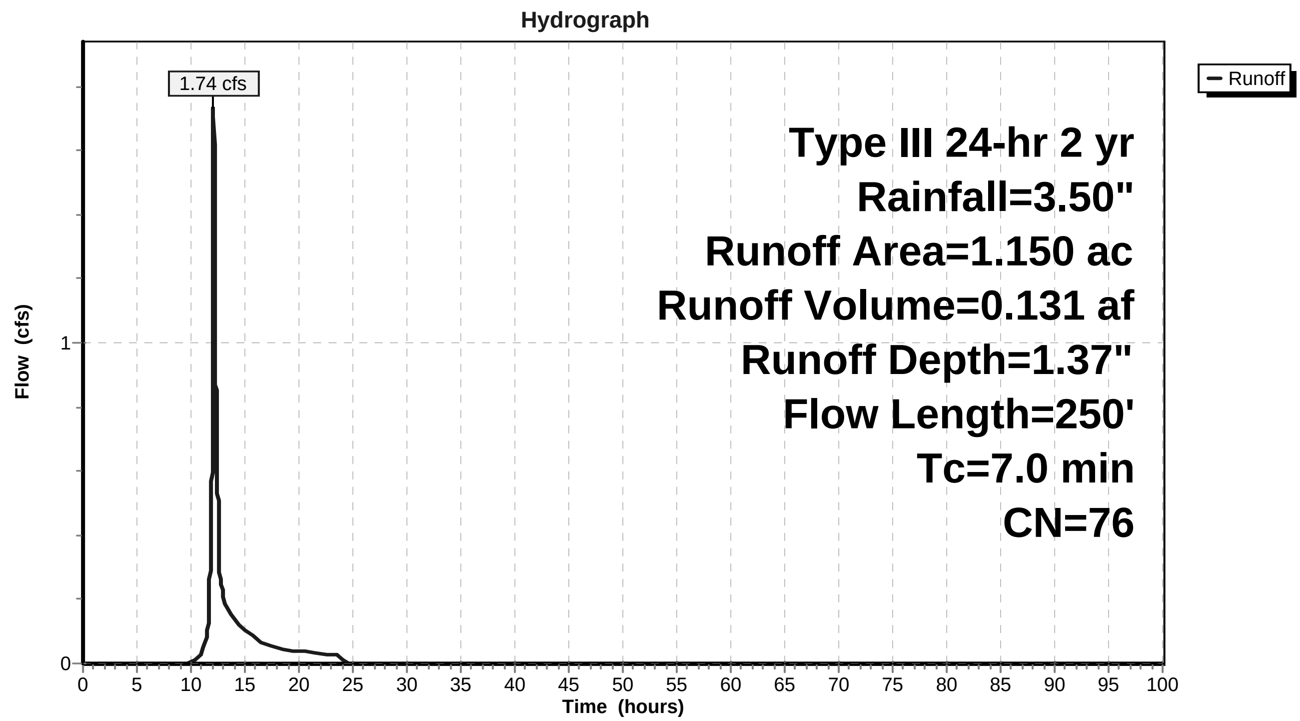
Runoff = 1.74 cfs @ 12.11 hrs, Volume= 0.131 af, Depth= 1.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.460	74	>75% Grass cover, Good, HSG C
0.050	98	Paved parking & roofs
0.580	73	Woods, Fair, HSG C
0.060	98	Water Surface, HSG C
1.150	76	Weighted Average
1.040		90.43% Pervious Area
0.110		9.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.1200	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.3	150	0.3000	8.82		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	250	Total			

Subcatchment P-3:



Summary for Subcatchment P1:

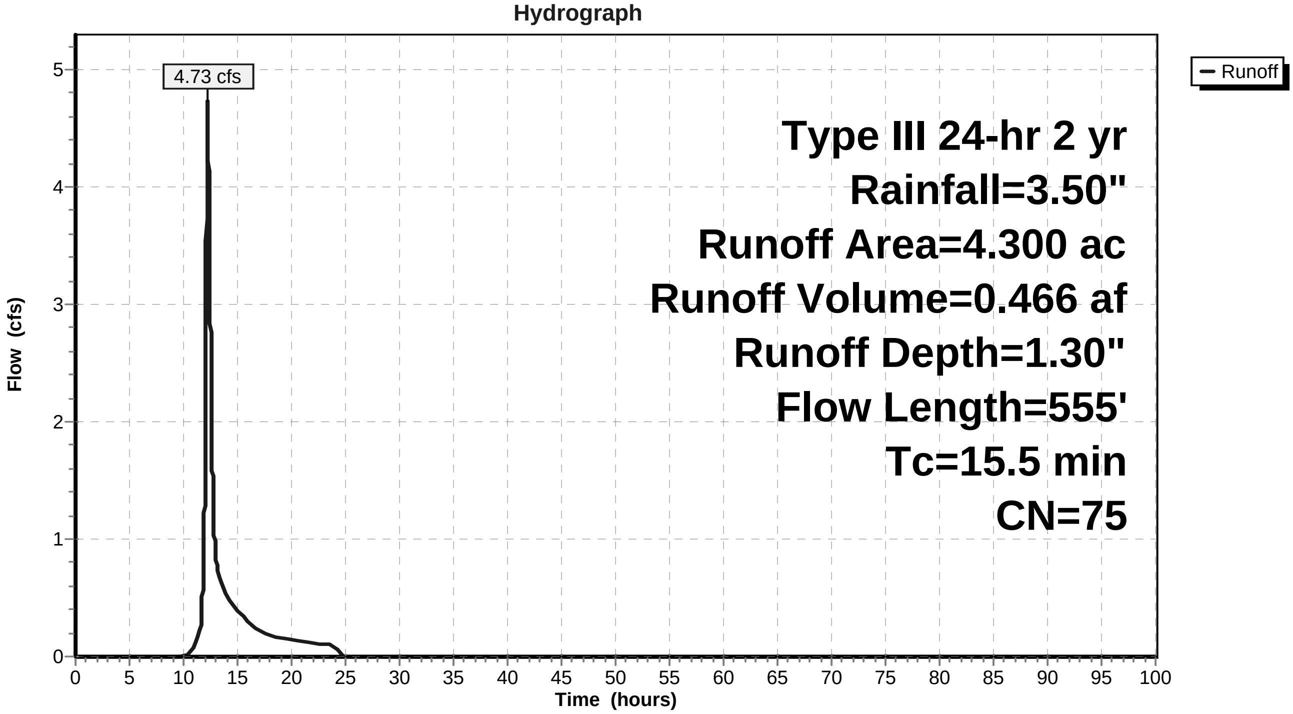
Runoff = 4.73 cfs @ 12.22 hrs, Volume= 0.466 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
2.990	73	Woods, Fair, HSG C
1.000	74	>75% Grass cover, Good, HSG C
0.120	89	Gravel roads, HSG C
0.050	98	Water Surface, HSG C
4.300	75	Weighted Average
4.110		95.58% Pervious Area
0.190		4.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	155	0.0600	3.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	300	0.2260	8.45	25.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 2.0 '/' Top.W=5.00' n= 0.056
15.5	555	Total			

Subcatchment P1:



Summary for Subcatchment SW1A:

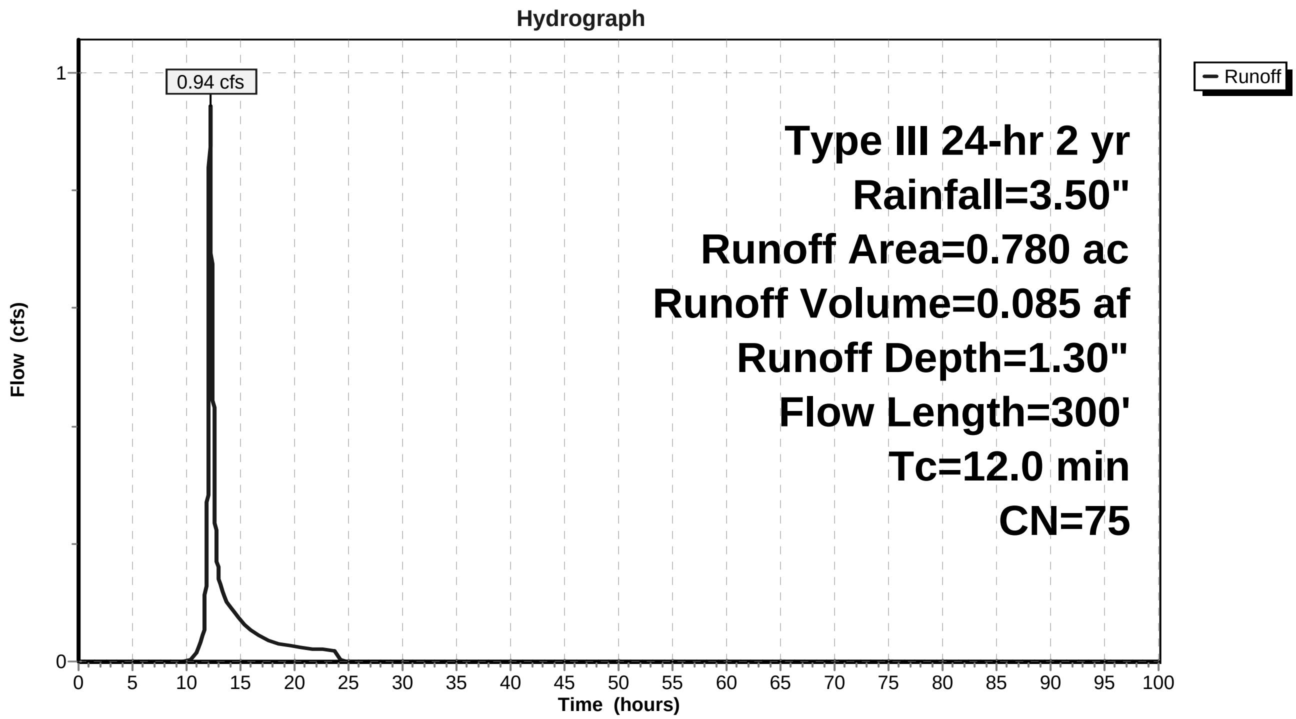
Runoff = 0.94 cfs @ 12.17 hrs, Volume= 0.085 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.090	73	Woods, Fair, HSG C
0.640	74	>75% Grass cover, Good, HSG C
0.780	75	Weighted Average
0.730		93.59% Pervious Area
0.050		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	50	0.1000	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.1	200	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.0	300	Total			

Subcatchment SW1A:



Summary for Subcatchment SW1B:

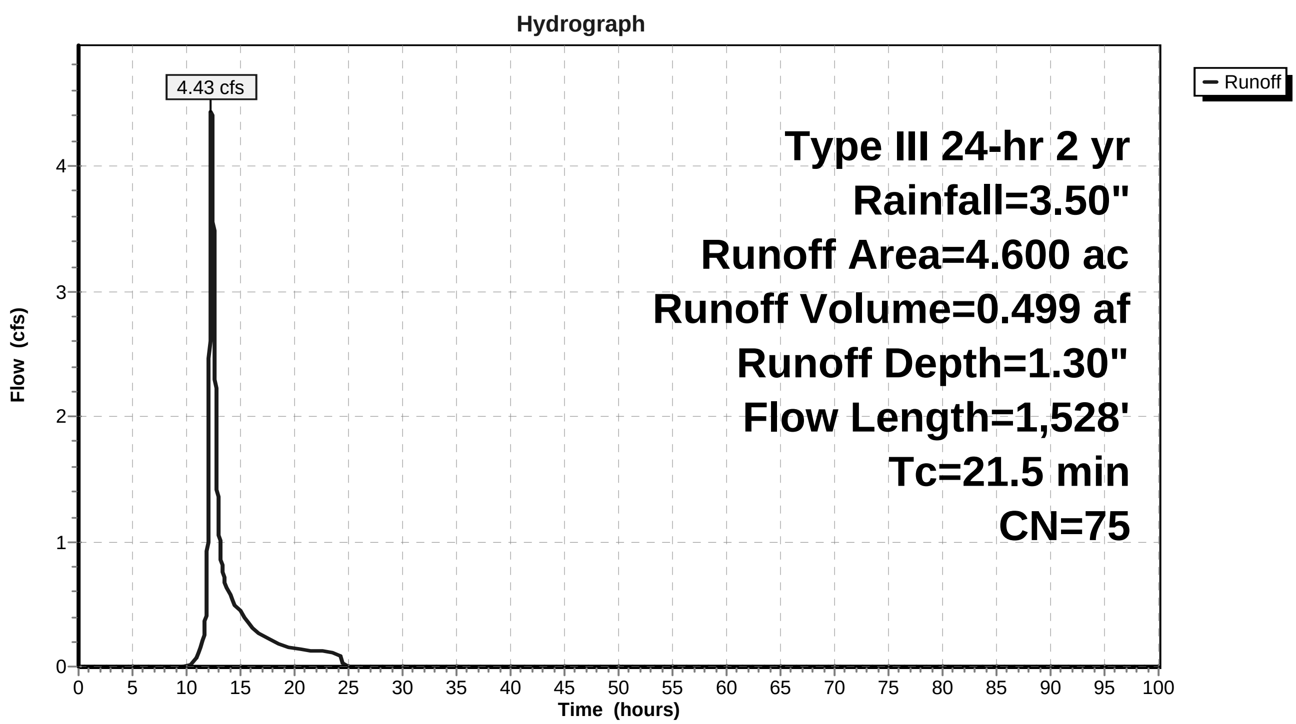
Runoff = 4.43 cfs @ 12.31 hrs, Volume= 0.499 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.290	98	Paved parking & roofs
1.890	73	Woods, Fair, HSG C
2.370	74	>75% Grass cover, Good, HSG C
0.050	70	Brush, Fair, HSG C
4.600	75	Weighted Average
4.310		93.70% Pervious Area
0.290		6.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0650	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.4	300	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,128	0.0180	2.59	12.31	**Trap/Vee/Rect Channel Flow,** Bot.W=2.25' D=1.00' Z= 2.0 & 3.0 '/' Top.W=7.25' n= 0.056
21.5	1,528	Total			

Subcatchment SW1B:



Summary for Subcatchment SW1C:

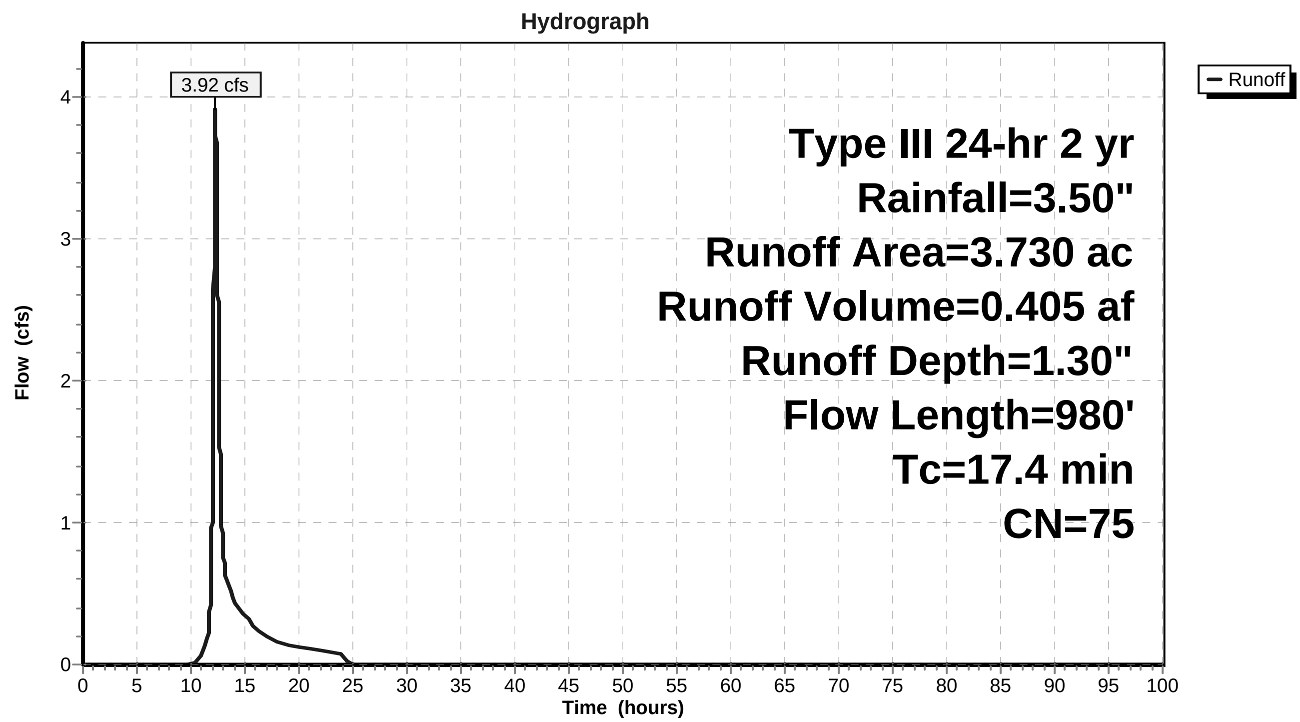
Runoff = 3.92 cfs @ 12.25 hrs, Volume= 0.405 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.230	98	Paved parking & roofs
1.590	73	Woods, Fair, HSG C
1.910	74	>75% Grass cover, Good, HSG C
3.730	75	Weighted Average
3.500		93.83% Pervious Area
0.230		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.4	600	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	280	0.0140	2.24	11.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
17.4	980	Total			

Subcatchment SW1C:



Summary for Subcatchment WQVP:

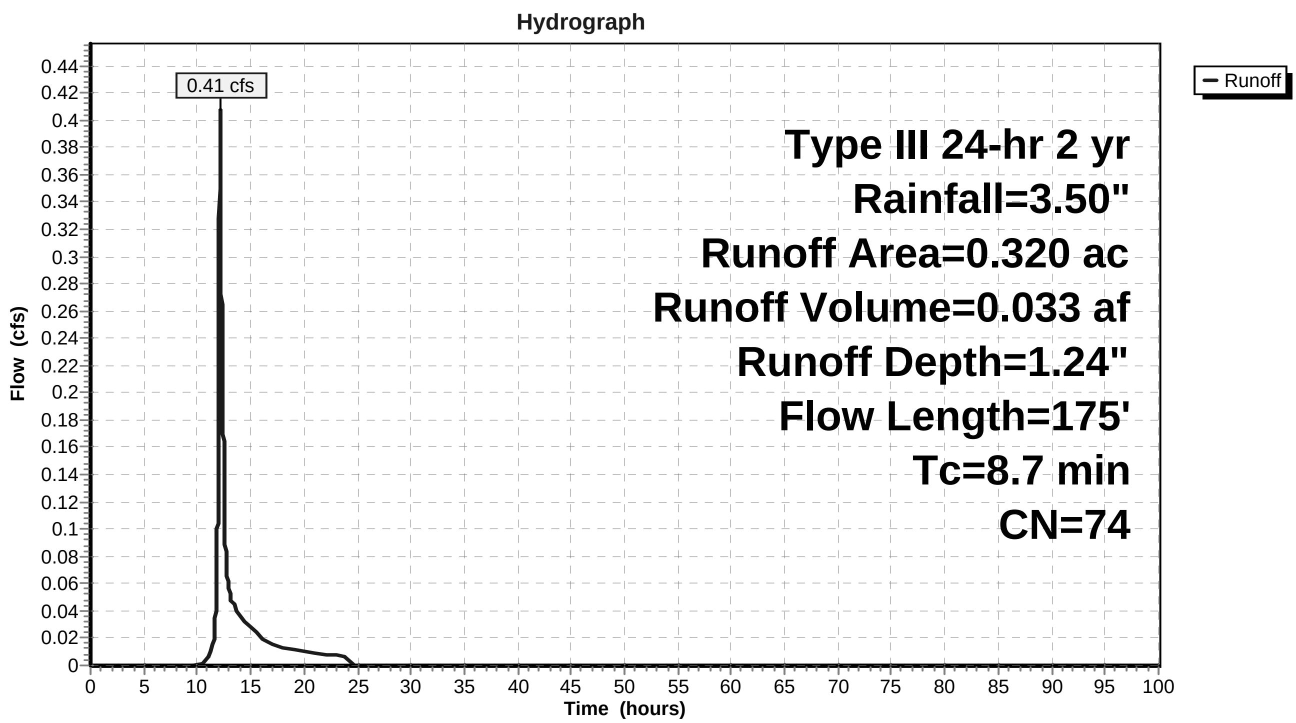
Runoff = 0.41 cfs @ 12.13 hrs, Volume= 0.033 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 yr Rainfall=3.50"

Area (ac)	CN	Description
0.060	73	Woods, Fair, HSG C
0.260	74	>75% Grass cover, Good, HSG C
0.320	74	Weighted Average
0.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	30	0.1800	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
6.4	70	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.3500	9.52		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	175	Total			

Subcatchment WQVP:

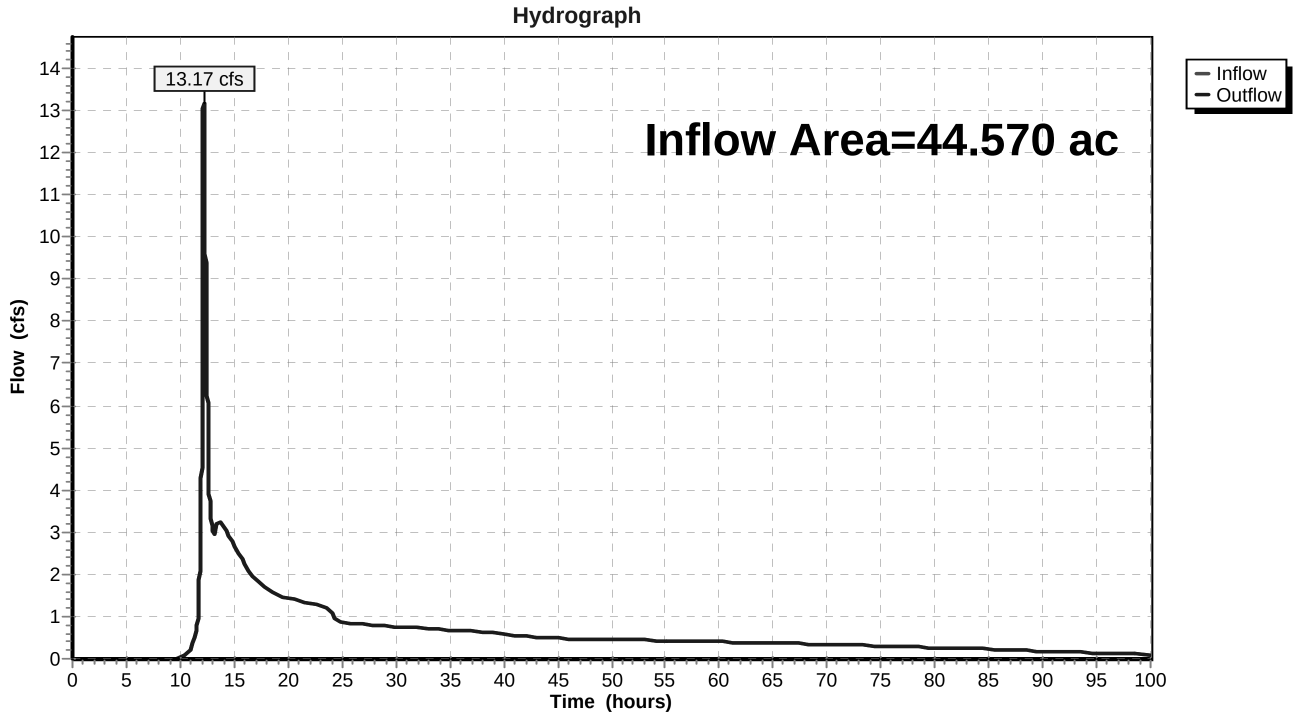


Summary for Reach dp1:

Inflow Area = 44.570 ac, 9.50% Impervious, Inflow Depth > 1.34" for 2 yr event
Inflow = 13.17 cfs @ 12.17 hrs, Volume= 4.967 af
Outflow = 13.17 cfs @ 12.17 hrs, Volume= 4.967 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

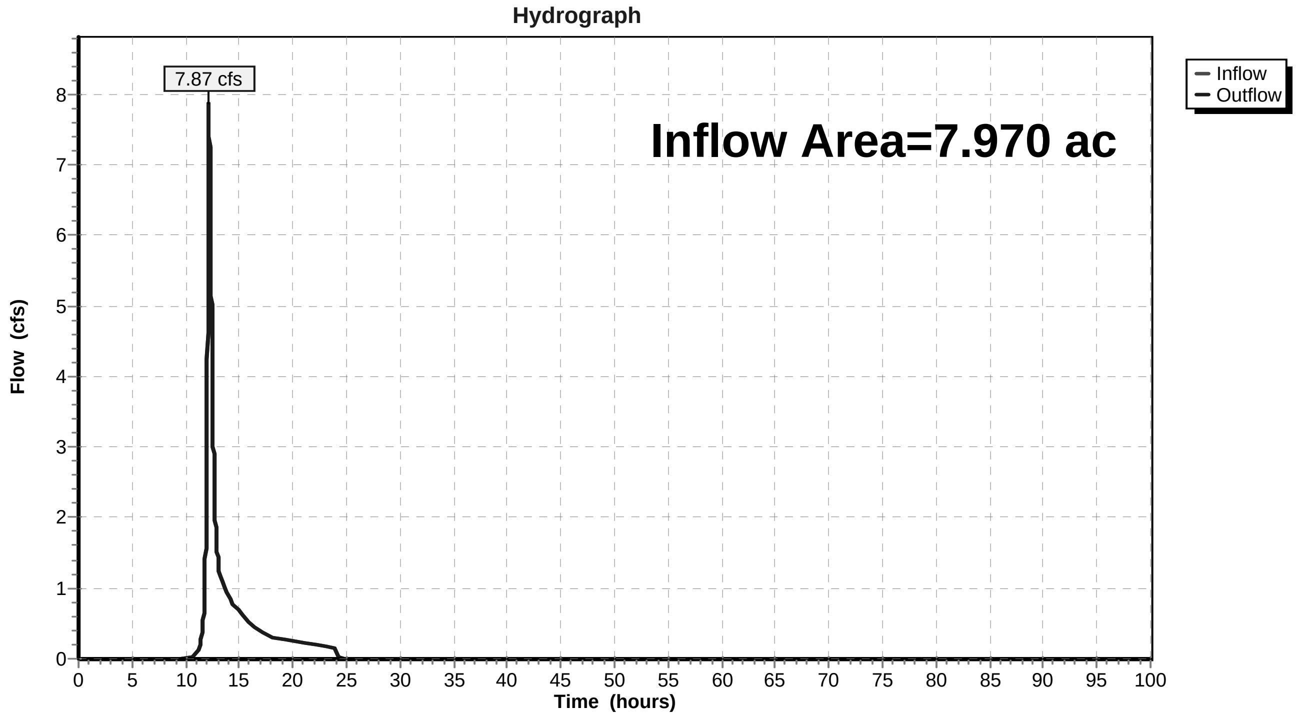


Summary for Reach dp2:

Inflow Area = 7.970 ac, 0.00% Impervious, Inflow Depth = 1.17" for 2 yr event
Inflow = 7.87 cfs @ 12.16 hrs, Volume= 0.776 af
Outflow = 7.87 cfs @ 12.16 hrs, Volume= 0.776 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



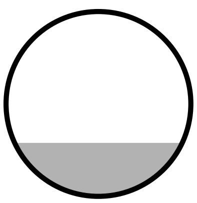
Summary for Reach IN14A:

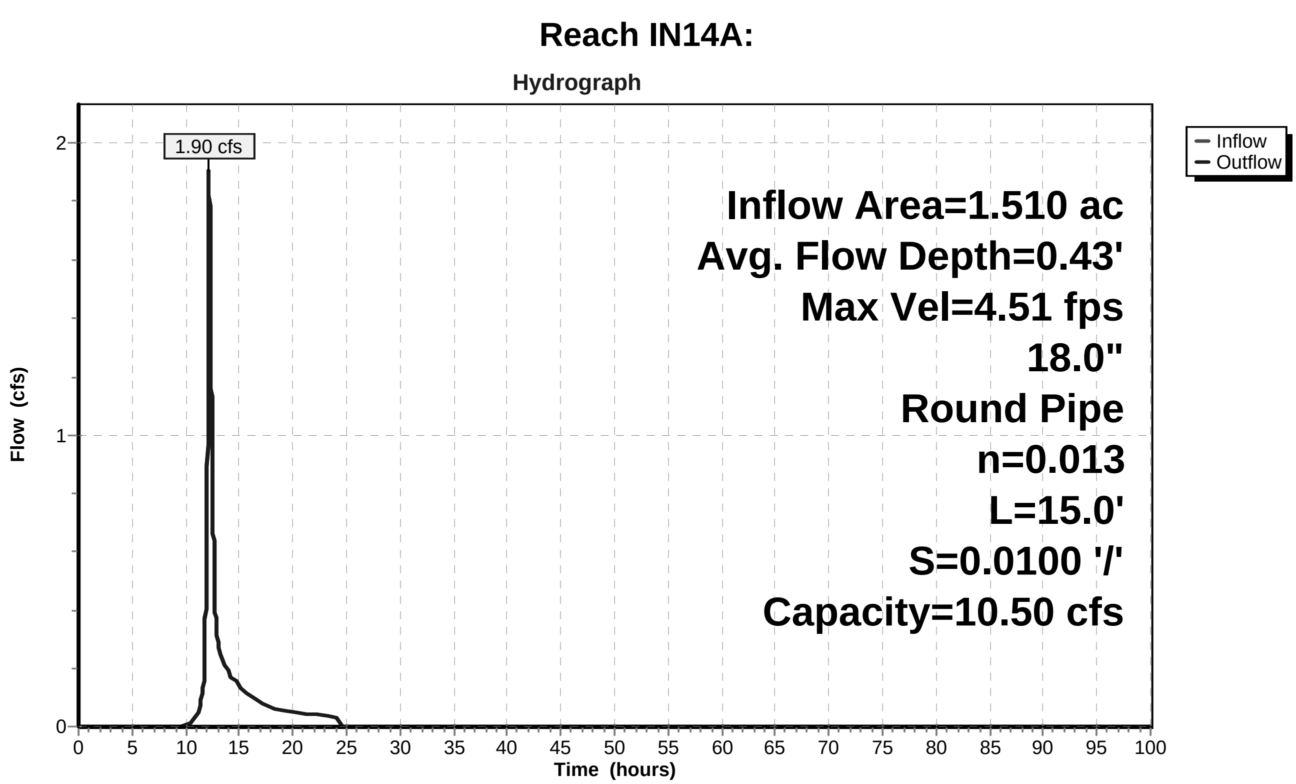
Inflow Area = 1.510 ac, 10.60% Impervious, Inflow Depth = 1.37" for 2 yr event
Inflow = 1.90 cfs @ 12.18 hrs, Volume= 0.172 af
Outflow = 1.90 cfs @ 12.18 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 4.51 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.79 fps, Avg. Travel Time= 0.1 min

Peak Storage= 6 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.43'
Defined Flood Depth= 366.83', Capacity at Flood Depth= -10,724.81 cfs
Bank-Full Depth= 1.50', Capacity at Bank-Full= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 15.0' Slope= 0.0100 '/'
Inlet Invert= 362.00', Outlet Invert= 361.85'





Summary for Reach SW:

Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 1.30" for 2 yr event
Inflow = 9.00 cfs @ 12.28 hrs, Volume= 0.988 af
Outflow = 8.90 cfs @ 12.30 hrs, Volume= 0.988 af, Atten= 1%, Lag= 1.7 min

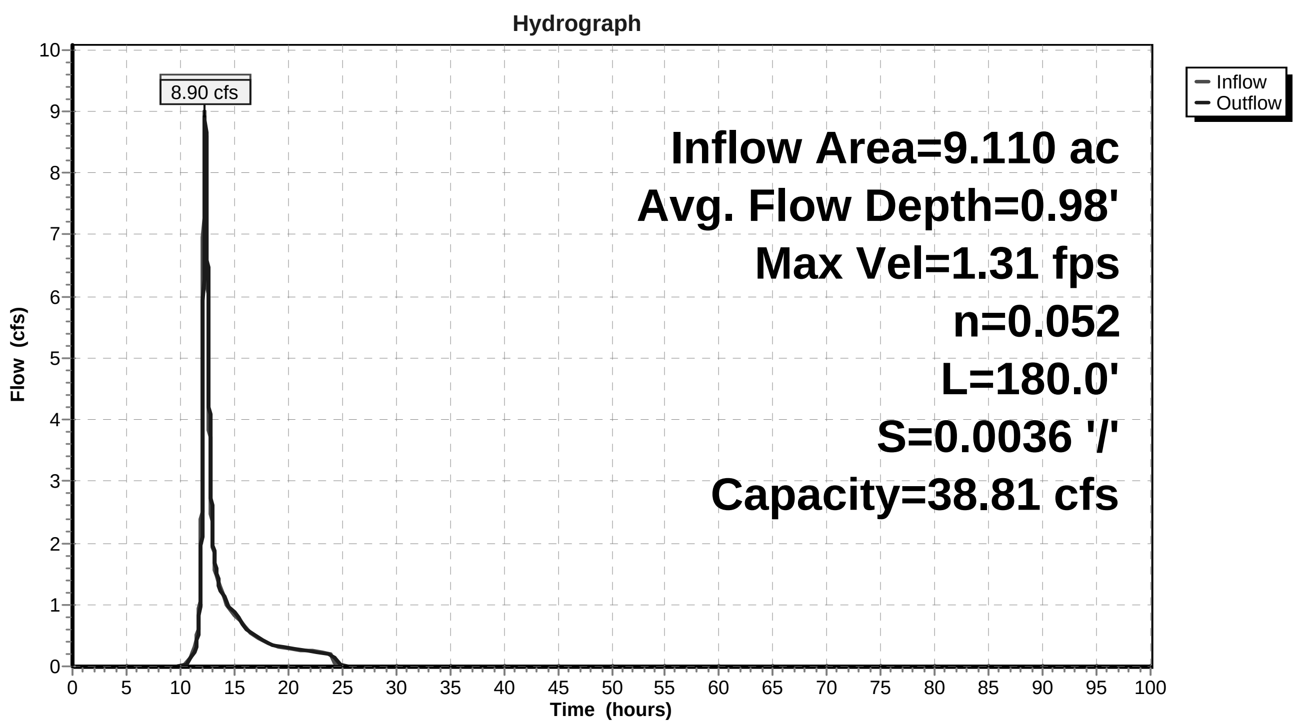
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.31 fps, Min. Travel Time= 2.3 min
Avg. Velocity = 0.47 fps, Avg. Travel Time= 6.4 min

Peak Storage= 1,223 cf @ 12.30 hrs
Average Depth at Peak Storage= 0.98'
Defined Flood Depth= 345.00', Capacity at Flood Depth= 14,324.68 cfs
Bank-Full Depth= 2.00', Capacity at Bank-Full= 38.81 cfs

4.00' x 2.00' deep channel, n= 0.052
Side Slope Z-value= 3.0 '/' Top Width= 16.00'
Length= 180.0' Slope= 0.0036 '/'
Inlet Invert= 341.45', Outlet Invert= 340.80'

‡

Reach SW:



Summary for Pond CB-10A:

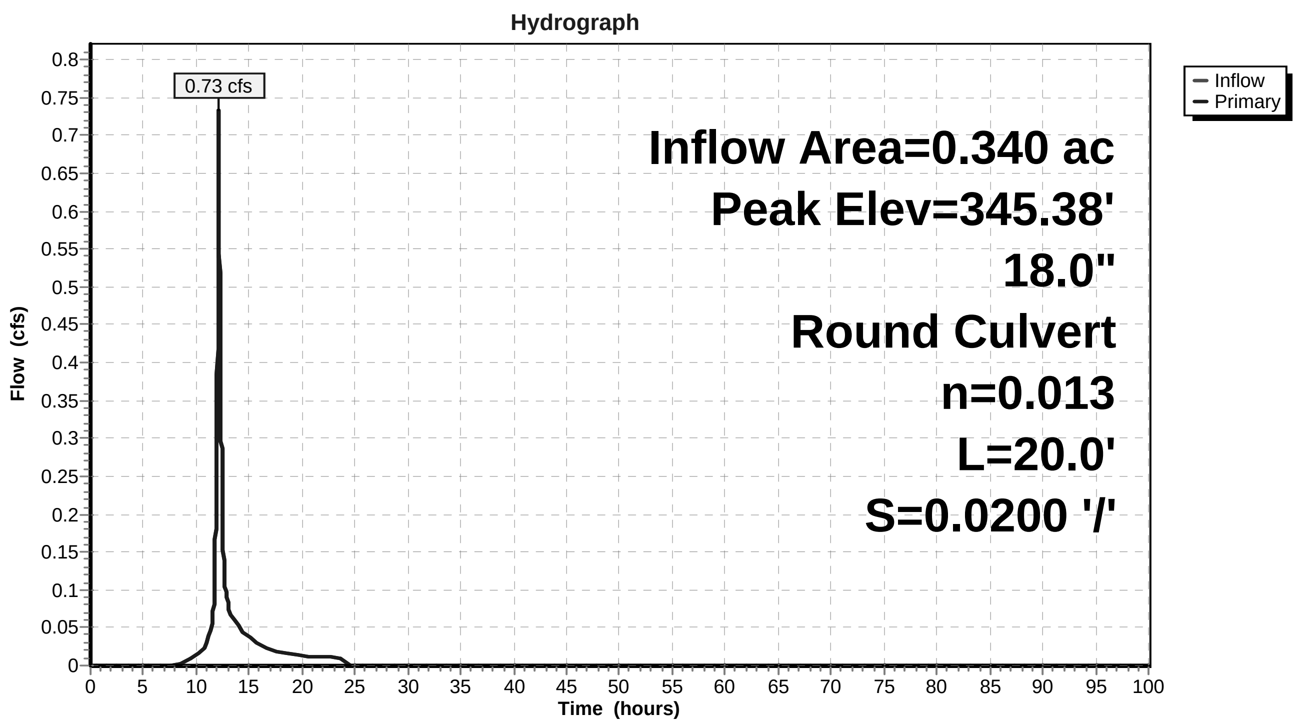
Inflow Area = 0.340 ac, 41.18% Impervious, Inflow Depth = 1.94" for 2 yr event
Inflow = 0.73 cfs @ 12.11 hrs, Volume= 0.055 af
Outflow = 0.73 cfs @ 12.11 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.73 cfs @ 12.11 hrs, Volume= 0.055 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 345.38' @ 12.11 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.73 cfs @ 12.11 hrs HW=345.38' TW=344.43' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.73 cfs @ 2.09 fps)

Pond CB-10A:



Summary for Pond CB-10B:

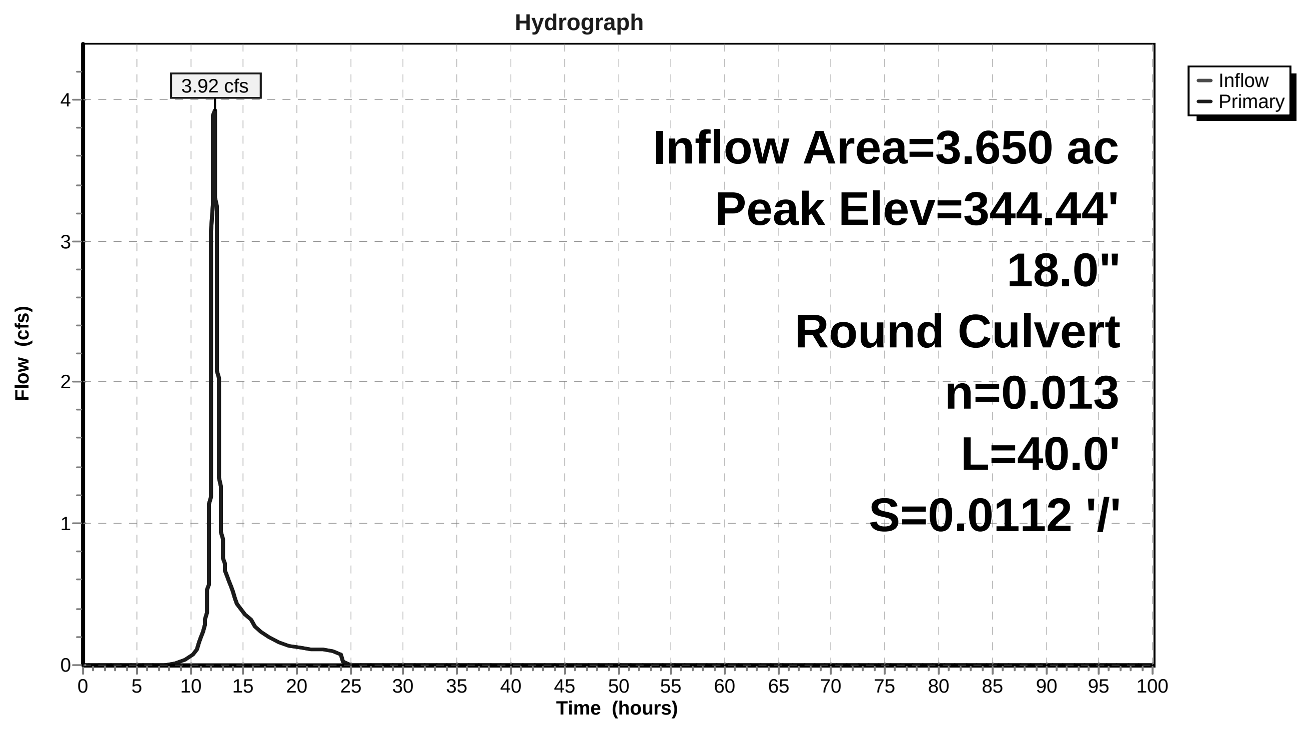
Inflow Area = 3.650 ac, 22.47% Impervious, Inflow Depth = 1.59" for 2 yr event
Inflow = 3.92 cfs @ 12.26 hrs, Volume= 0.483 af
Outflow = 3.92 cfs @ 12.26 hrs, Volume= 0.483 af, Atten= 0%, Lag= 0.0 min
Primary = 3.92 cfs @ 12.26 hrs, Volume= 0.483 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 344.44' @ 12.26 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.45'	**18.0" Round Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.45' / 343.00' S= 0.0112 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.92 cfs @ 12.26 hrs HW=344.44' TW=334.65' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 3.92 cfs @ 4.48 fps)

Pond CB-10B:



Summary for Pond CB-11A:

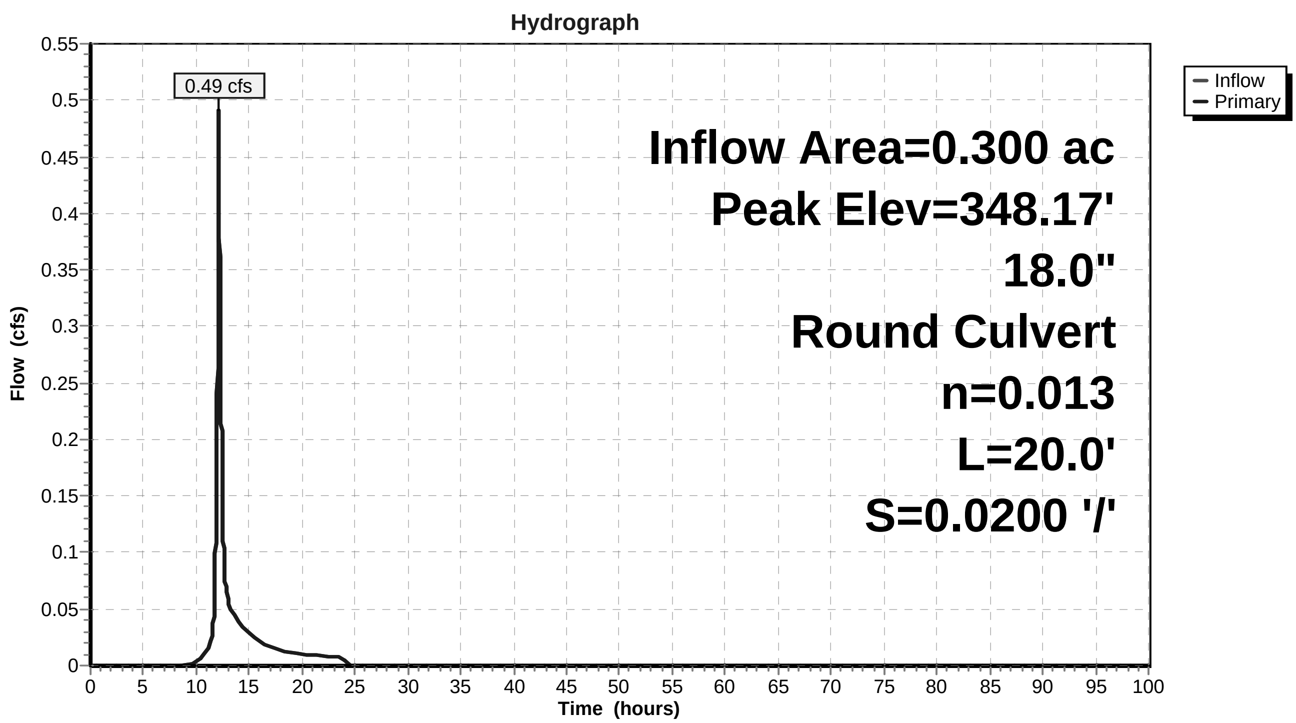
Inflow Area = 0.300 ac, 16.67% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 0.49 cfs @ 12.11 hrs, Volume= 0.037 af
Outflow = 0.49 cfs @ 12.11 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 12.11 hrs, Volume= 0.037 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.17' @ 12.13 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.81'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.81' / 347.41' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.49 cfs @ 12.11 hrs HW=348.17' TW=347.95' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.49 cfs @ 2.31 fps)

Pond CB-11A:



Summary for Pond CB-11B:

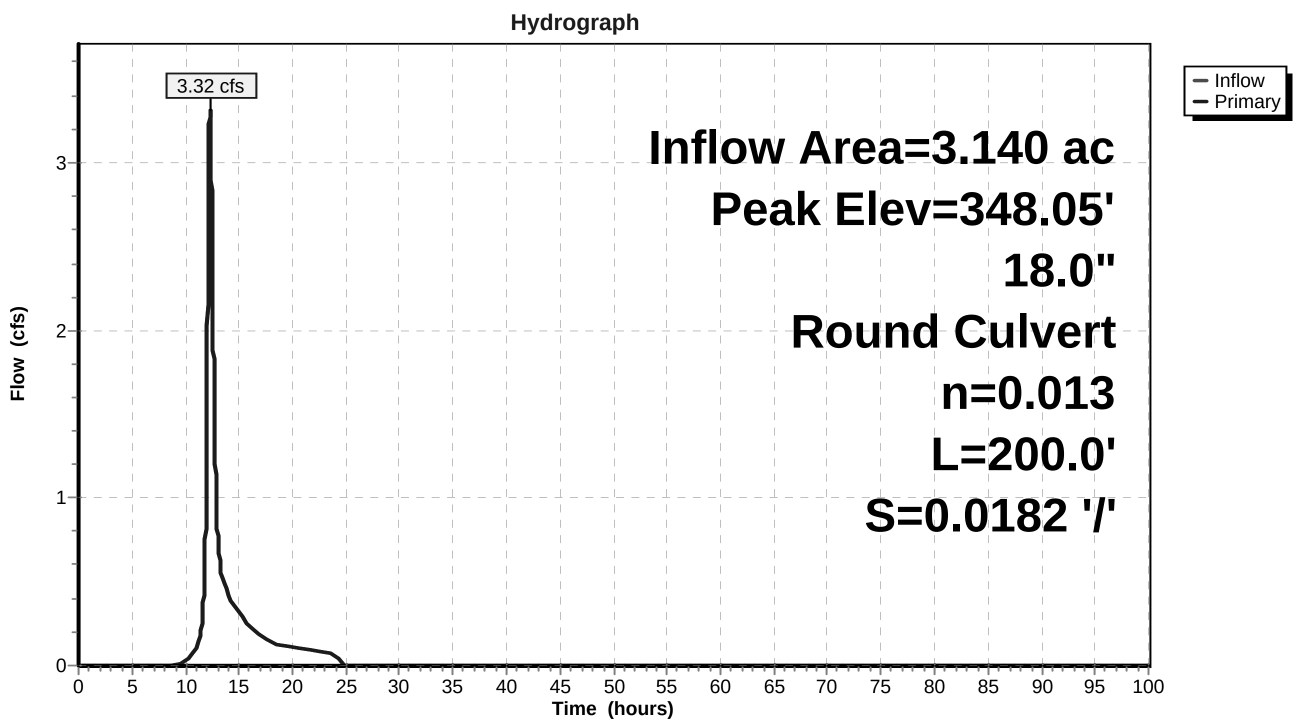
Inflow Area = 3.140 ac, 17.83% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 3.32 cfs @ 12.29 hrs, Volume= 0.392 af
Outflow = 3.32 cfs @ 12.29 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 3.32 cfs @ 12.29 hrs, Volume= 0.392 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.05' @ 12.29 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.19'	**18.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.19' / 343.55' S= 0.0182 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.32 cfs @ 12.29 hrs HW=348.05' TW=344.44' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 3.32 cfs @ 3.16 fps)

Pond CB-11B:



Summary for Pond CB-12A:

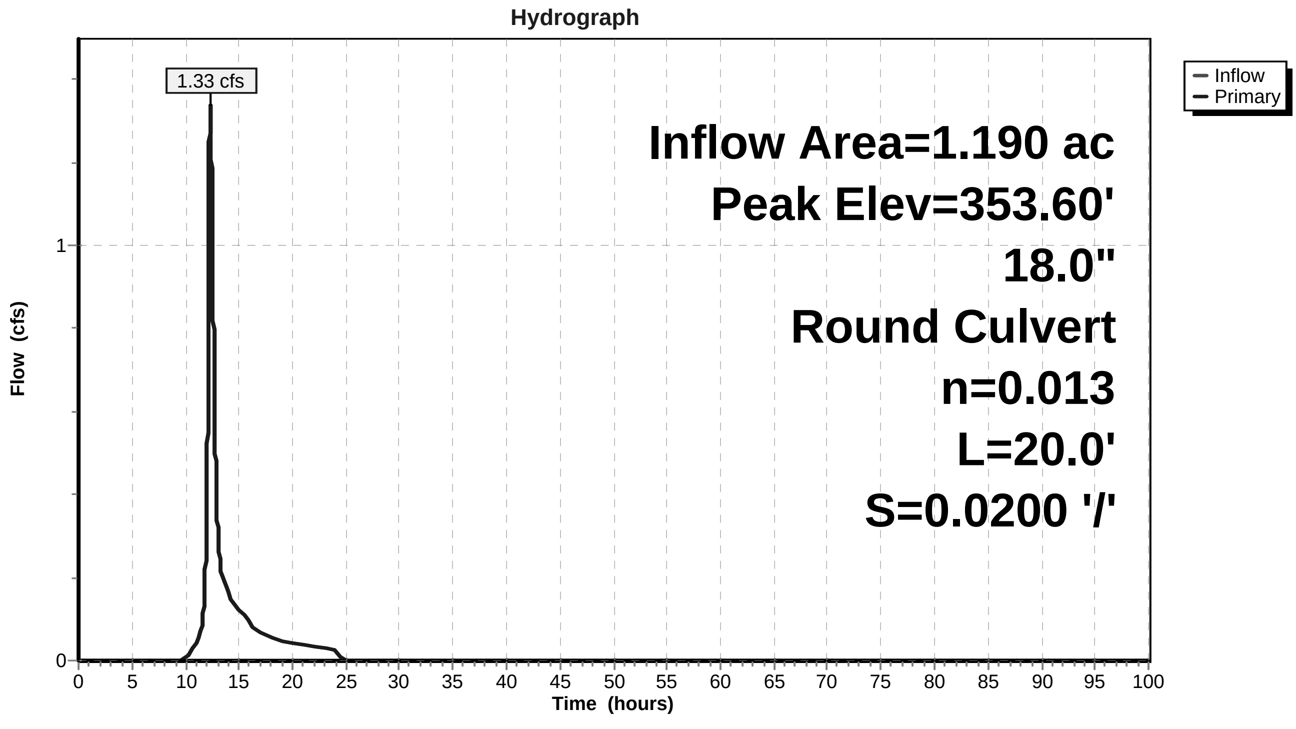
Inflow Area = 1.190 ac, 16.81% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 1.33 cfs @ 12.32 hrs, Volume= 0.148 af
Outflow = 1.33 cfs @ 12.32 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min
Primary = 1.33 cfs @ 12.32 hrs, Volume= 0.148 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.60' @ 12.31 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	353.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 353.00' / 352.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.33 cfs @ 12.32 hrs HW=353.60' TW=353.31' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.33 cfs @ 2.98 fps)

Pond CB-12A:



Summary for Pond CB-12B:

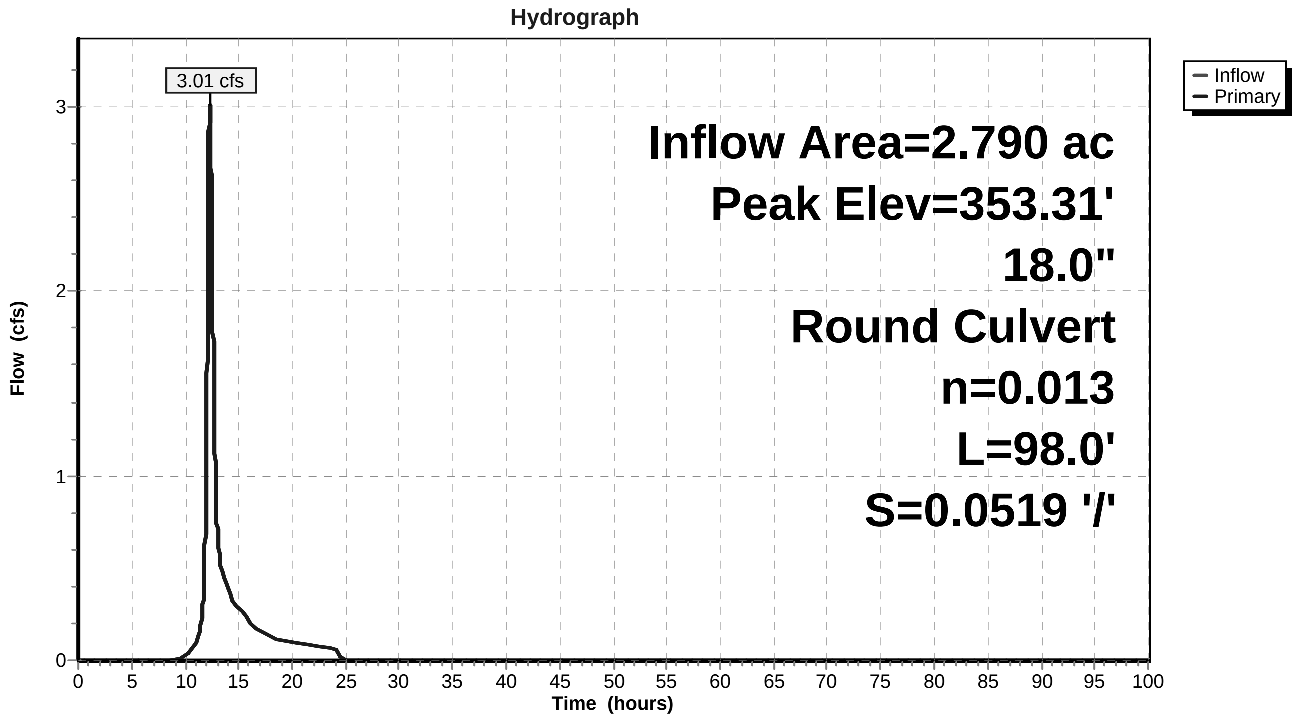
Inflow Area = 2.790 ac, 17.56% Impervious, Inflow Depth = 1.49" for 2 yr event
Inflow = 3.01 cfs @ 12.31 hrs, Volume= 0.347 af
Outflow = 3.01 cfs @ 12.31 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 3.01 cfs @ 12.31 hrs, Volume= 0.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.31' @ 12.31 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	352.50'	**18.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 352.50' / 347.41' S= 0.0519 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.00 cfs @ 12.31 hrs HW=353.31' TW=348.05' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.00 cfs @ 3.07 fps)

Pond CB-12B:



Summary for Pond CB-13A:

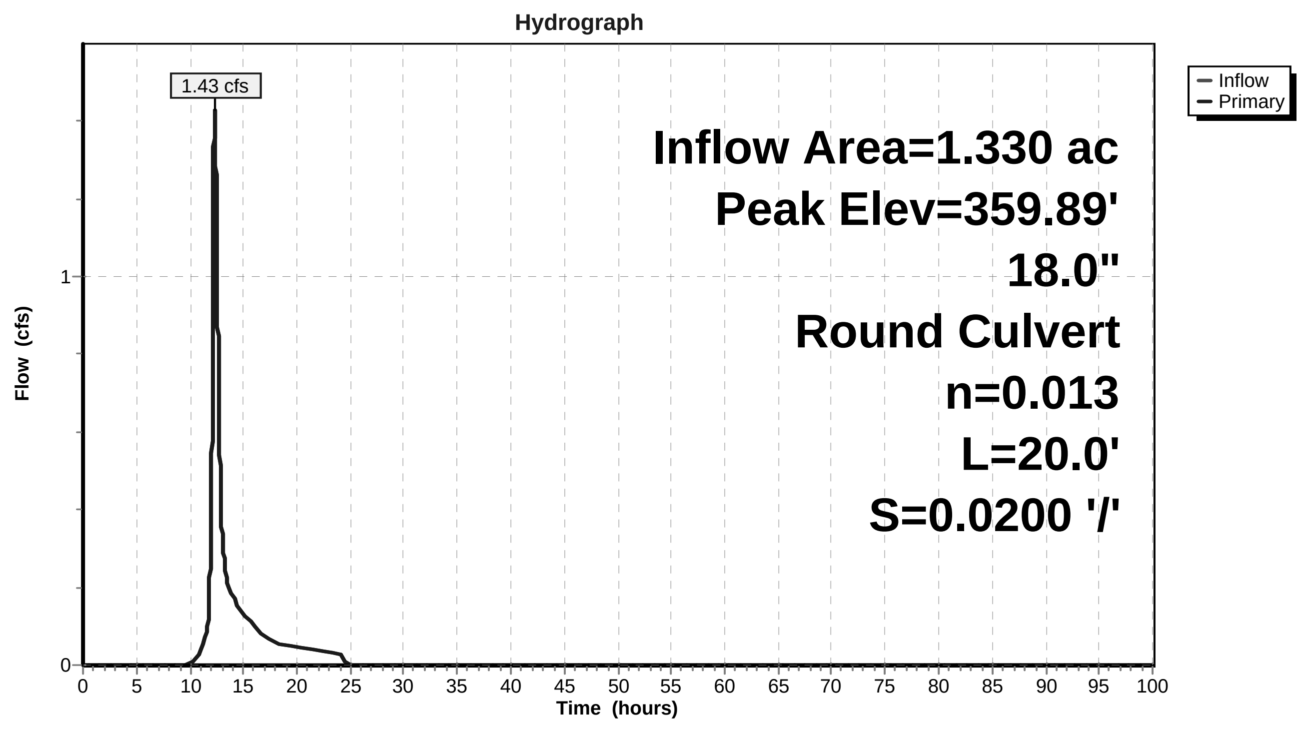
Inflow Area = 1.330 ac, 15.04% Impervious, Inflow Depth = 1.43" for 2 yr event
Inflow = 1.43 cfs @ 12.31 hrs, Volume= 0.159 af
Outflow = 1.43 cfs @ 12.31 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
Primary = 1.43 cfs @ 12.31 hrs, Volume= 0.159 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 359.89' @ 12.31 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	359.35'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 359.35' / 358.95' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.43 cfs @ 12.31 hrs HW=359.89' TW=359.42' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.43 cfs @ 3.71 fps)

Pond CB-13A:



Summary for Pond CB-13B:

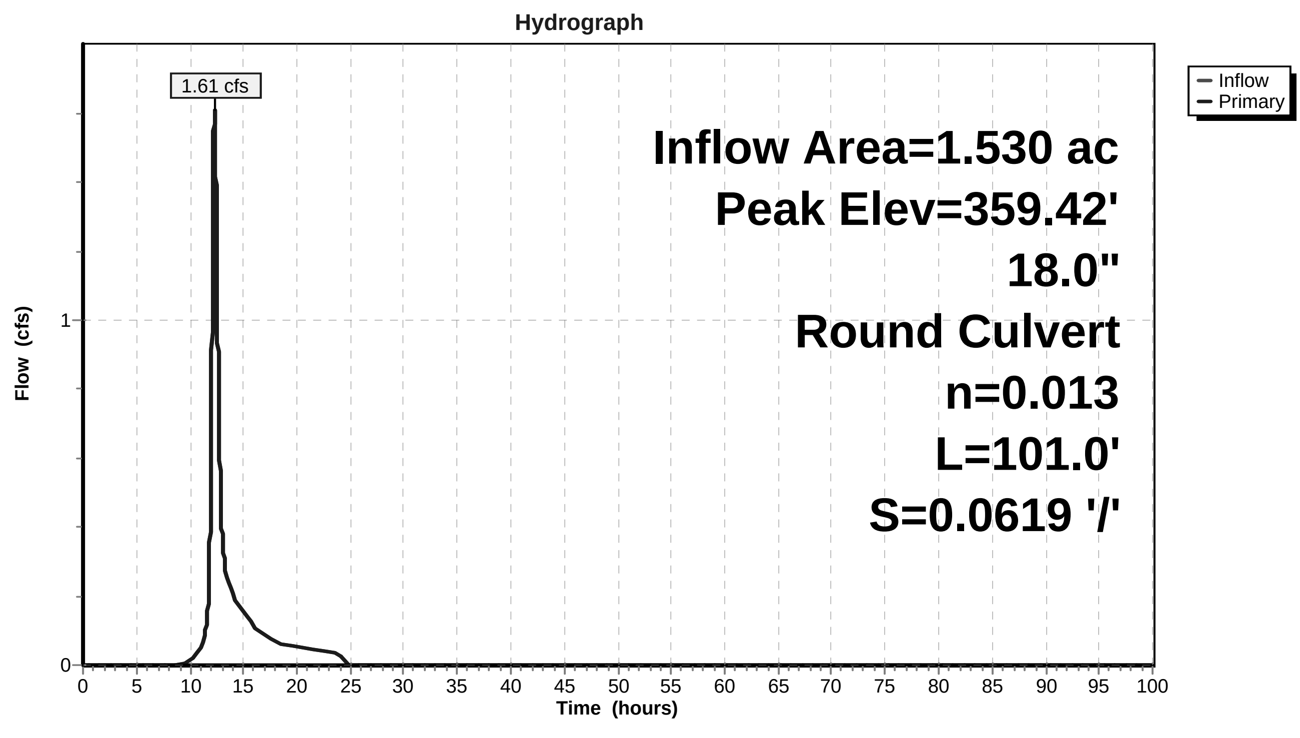
Inflow Area = 1.530 ac, 17.65% Impervious, Inflow Depth = 1.48" for 2 yr event
Inflow = 1.61 cfs @ 12.31 hrs, Volume= 0.188 af
Outflow = 1.61 cfs @ 12.31 hrs, Volume= 0.188 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.31 hrs, Volume= 0.188 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 359.42' @ 12.31 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.85'	**18.0" Round Culvert** L= 101.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 358.85' / 352.60' S= 0.0619 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.61 cfs @ 12.31 hrs HW=359.42' TW=353.31' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.61 cfs @ 2.58 fps)

Pond CB-13B:



Summary for Pond CB-14A:

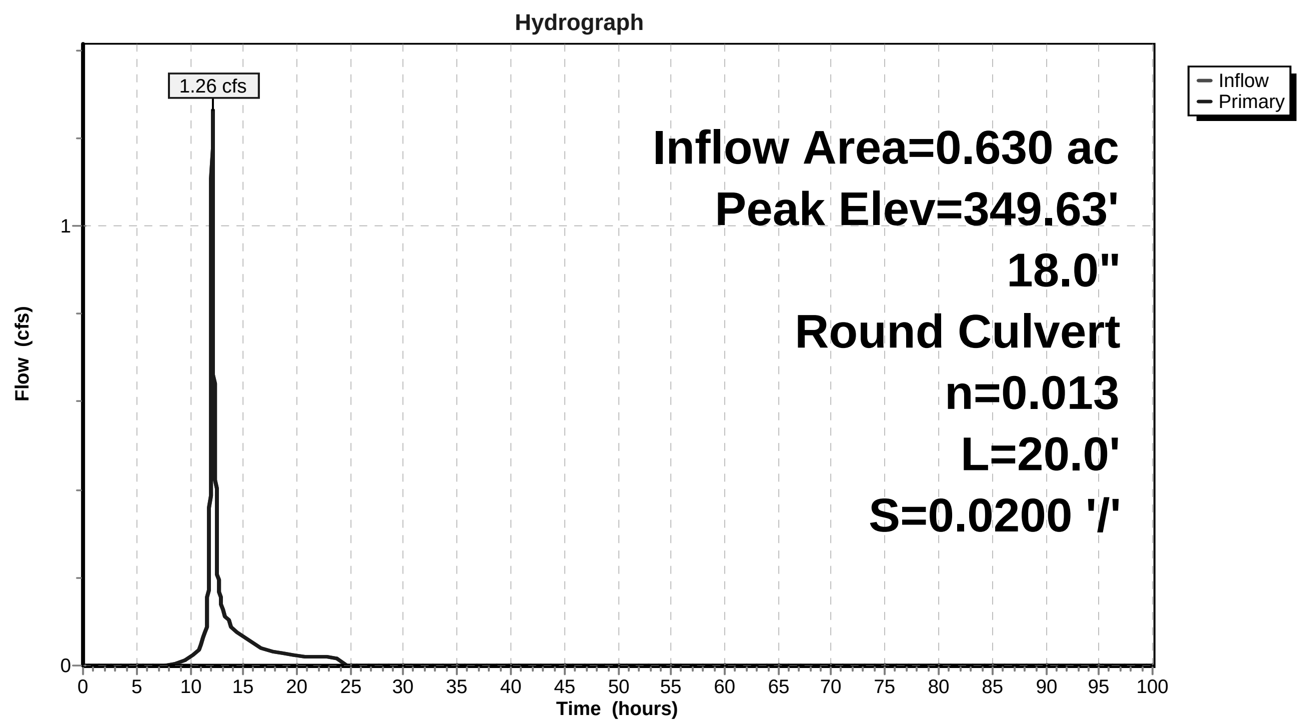
Inflow Area = 0.630 ac, 30.16% Impervious, Inflow Depth = 1.72" for 2 yr event
Inflow = 1.26 cfs @ 12.09 hrs, Volume= 0.090 af
Outflow = 1.26 cfs @ 12.09 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.09 hrs, Volume= 0.090 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.63' @ 12.09 hrs
Flood Elev= 364.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.08'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.08' / 348.68' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.26 cfs @ 12.09 hrs HW=349.63' TW=349.29' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.26 cfs @ 3.18 fps)

Pond CB-14A:



Summary for Pond CB-14B:

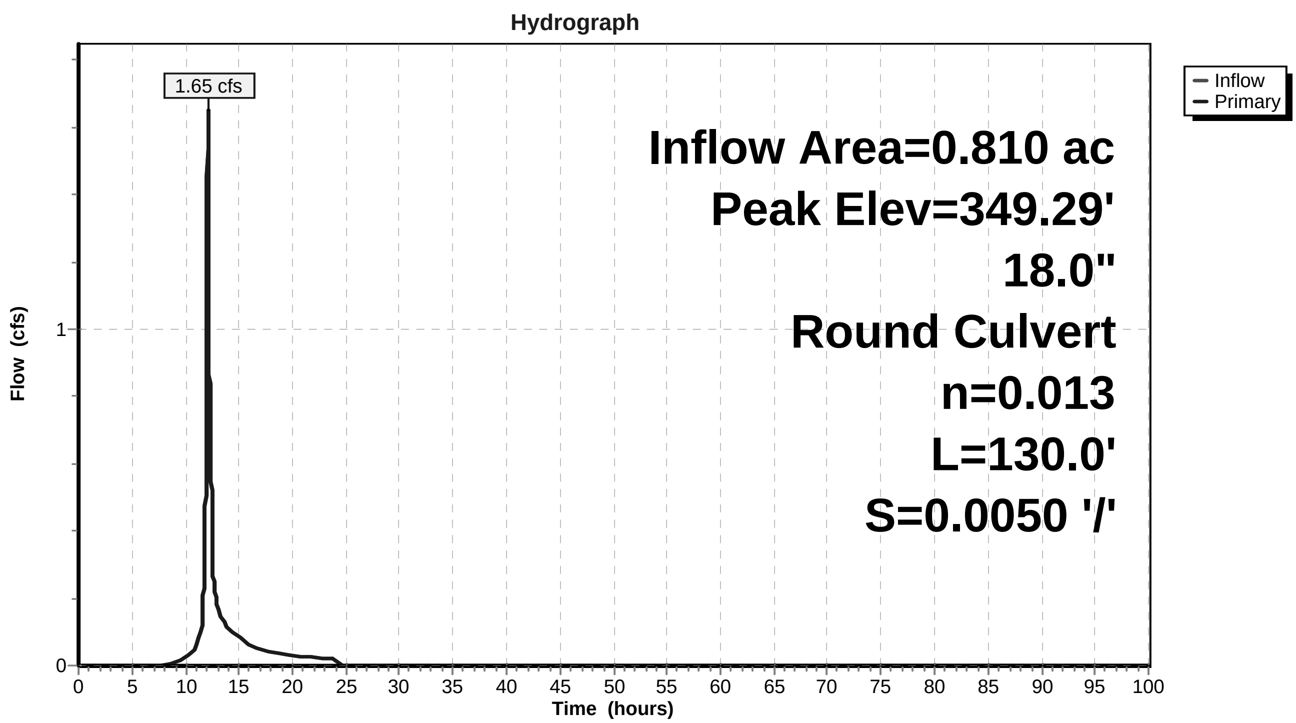
Inflow Area = 0.810 ac, 32.10% Impervious, Inflow Depth = 1.75" for 2 yr event
Inflow = 1.65 cfs @ 12.09 hrs, Volume= 0.118 af
Outflow = 1.65 cfs @ 12.09 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min
Primary = 1.65 cfs @ 12.09 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.29' @ 12.10 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.58'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.58' / 347.93' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.65 cfs @ 12.09 hrs HW=349.29' TW=348.65' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.65 cfs @ 2.94 fps)

Pond CB-14B:



Summary for Pond CB-15A:

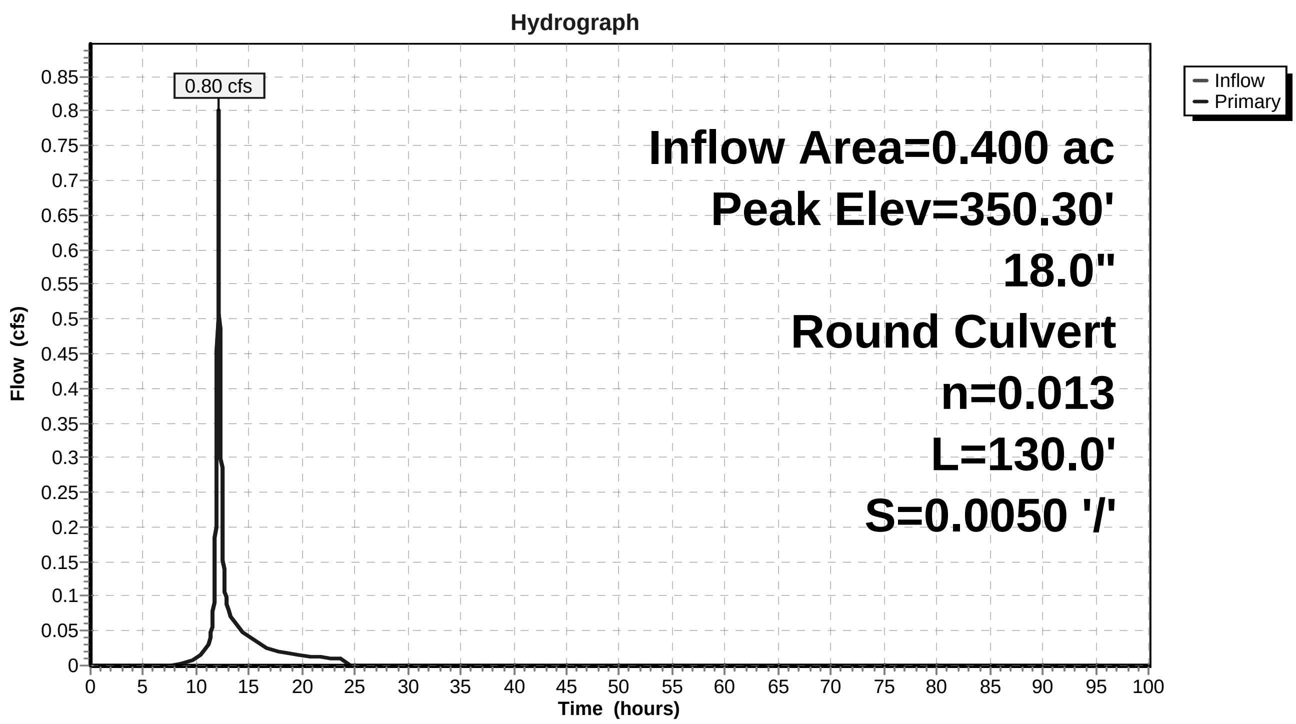
Inflow Area = 0.400 ac, 30.00% Impervious, Inflow Depth = 1.73" for 2 yr event
Inflow = 0.80 cfs @ 12.09 hrs, Volume= 0.058 af
Outflow = 0.80 cfs @ 12.09 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 12.09 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.30' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.83'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.83' / 349.18' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.80 cfs @ 12.09 hrs HW=350.30' TW=349.63' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.80 cfs @ 2.53 fps)

Pond CB-15A:



Summary for Pond CB-15B:

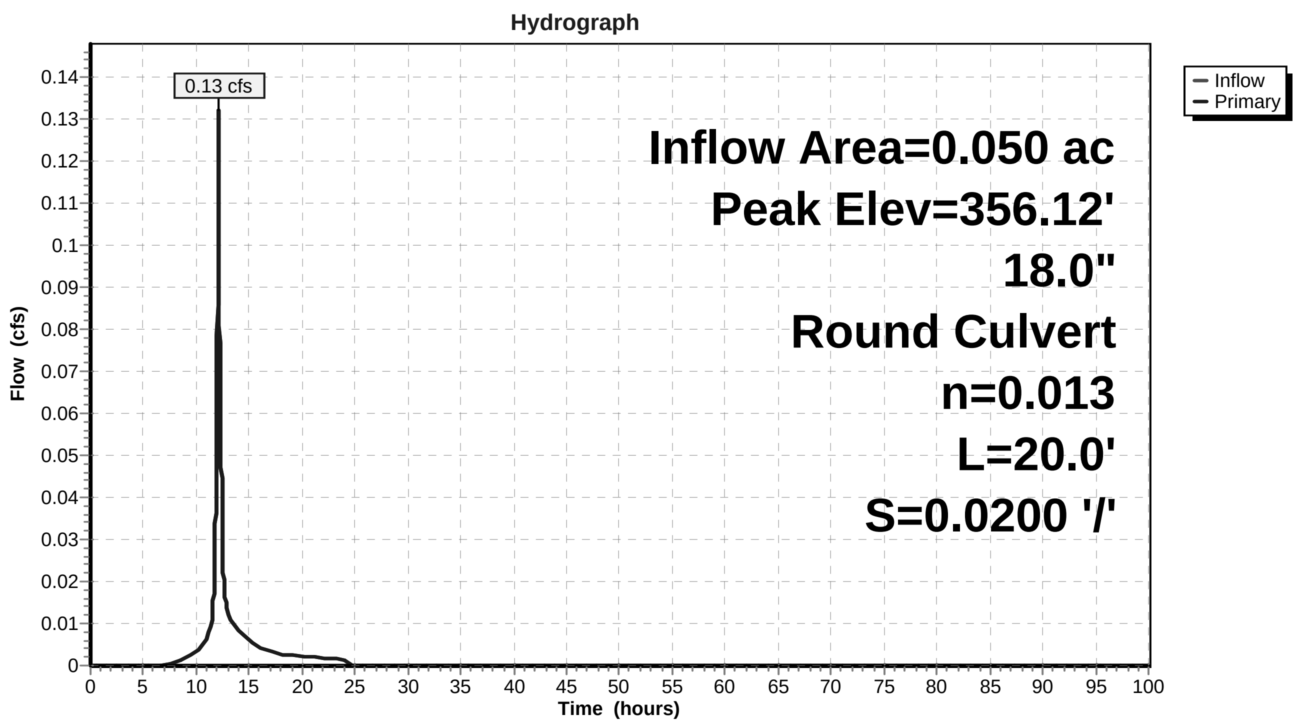
Inflow Area =	0.050 ac, 60.00% Impervious, Inflow Depth = 2.27" for 2 yr event		
Inflow =	0.13 cfs @ 12.09 hrs, Volume=	0.009 af	
Outflow =	0.13 cfs @ 12.09 hrs, Volume=	0.009 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.13 cfs @ 12.09 hrs, Volume=	0.009 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 356.12' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	355.96'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 355.96' / 355.56' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.13 cfs @ 12.09 hrs HW=356.12' TW=350.30' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.13 cfs @ 1.35 fps)

Pond CB-15B:



Summary for Pond CB-16A:

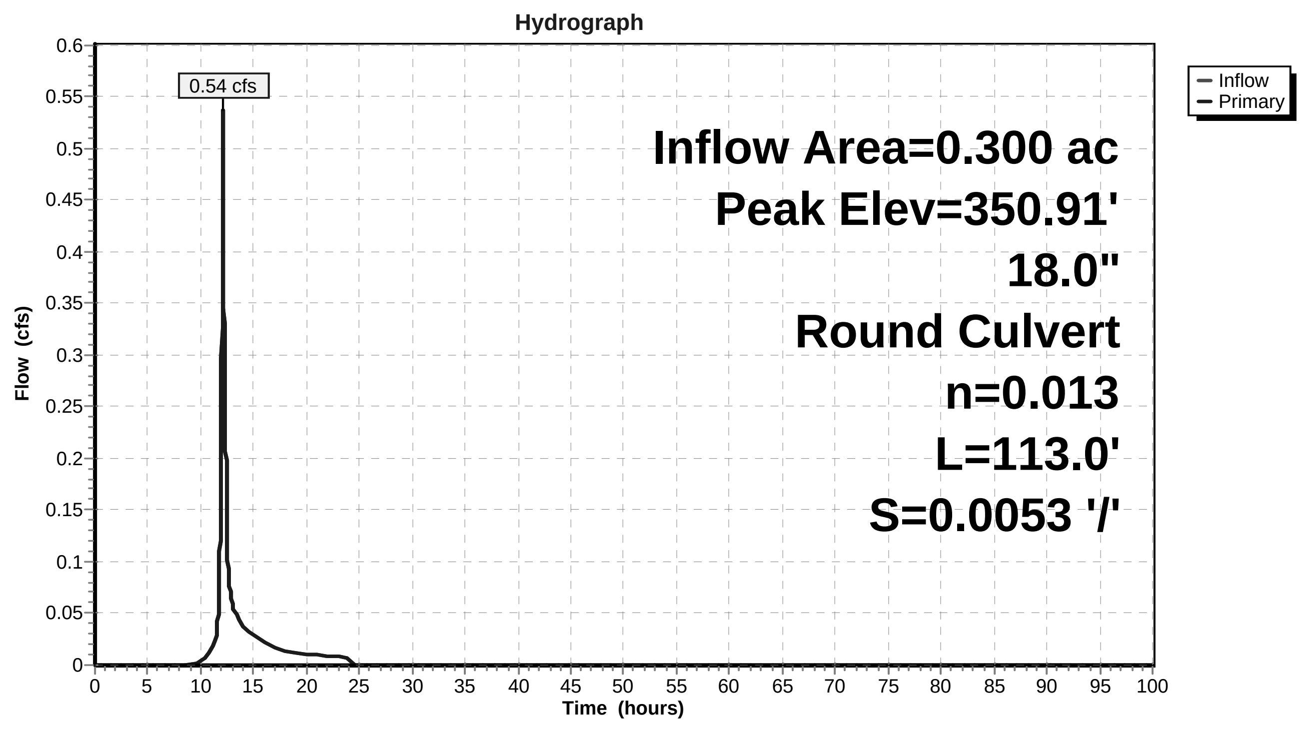
Inflow Area =	0.300 ac, 20.00% Impervious, Inflow Depth = 1.54" for 2 yr event		
Inflow =	0.54 cfs @ 12.09 hrs, Volume=	0.039 af	
Outflow =	0.54 cfs @ 12.09 hrs, Volume=	0.039 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.54 cfs @ 12.09 hrs, Volume=	0.039 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.91' @ 12.09 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	350.53'	**18.0" Round Culvert** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 350.53' / 349.93' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.54 cfs @ 12.09 hrs HW=350.91' TW=350.30' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.54 cfs @ 2.31 fps)

Pond CB-16A:



Summary for Pond CB-16B:

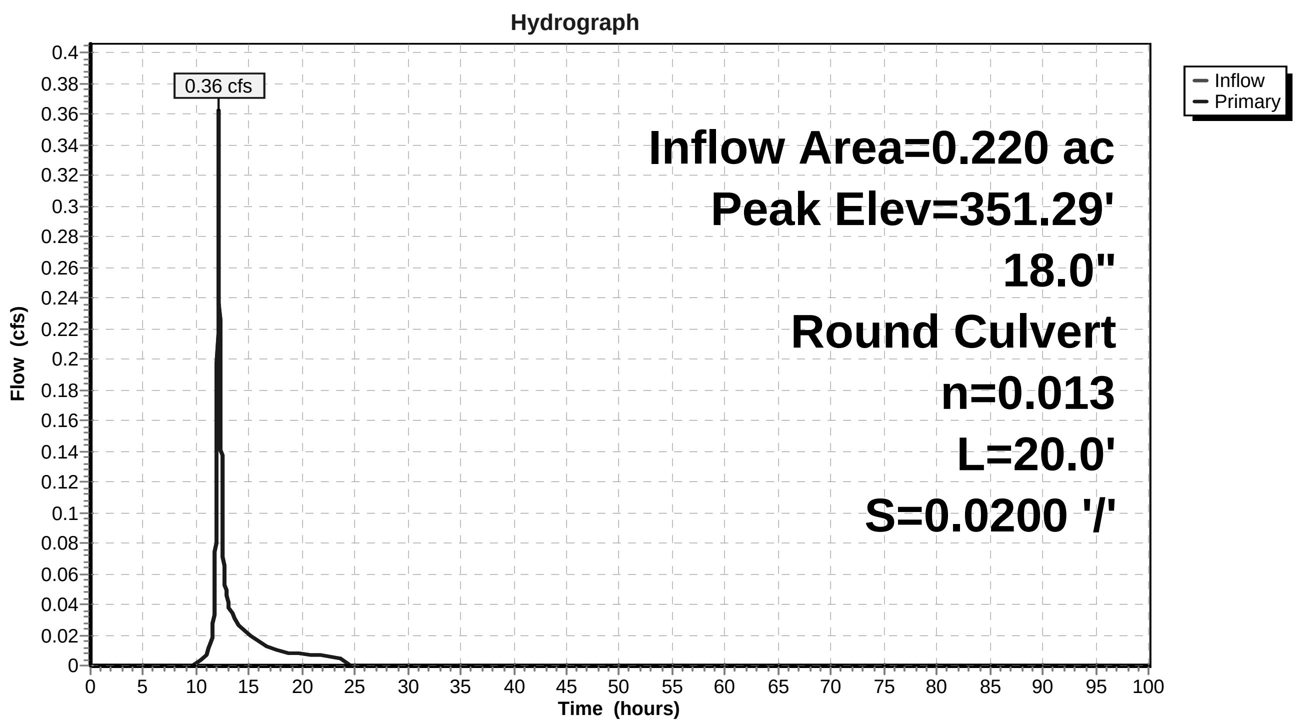
Inflow Area = 0.220 ac, 13.64% Impervious, Inflow Depth = 1.43" for 2 yr event
Inflow = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.29' @ 12.09 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	351.03'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 351.03' / 350.63' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.36 cfs @ 12.09 hrs HW=351.29' TW=350.91' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.36 cfs @ 1.74 fps)

Pond CB-16B:



Summary for Pond CB-17A:

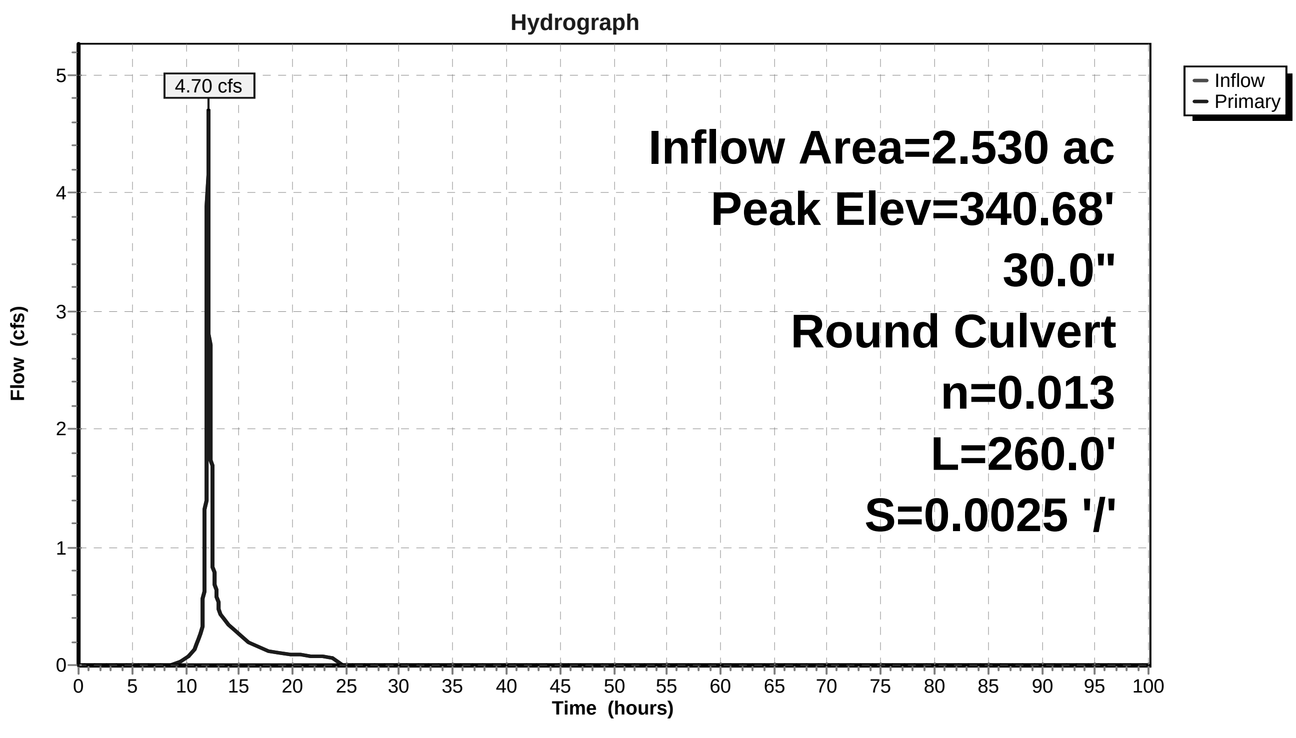
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 1.68" for 2 yr event
Inflow = 4.70 cfs @ 12.10 hrs, Volume= 0.354 af
Outflow = 4.70 cfs @ 12.10 hrs, Volume= 0.354 af, Atten= 0%, Lag= 0.0 min
Primary = 4.70 cfs @ 12.10 hrs, Volume= 0.354 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.68' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	339.57'	**30.0" Round Culvert** L= 260.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 339.57' / 338.92' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.69 cfs @ 12.10 hrs HW=340.68' TW=339.84' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 4.69 cfs @ 3.27 fps)

Pond CB-17A:



Summary for Pond CB-17B:

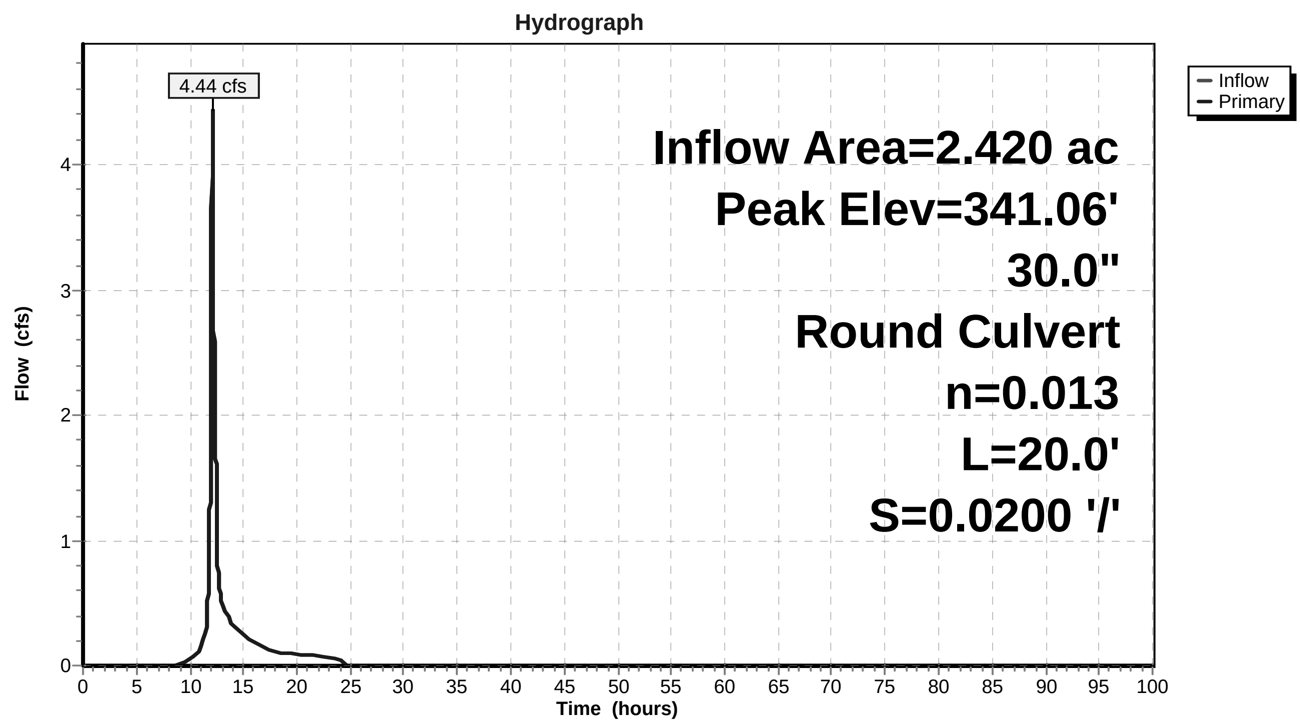
Inflow Area =	2.420 ac,	27.48% Impervious,	Inflow Depth = 1.66"	for 2 yr event	
Inflow =	4.44 cfs @	12.10 hrs,	Volume=	0.336 af	
Outflow =	4.44 cfs @	12.10 hrs,	Volume=	0.336 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.44 cfs @	12.10 hrs,	Volume=	0.336 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.06' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.07'	**30.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.07' / 339.67' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.43 cfs @ 12.10 hrs HW=341.06' TW=340.68' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 4.43 cfs @ 3.65 fps)

Pond CB-17B:



Summary for Pond CB-18B:

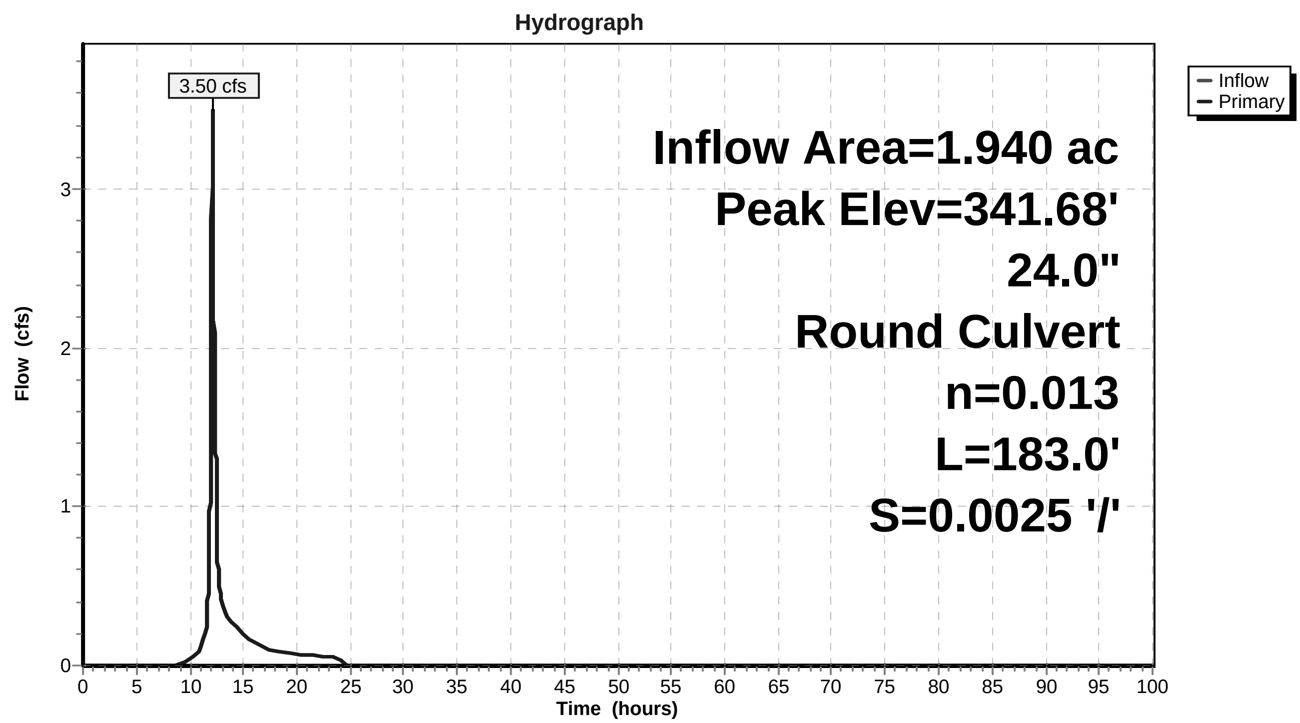
Inflow Area = 1.940 ac, 27.06% Impervious, Inflow Depth = 1.65" for 2 yr event
Inflow = 3.50 cfs @ 12.11 hrs, Volume= 0.267 af
Outflow = 3.50 cfs @ 12.11 hrs, Volume= 0.267 af, Atten= 0%, Lag= 0.0 min
Primary = 3.50 cfs @ 12.11 hrs, Volume= 0.267 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.68' @ 12.11 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.63'	**24.0" Round Culvert** L= 183.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.63' / 340.17' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.49 cfs @ 12.11 hrs HW=341.68' TW=341.06' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.49 cfs @ 3.04 fps)

Pond CB-18B:



Summary for Pond CB-1A:

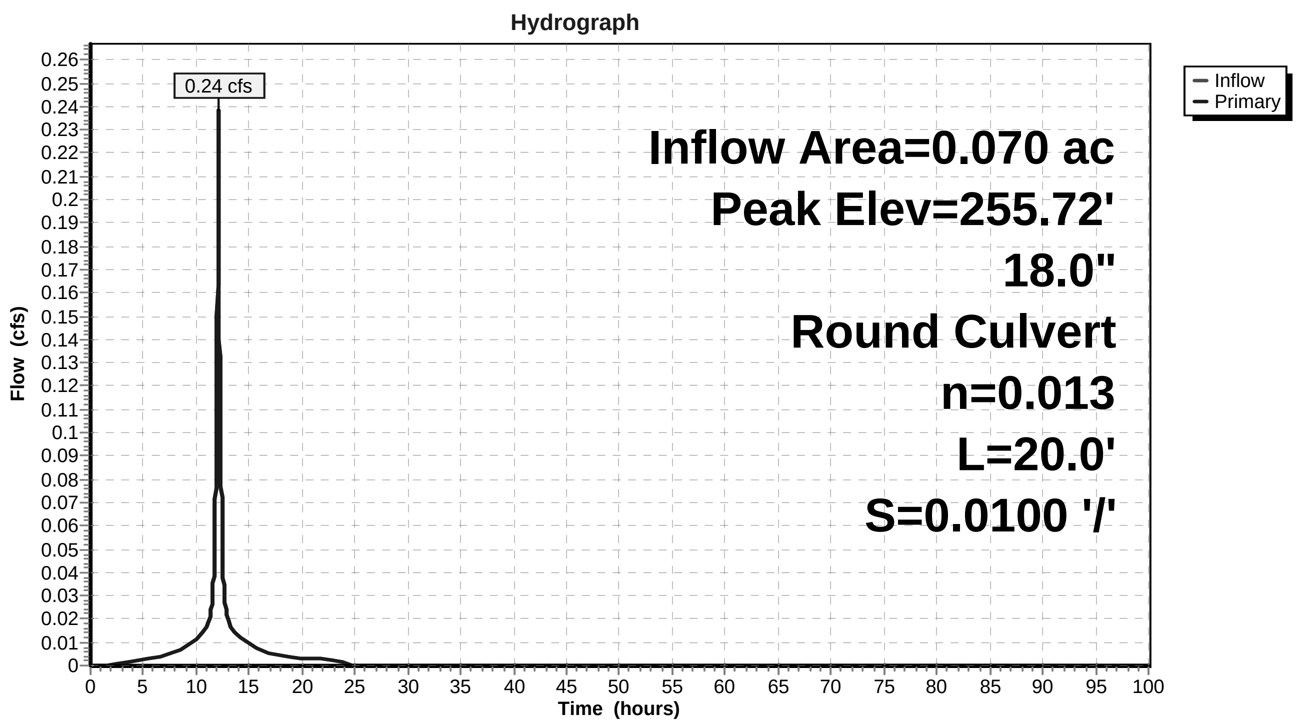
Inflow Area =	0.070 ac,100.00% Impervious,	Inflow Depth = 3.27" for 2 yr event		
Inflow =	0.24 cfs @	12.08 hrs, Volume=	0.019 af	
Outflow =	0.24 cfs @	12.08 hrs, Volume=	0.019 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.24 cfs @	12.08 hrs, Volume=	0.019 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.72' @ 12.08 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.50' / 255.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.24 cfs @ 12.08 hrs HW=255.72' TW=254.43' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.24 cfs @ 2.18 fps)

Pond CB-1A:



Summary for Pond CB-1B:

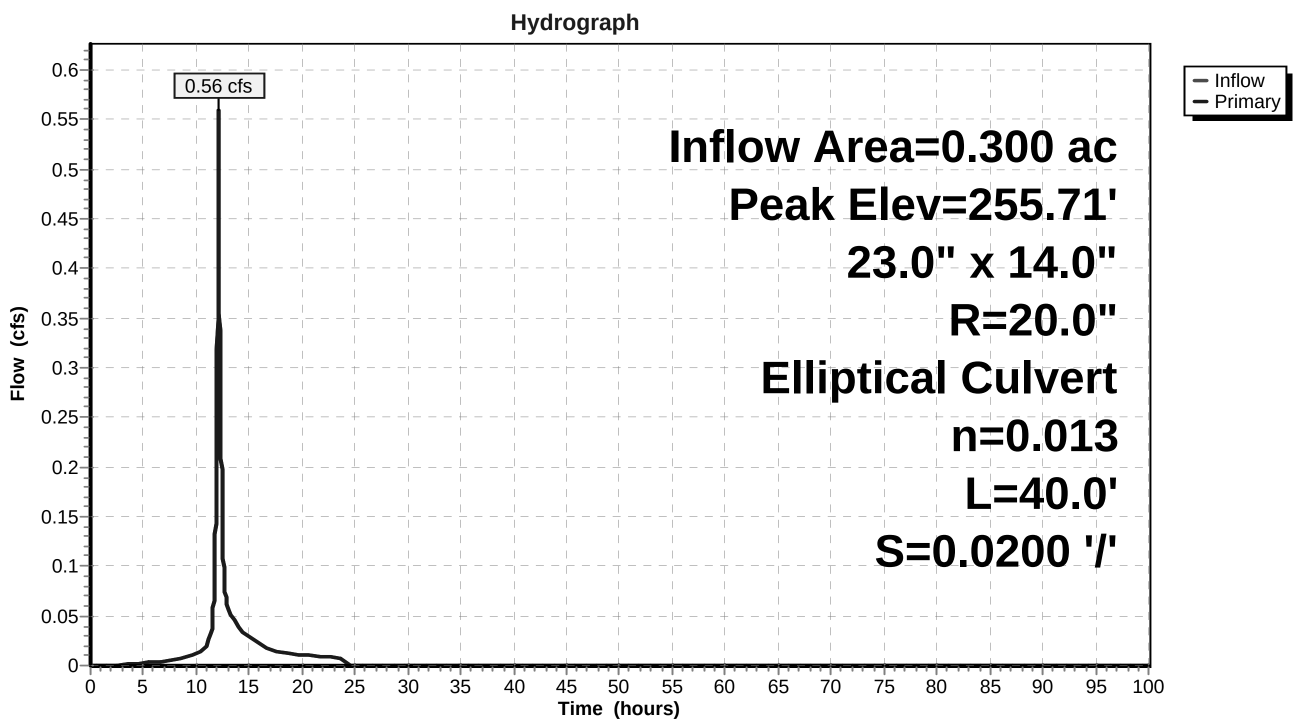
Inflow Area = 0.300 ac, 23.33% Impervious, Inflow Depth = 1.71" for 2 yr event
Inflow = 0.56 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.56 cfs @ 12.09 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.56 cfs @ 12.09 hrs, Volume= 0.043 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.71' @ 12.09 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.42'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.42' / 254.62' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.56 cfs @ 12.09 hrs HW=255.71' TW=254.46' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.56 cfs @ 1.55 fps)

Pond CB-1B:



Summary for Pond CB-1C:

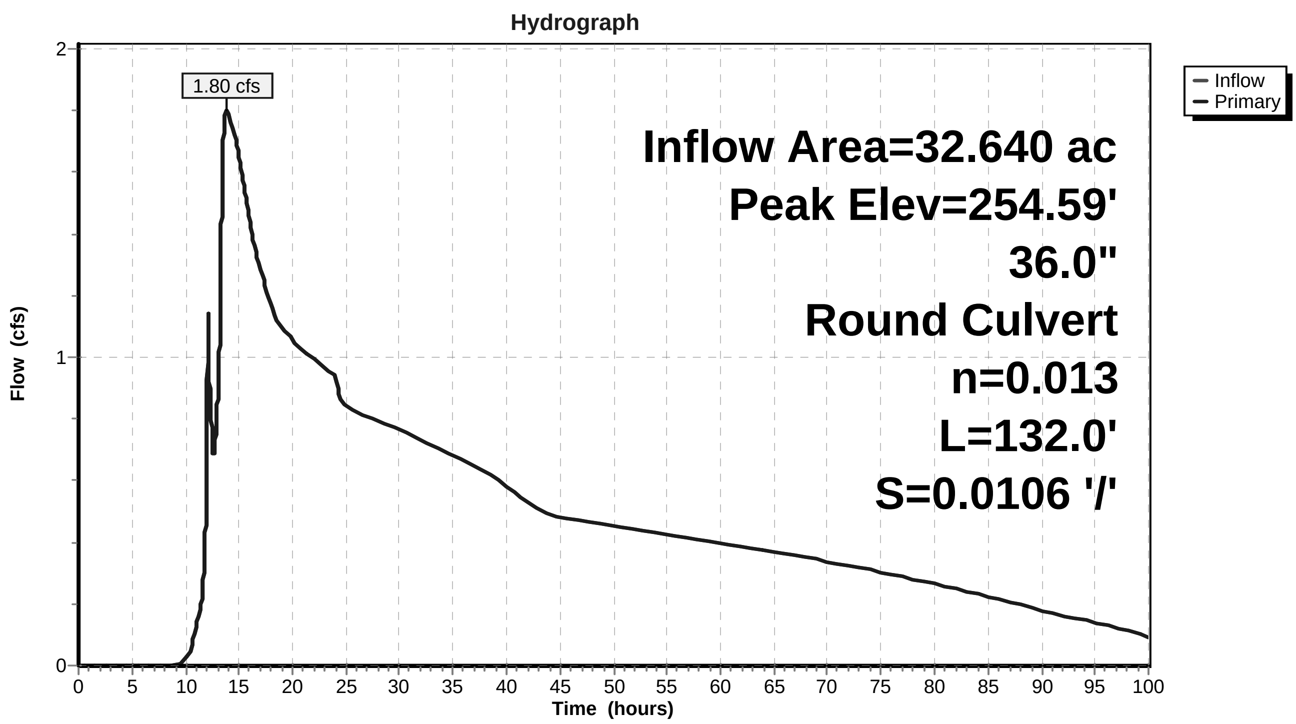
Inflow Area = 32.640 ac, 11.90% Impervious, Inflow Depth > 1.40" for 2 yr event
Inflow = 1.80 cfs @ 13.91 hrs, Volume= 3.795 af
Outflow = 1.80 cfs @ 13.91 hrs, Volume= 3.795 af, Atten= 0%, Lag= 0.0 min
Primary = 1.80 cfs @ 13.91 hrs, Volume= 3.795 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.59' @ 13.91 hrs
Flood Elev= 259.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	254.10'	**36.0" Round Culvert** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 254.10' / 252.70' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.80 cfs @ 13.91 hrs HW=254.59' TW=252.78' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.80 cfs @ 2.39 fps)

Pond CB-1C:



Summary for Pond CB-1D:

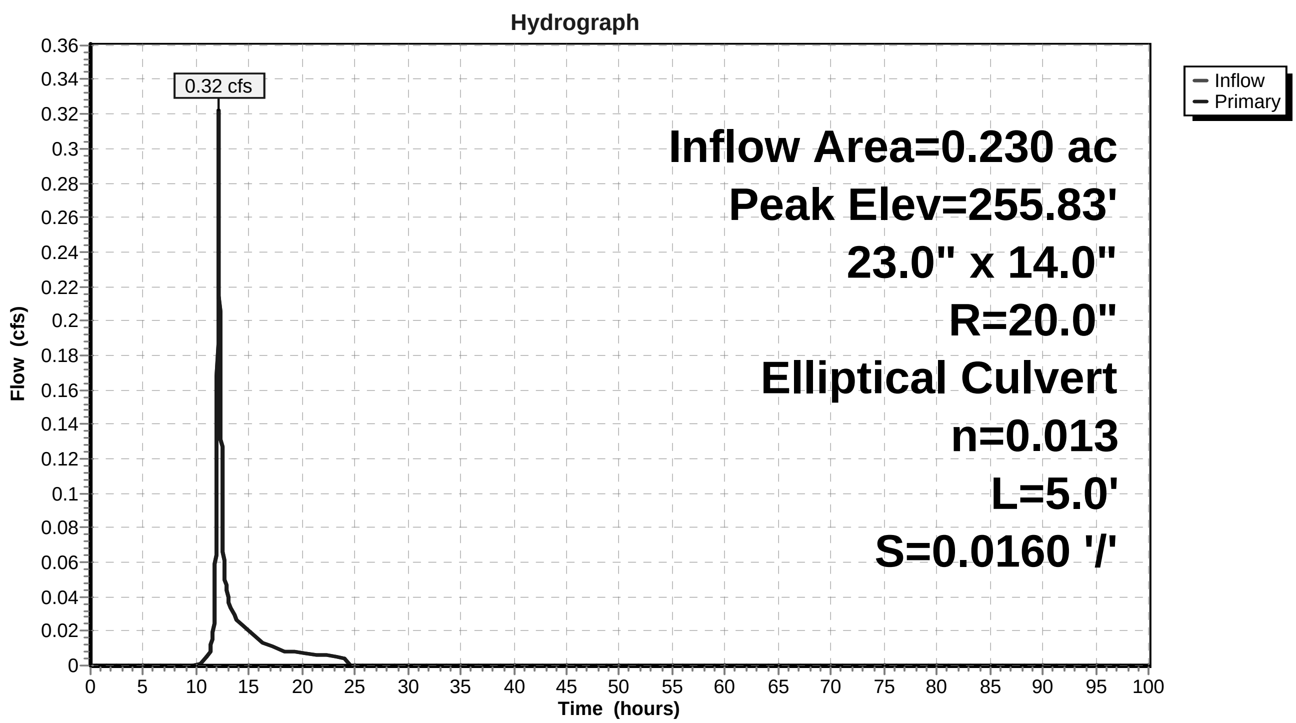
Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth = 1.24" for 2 yr event
Inflow = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af
Outflow = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.83' @ 12.09 hrs
Flood Elev= 257.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.60'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 5.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.60' / 255.52' S= 0.0160 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.32 cfs @ 12.09 hrs HW=255.83' TW=255.71' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.32 cfs @ 1.27 fps)

Pond CB-1D:



Summary for Pond CB-2A:

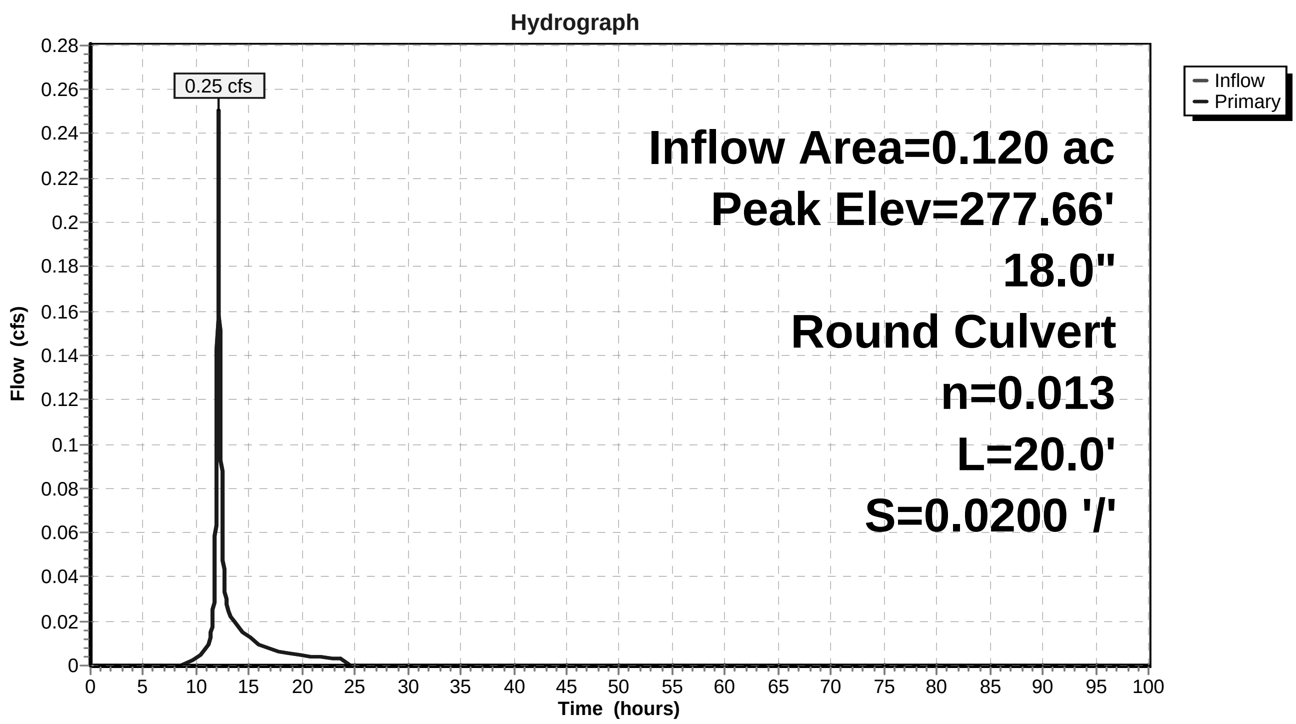
Inflow Area = 0.120 ac, 33.33% Impervious, Inflow Depth = 1.78" for 2 yr event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 277.66' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.04' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.25 cfs @ 12.09 hrs HW=277.66' TW=272.85' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.25 cfs @ 1.59 fps)

Pond CB-2A:



Summary for Pond CB-2B:

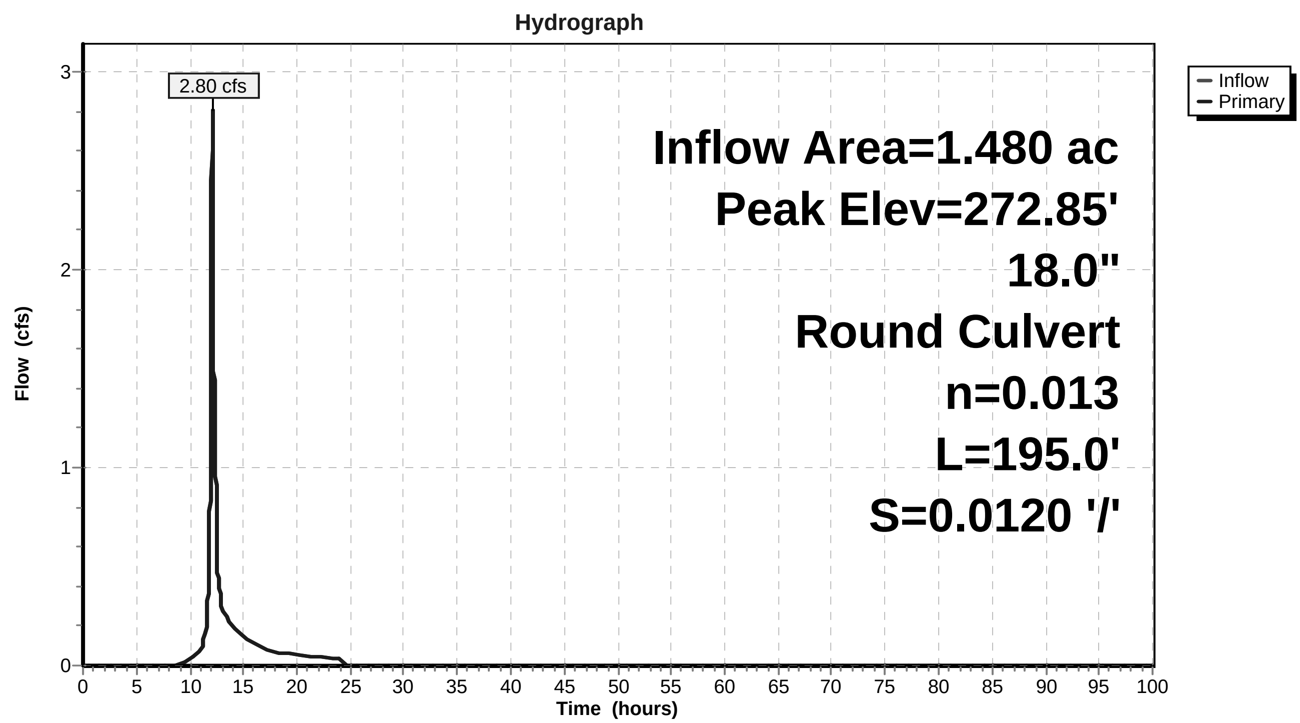
Inflow Area =	1.480 ac,	24.32% Impervious,	Inflow Depth = 1.62"	for 2 yr event
Inflow =	2.80 cfs @	12.09 hrs, Volume=	0.200 af	
Outflow =	2.80 cfs @	12.09 hrs, Volume=	0.200 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.80 cfs @	12.09 hrs, Volume=	0.200 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 272.85' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.07'	**18.0" Round Culvert** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 272.07' / 269.73' S= 0.0120 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.80 cfs @ 12.09 hrs HW=272.85' TW=269.74' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.80 cfs @ 3.01 fps)

Pond CB-2B:



Summary for Pond CB-3A:

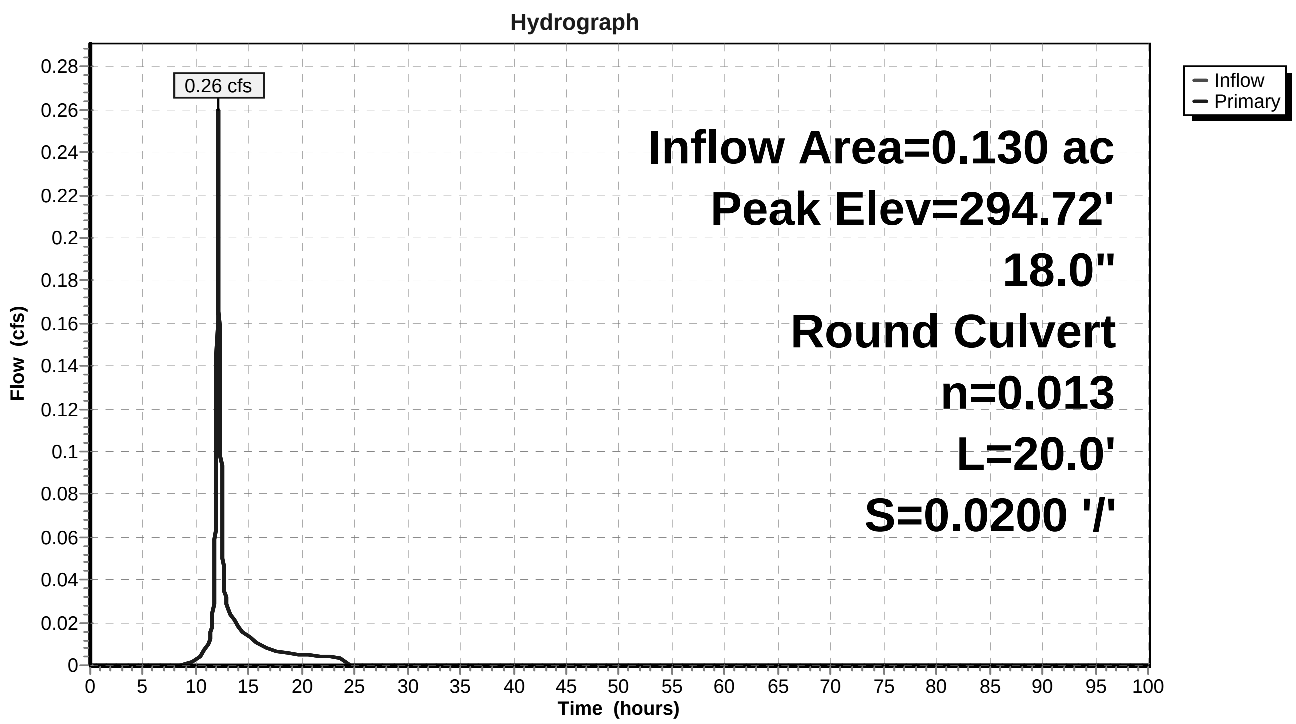
Inflow Area = 0.130 ac, 30.77% Impervious, Inflow Depth = 1.71" for 2 yr event
Inflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af
Outflow = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.72' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 294.50' / 294.10' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.26 cfs @ 12.09 hrs HW=294.72' TW=294.26' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.26 cfs @ 1.60 fps)

Pond CB-3A:



Summary for Pond CB-3B:

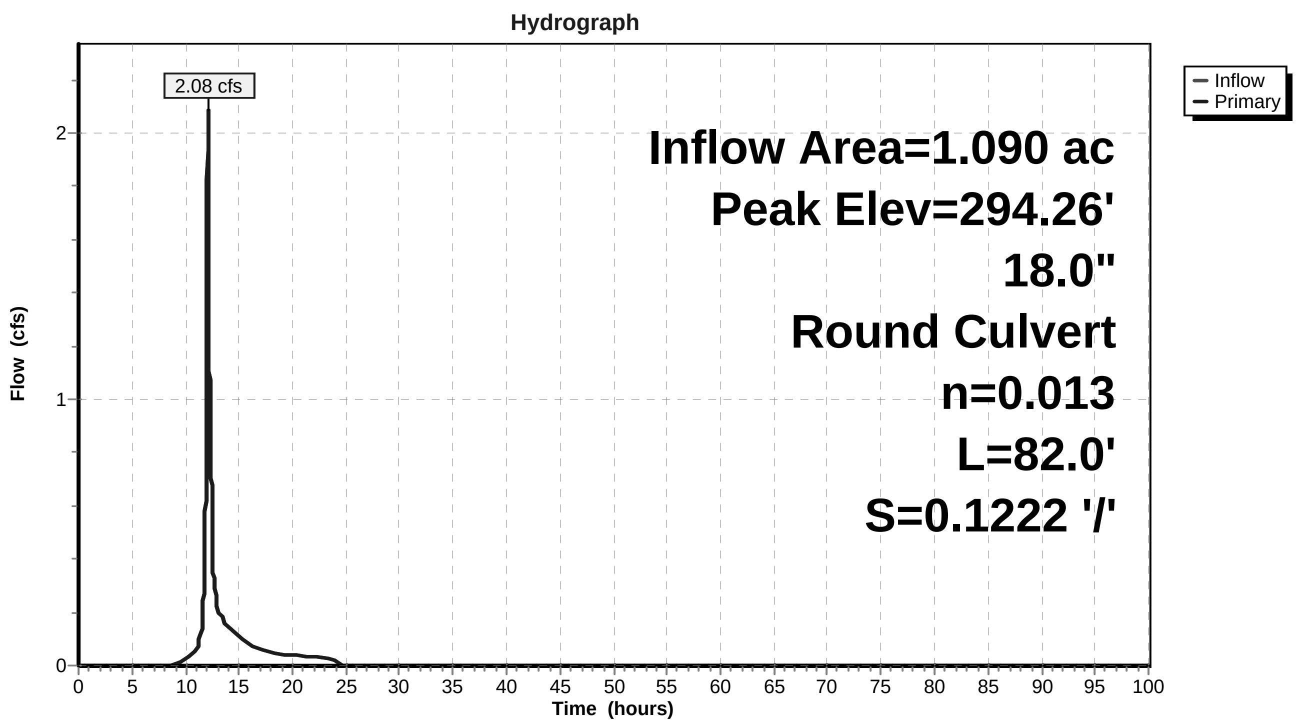
Inflow Area = 1.090 ac, 25.69% Impervious, Inflow Depth = 1.64" for 2 yr event
Inflow = 2.08 cfs @ 12.09 hrs, Volume= 0.149 af
Outflow = 2.08 cfs @ 12.09 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min
Primary = 2.08 cfs @ 12.09 hrs, Volume= 0.149 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.26' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	293.60'	**18.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 293.60' / 283.58' S= 0.1222 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.08 cfs @ 12.09 hrs HW=294.26' TW=283.85' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.08 cfs @ 2.77 fps)

Pond CB-3B:



Summary for Pond CB-4A:

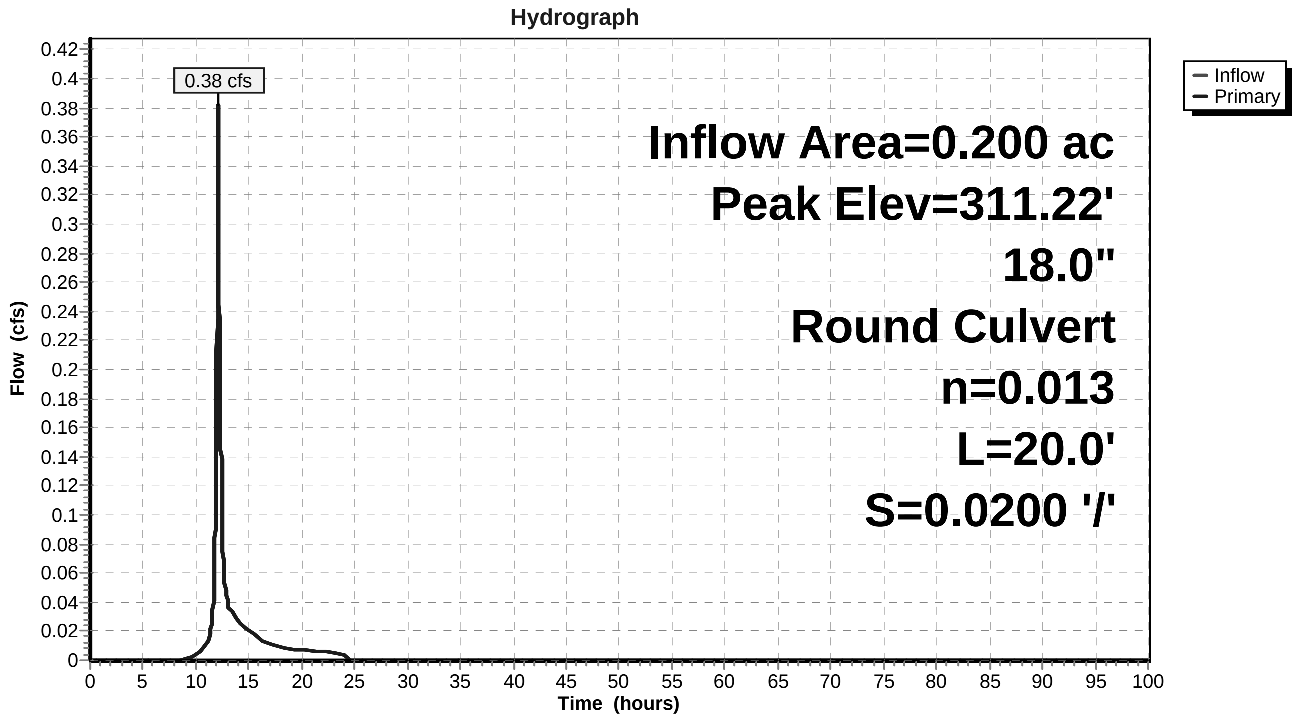
Inflow Area = 0.200 ac, 25.00% Impervious, Inflow Depth = 1.64" for 2 yr event
Inflow = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af
Outflow = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.22' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.95' / 310.55' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.38 cfs @ 12.09 hrs HW=311.22' TW=310.68' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.38 cfs @ 1.77 fps)

Pond CB-4A:



Summary for Pond CB-4B:

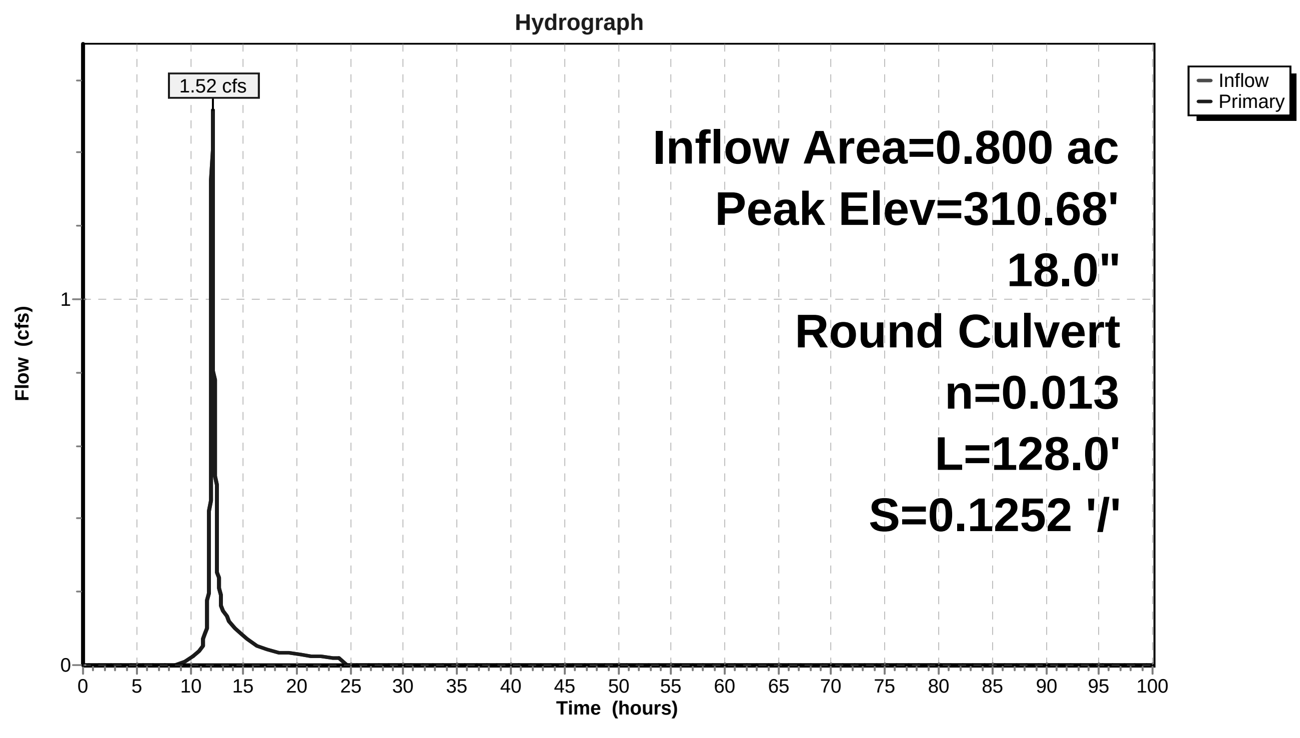
Inflow Area =	0.800 ac, 25.00% Impervious,	Inflow Depth = 1.63"	for 2 yr event	
Inflow =	1.52 cfs @	12.09 hrs, Volume=	0.109 af	
Outflow =	1.52 cfs @	12.09 hrs, Volume=	0.109 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.52 cfs @	12.09 hrs, Volume=	0.109 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 310.68' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.12'	**18.0" Round Culvert** L= 128.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.12' / 294.10' S= 0.1252 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.52 cfs @ 12.09 hrs HW=310.68' TW=294.26' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.52 cfs @ 2.54 fps)

Pond CB-4B:



Summary for Pond CB-5A:

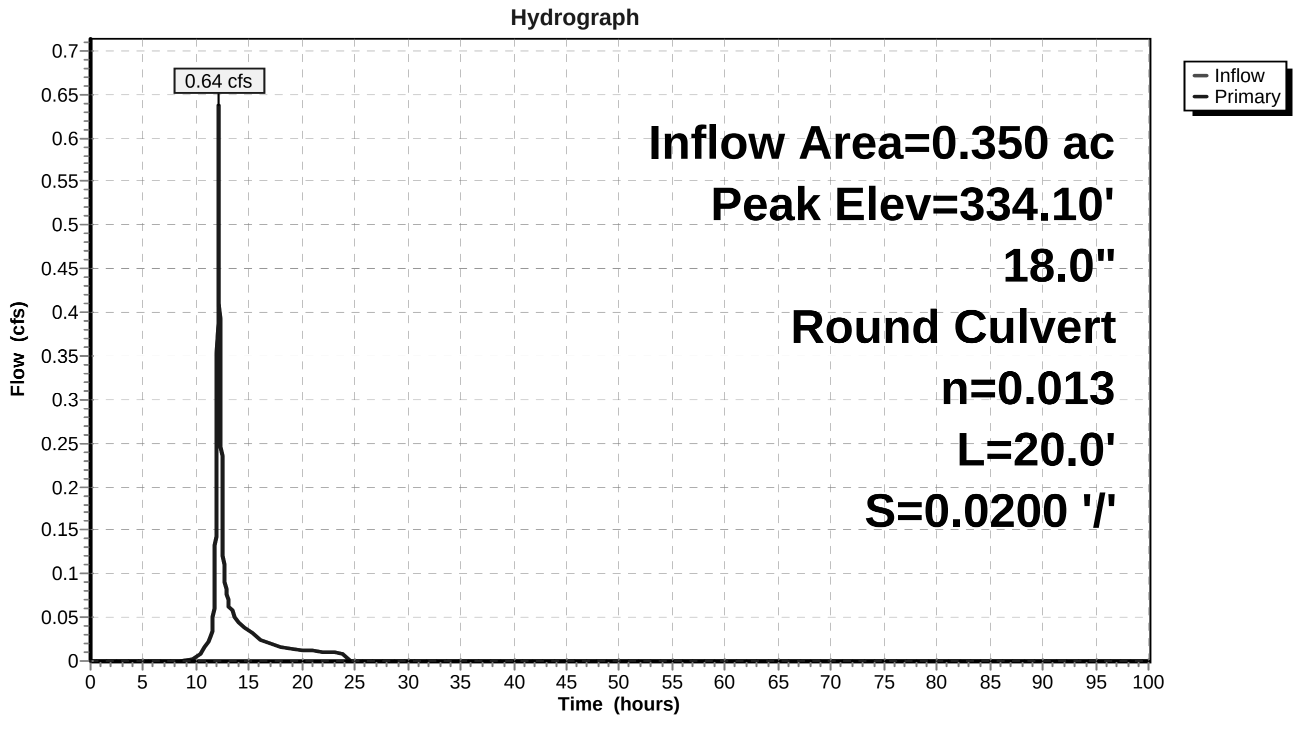
Inflow Area =	0.350 ac,	22.86% Impervious, Inflow Depth = 1.57"	for 2 yr event	
Inflow =	0.64 cfs @	12.09 hrs, Volume=	0.046 af	
Outflow =	0.64 cfs @	12.09 hrs, Volume=	0.046 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.64 cfs @	12.09 hrs, Volume=	0.046 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.10' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.75' / 333.35' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.64 cfs @ 12.09 hrs HW=334.10' TW=333.64' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.64 cfs @ 2.02 fps)

Pond CB-5A:



Summary for Pond CB-5B:

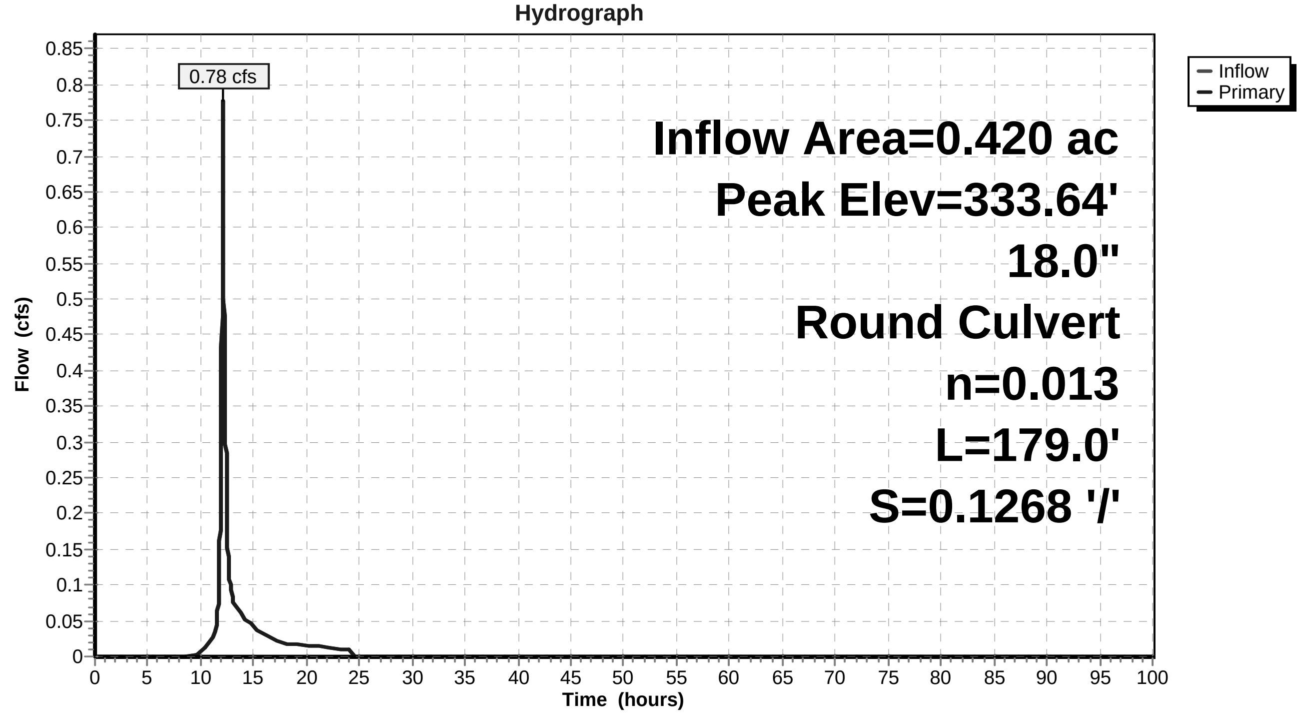
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 1.59" for 2 yr event
Inflow = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af
Outflow = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.64' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.25'	**18.0" Round Culvert** L= 179.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.25' / 310.55' S= 0.1268 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.78 cfs @ 12.09 hrs HW=333.64' TW=322.43' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.78 cfs @ 2.13 fps)

Pond CB-5B:



Summary for Pond CB-6A:

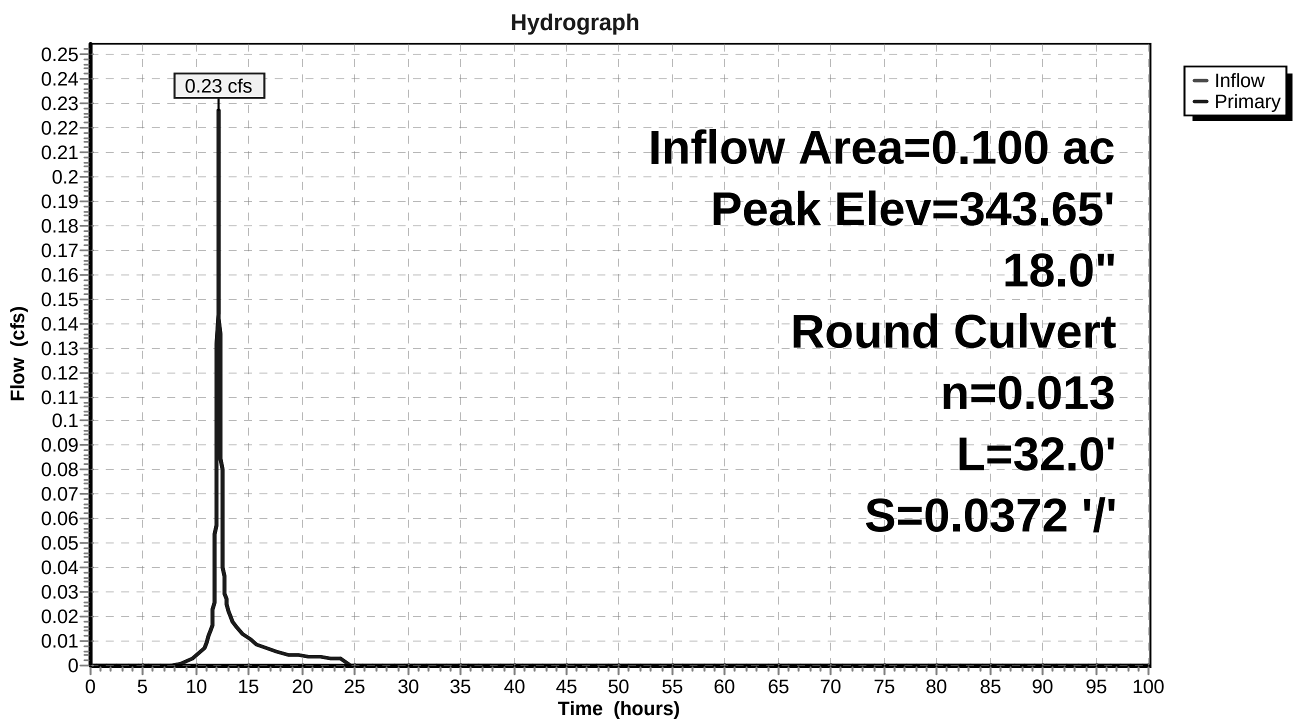
Inflow Area = 0.100 ac, 40.00% Impervious, Inflow Depth = 1.94" for 2 yr event
Inflow = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af
Outflow = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.23 cfs @ 12.09 hrs, Volume= 0.016 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.65' @ 12.09 hrs
Flood Elev= 346.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.44'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.44' / 342.25' S= 0.0372 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.23 cfs @ 12.09 hrs HW=343.65' TW=342.40' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.23 cfs @ 1.55 fps)

Pond CB-6A:



Summary for Pond CB-6B:

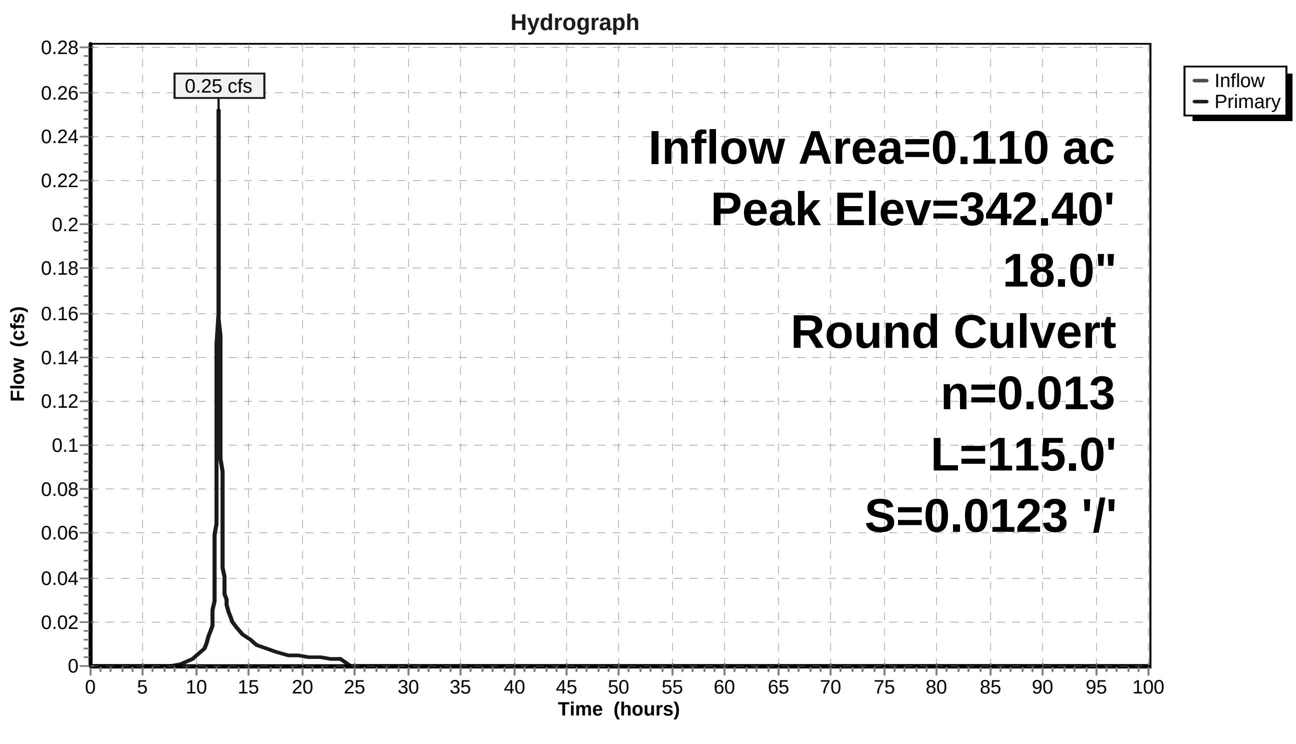
Inflow Area = 0.110 ac, 40.91% Impervious, Inflow Depth = 1.95" for 2 yr event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af, Atten= 0%, Lag= 0.0 min
Primary = 0.25 cfs @ 12.09 hrs, Volume= 0.018 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.40' @ 12.09 hrs
Flood Elev= 345.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	342.15'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 342.15' / 340.73' S= 0.0123 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.25 cfs @ 12.09 hrs HW=342.40' TW=341.67' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.25 cfs @ 2.02 fps)

Pond CB-6B:



Summary for Pond CB-7A:

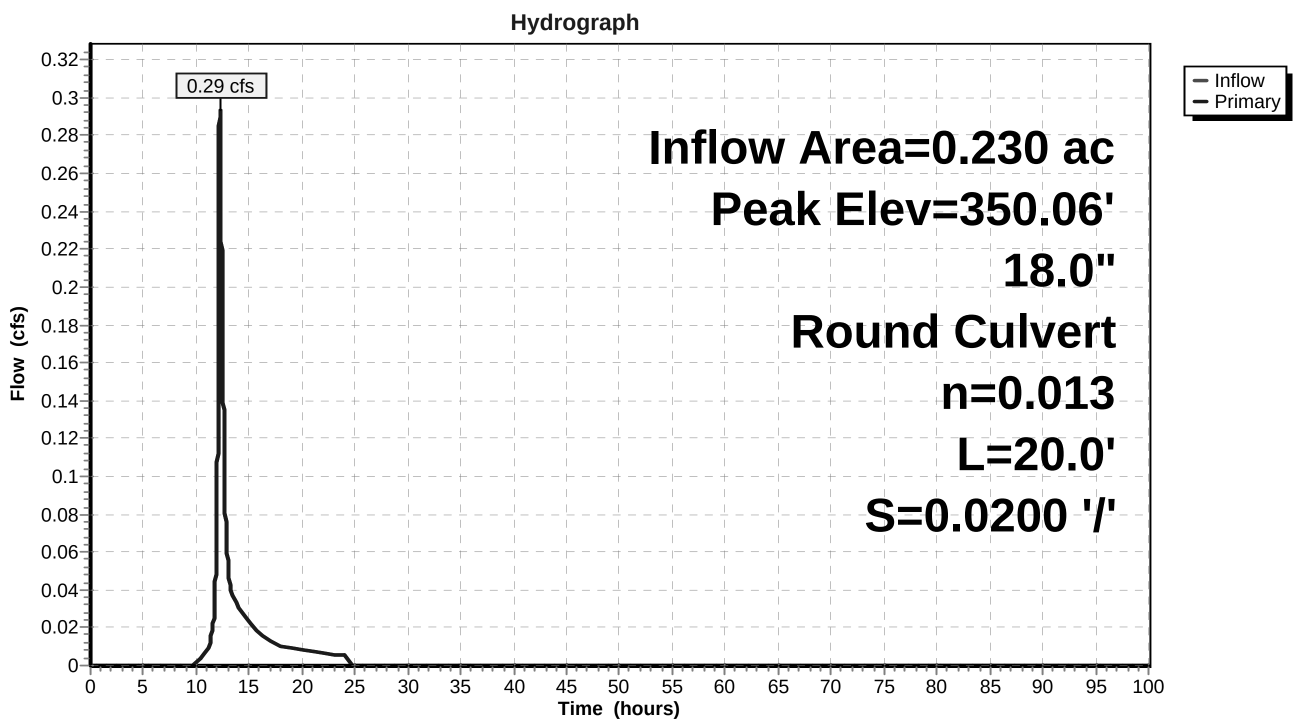
Inflow Area = 0.230 ac, 17.39% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 0.29 cfs @ 12.23 hrs, Volume= 0.029 af
Outflow = 0.29 cfs @ 12.23 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.23 hrs, Volume= 0.029 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.06' @ 12.23 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.82'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.82' / 349.42' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.29 cfs @ 12.23 hrs HW=350.06' TW=349.60' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.29 cfs @ 1.65 fps)

Pond CB-7A:



Summary for Pond CB-7B:

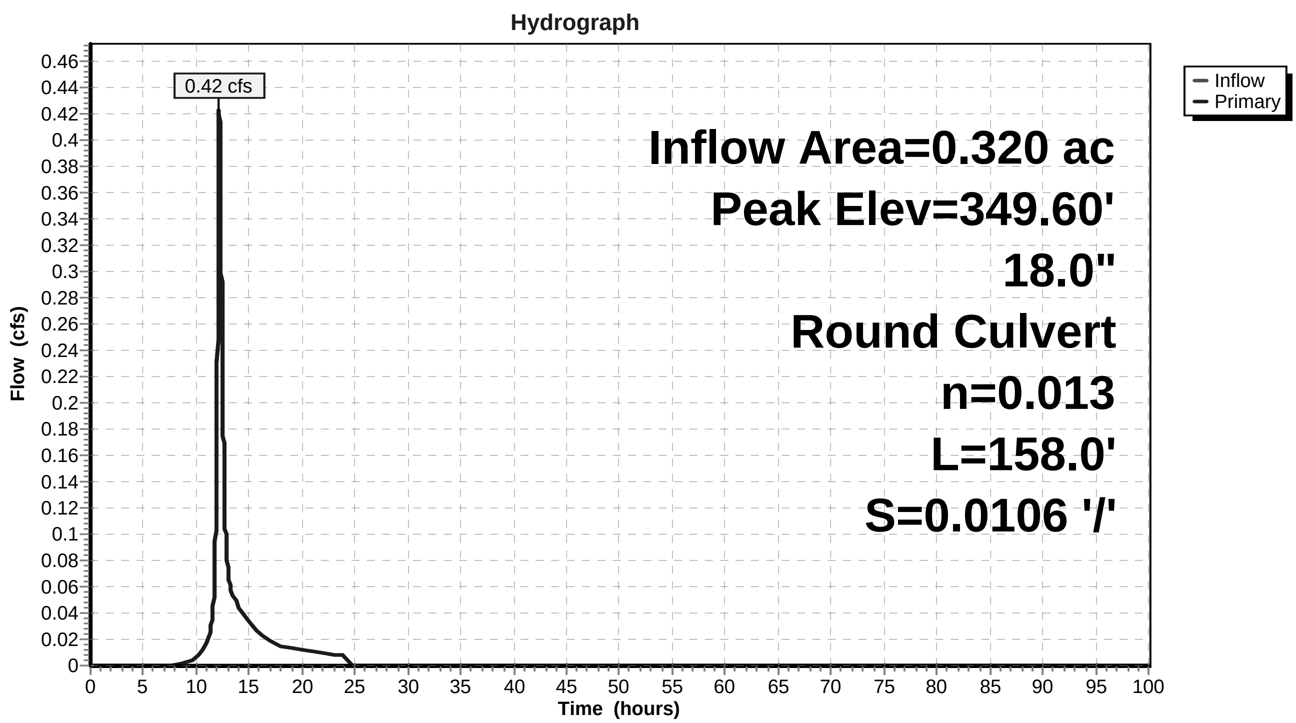
Inflow Area = 0.320 ac, 25.00% Impervious, Inflow Depth = 1.64" for 2 yr event
Inflow = 0.42 cfs @ 12.14 hrs, Volume= 0.044 af
Outflow = 0.42 cfs @ 12.14 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.14 hrs, Volume= 0.044 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.60' @ 12.14 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.32'	**18.0" Round Culvert** L= 158.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.32' / 347.65' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.42 cfs @ 12.14 hrs HW=349.60' TW=347.94' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.42 cfs @ 1.82 fps)

Pond CB-7B:



Summary for Pond CB-8A:

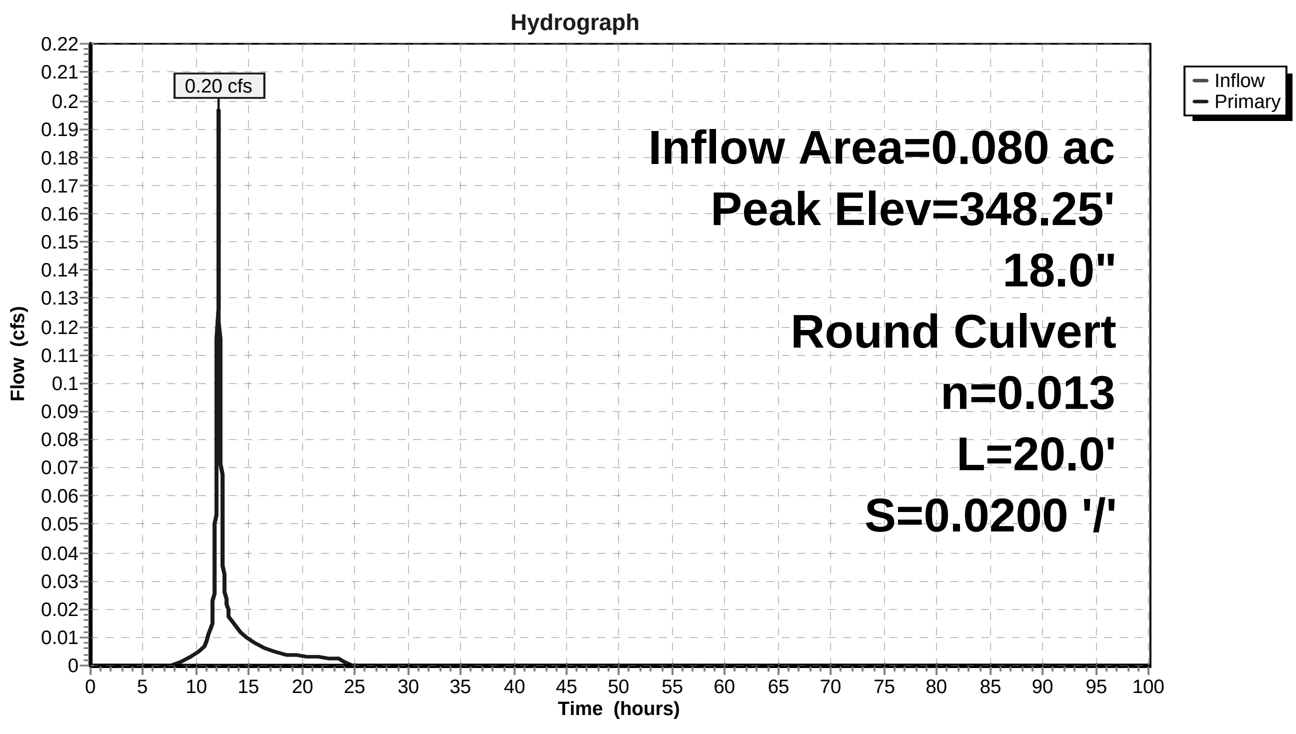
Inflow Area =	0.080 ac, 50.00% Impervious, Inflow Depth = 2.10" for 2 yr event		
Inflow =	0.20 cfs @ 12.09 hrs, Volume=	0.014 af	
Outflow =	0.20 cfs @ 12.09 hrs, Volume=	0.014 af, Atten= 0%, Lag= 0.0 min	
Primary =	0.20 cfs @ 12.09 hrs, Volume=	0.014 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.25' @ 12.09 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.05'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.05' / 347.65' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.20 cfs @ 12.09 hrs HW=348.25' TW=347.95' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.20 cfs @ 2.21 fps)

Pond CB-8A:



Summary for Pond CB-8B:

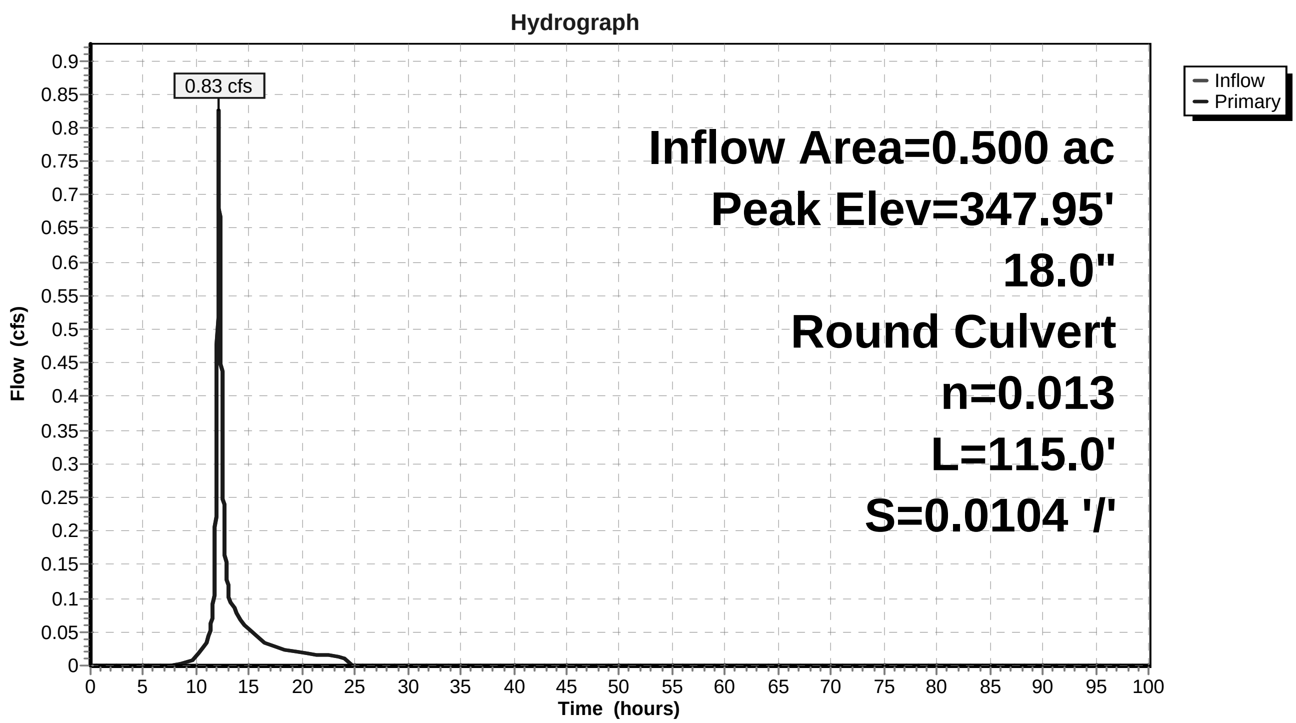
Inflow Area = 0.500 ac, 32.00% Impervious, Inflow Depth = 1.77" for 2 yr event
Inflow = 0.83 cfs @ 12.10 hrs, Volume= 0.074 af
Outflow = 0.83 cfs @ 12.10 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.10 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 347.95' @ 12.10 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.55'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.55' / 346.35' S= 0.0104 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.83 cfs @ 12.10 hrs HW=347.95' TW=346.82' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.83 cfs @ 3.23 fps)

Pond CB-8B:



Summary for Pond CB-9A:

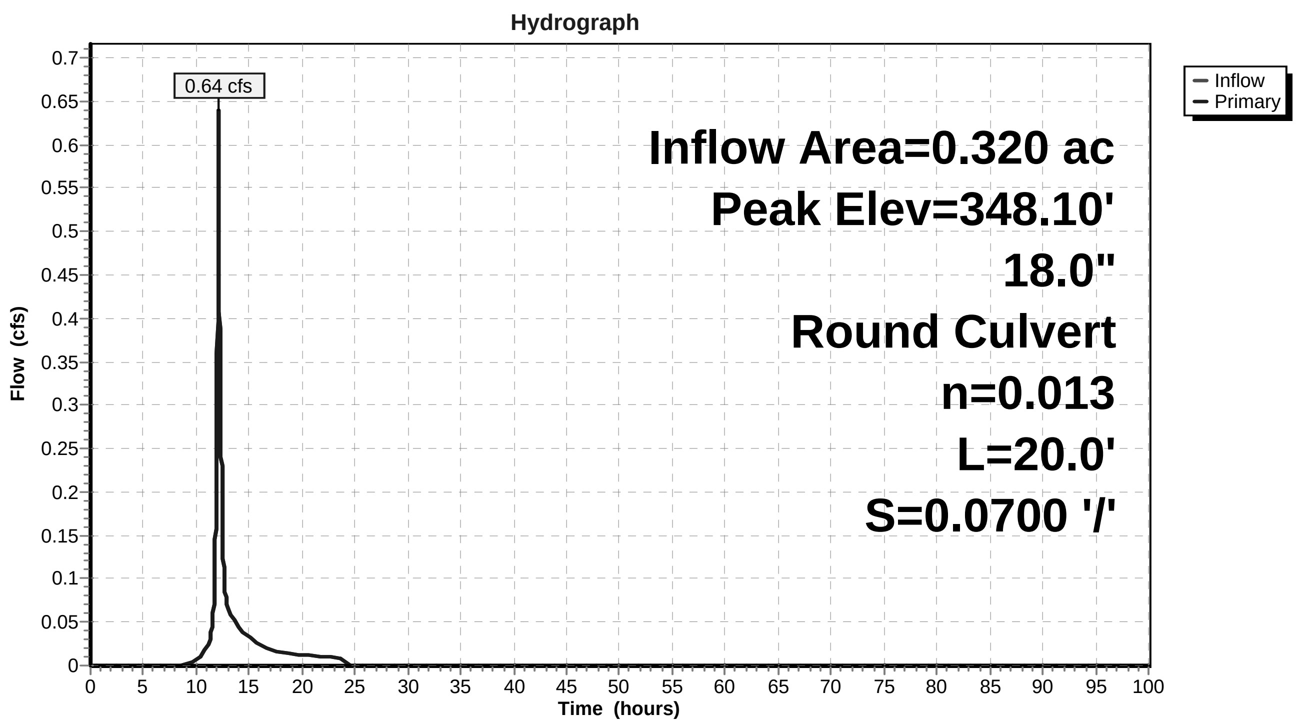
Inflow Area = 0.320 ac, 31.25% Impervious, Inflow Depth = 1.71" for 2 yr event
Inflow = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af
Outflow = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.10' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.75' / 346.35' S= 0.0700 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.64 cfs @ 12.09 hrs HW=348.10' TW=346.82' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.64 cfs @ 2.02 fps)

Pond CB-9A:



Summary for Pond CB-9B:

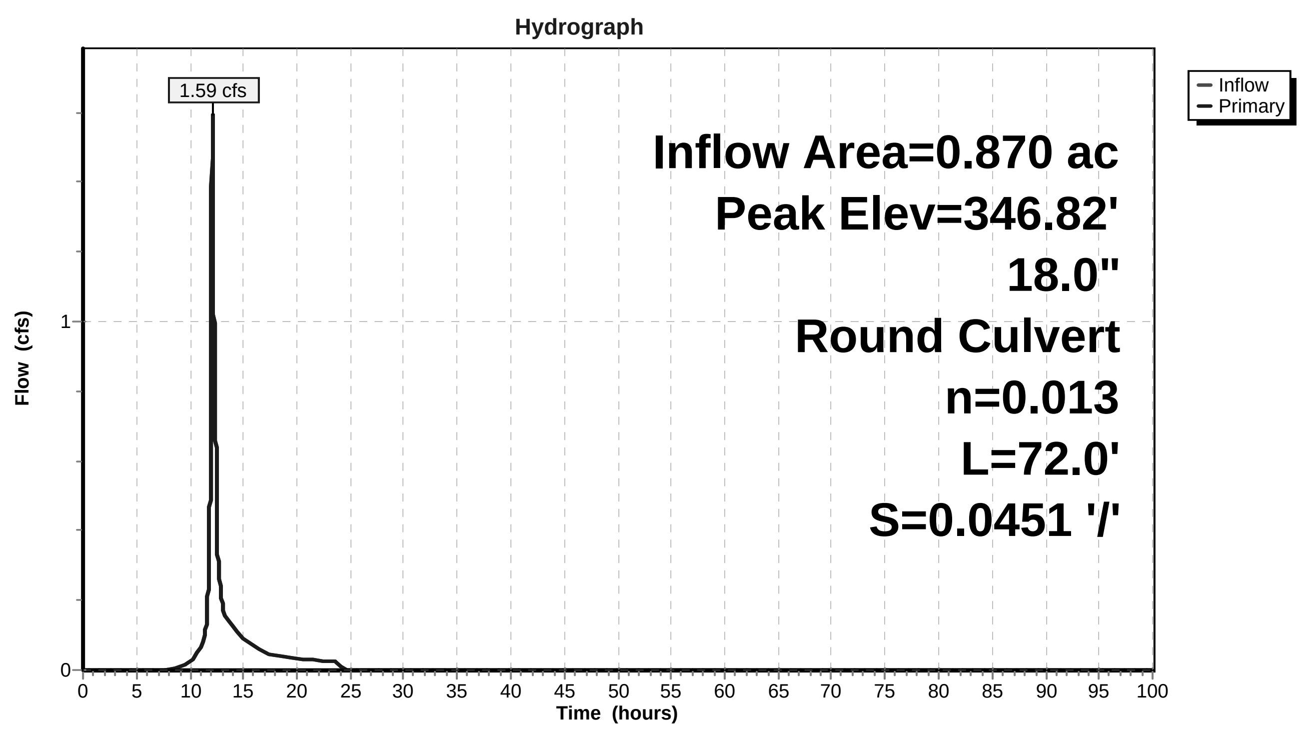
Inflow Area = 0.870 ac, 33.33% Impervious, Inflow Depth = 1.78" for 2 yr event
Inflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af
Outflow = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min
Primary = 1.59 cfs @ 12.09 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 346.82' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	346.25'	**18.0" Round Culvert** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 346.25' / 343.00' S= 0.0451 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.59 cfs @ 12.09 hrs HW=346.82' TW=334.06' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.59 cfs @ 2.57 fps)

Pond CB-9B:



Summary for Pond CB18-A:

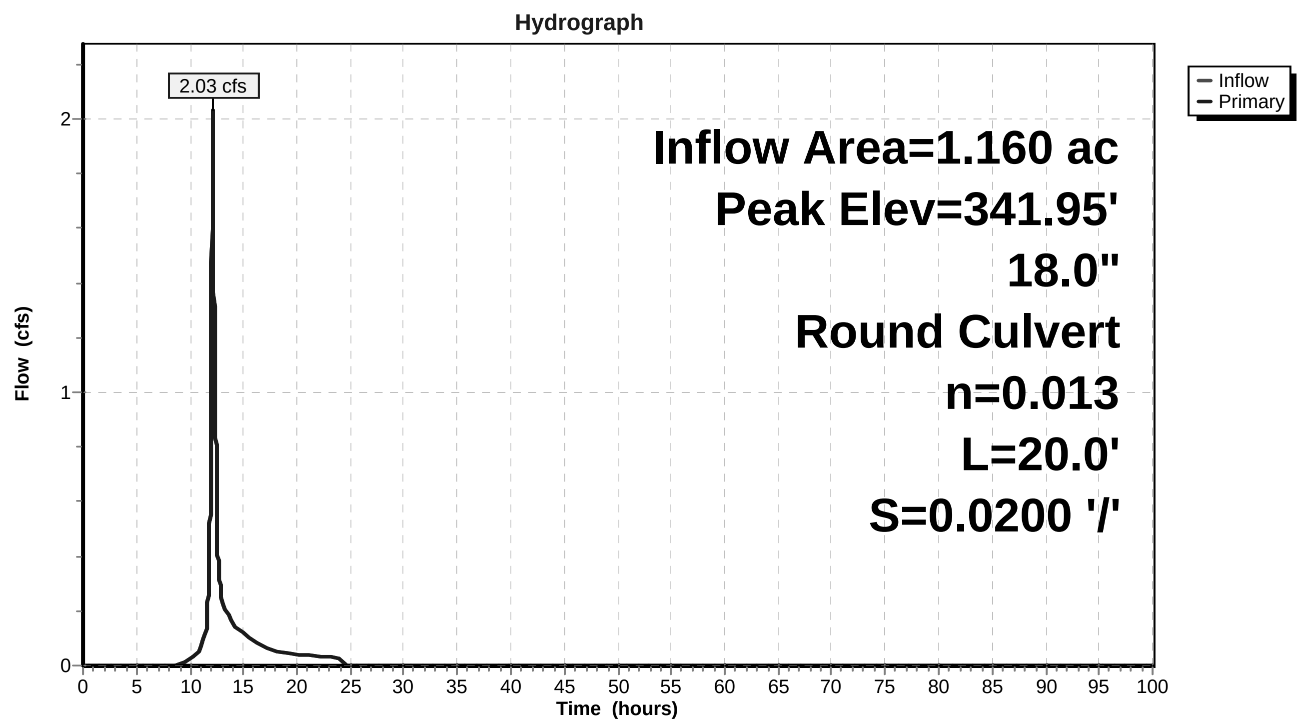
Inflow Area = 1.160 ac, 26.72% Impervious, Inflow Depth = 1.64" for 2 yr event
Inflow = 2.03 cfs @ 12.12 hrs, Volume= 0.158 af
Outflow = 2.03 cfs @ 12.12 hrs, Volume= 0.158 af, Atten= 0%, Lag= 0.0 min
Primary = 2.03 cfs @ 12.12 hrs, Volume= 0.158 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.95' @ 12.12 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	341.13'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 341.13' / 340.73' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.03 cfs @ 12.12 hrs HW=341.94' TW=341.67' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.03 cfs @ 3.01 fps)

Pond CB18-A:



Summary for Pond DMH#1:

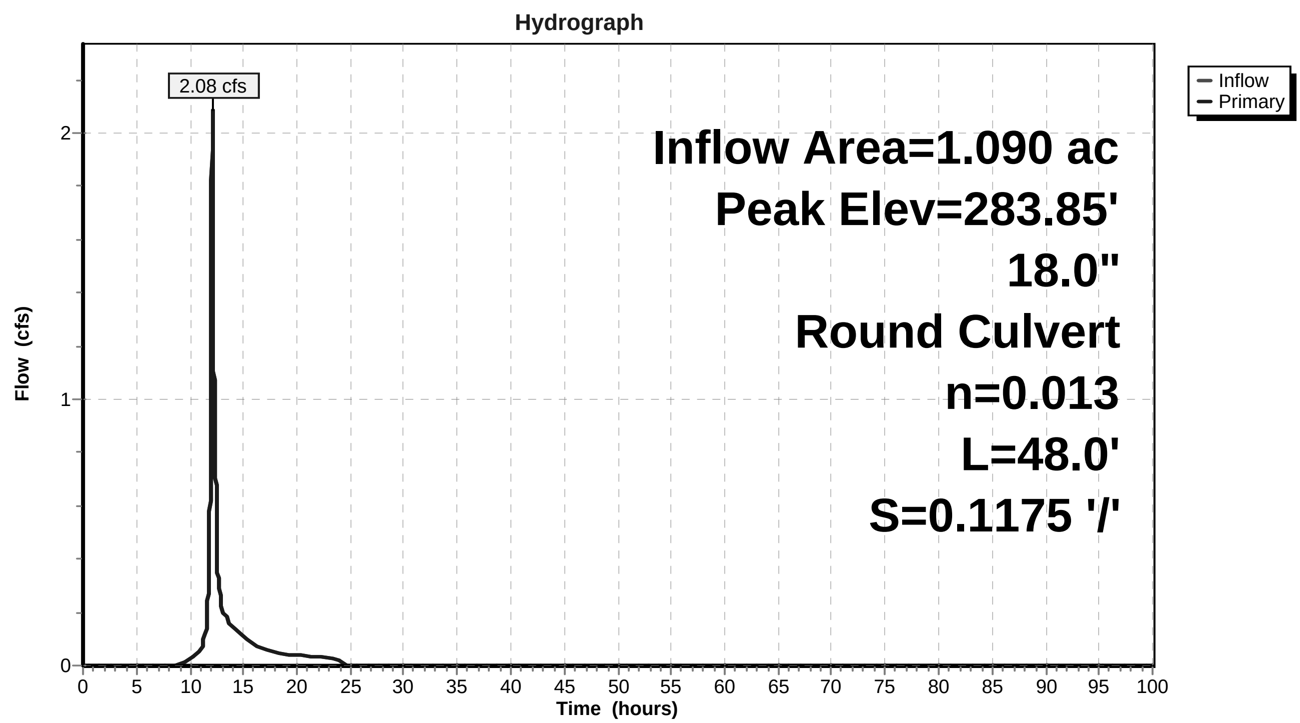
Inflow Area = 1.090 ac, 25.69% Impervious, Inflow Depth = 1.64" for 2 yr event
Inflow = 2.08 cfs @ 12.09 hrs, Volume= 0.149 af
Outflow = 2.08 cfs @ 12.09 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min
Primary = 2.08 cfs @ 12.09 hrs, Volume= 0.149 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 283.85' @ 12.09 hrs
Flood Elev= 288.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	283.19'	**18.0" Round Culvert** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 283.19' / 277.55' S= 0.1175 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.08 cfs @ 12.09 hrs HW=283.85' TW=272.85' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 2.08 cfs @ 2.77 fps)

Pond DMH#1:



Summary for Pond DMH#2:

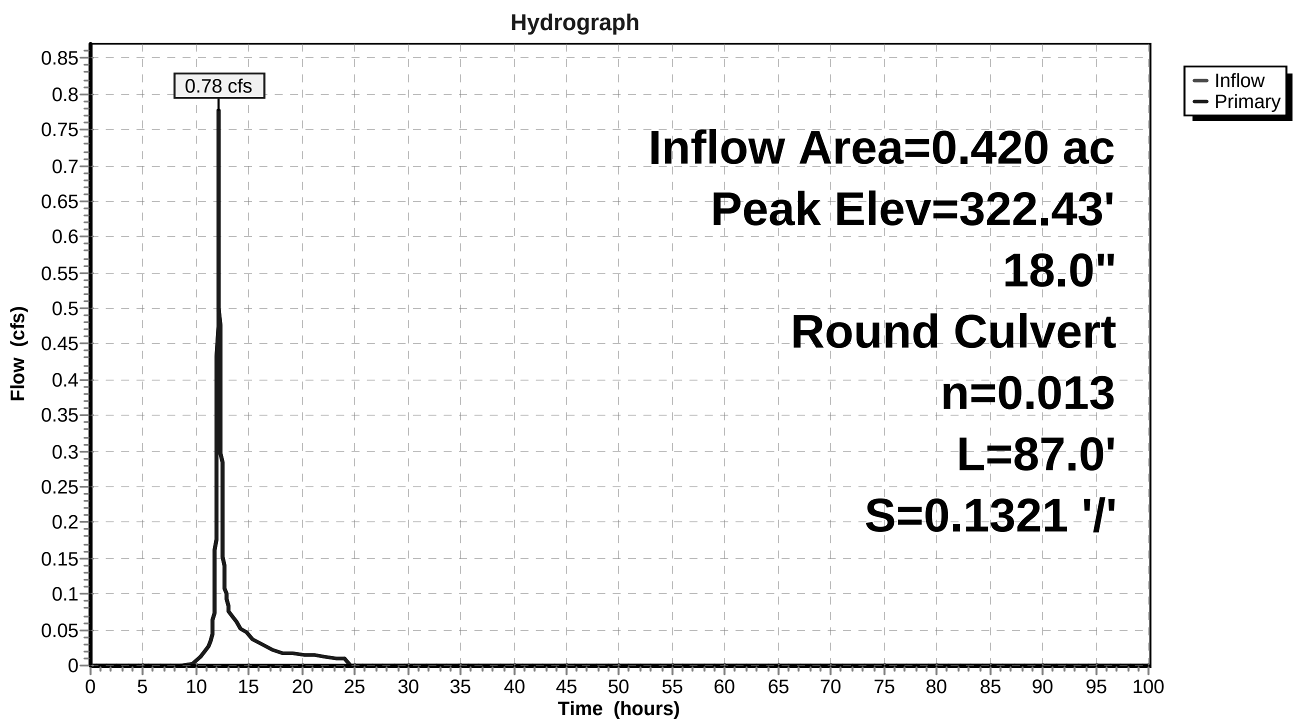
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 1.59" for 2 yr event
Inflow = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af
Outflow = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.09 hrs, Volume= 0.056 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 322.43' @ 12.09 hrs
Flood Elev= 326.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	322.04'	**18.0" Round Culvert** L= 87.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 322.04' / 310.55' S= 0.1321 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.78 cfs @ 12.09 hrs HW=322.43' TW=310.68' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.78 cfs @ 2.13 fps)

Pond DMH#2:



Summary for Pond DMHA:

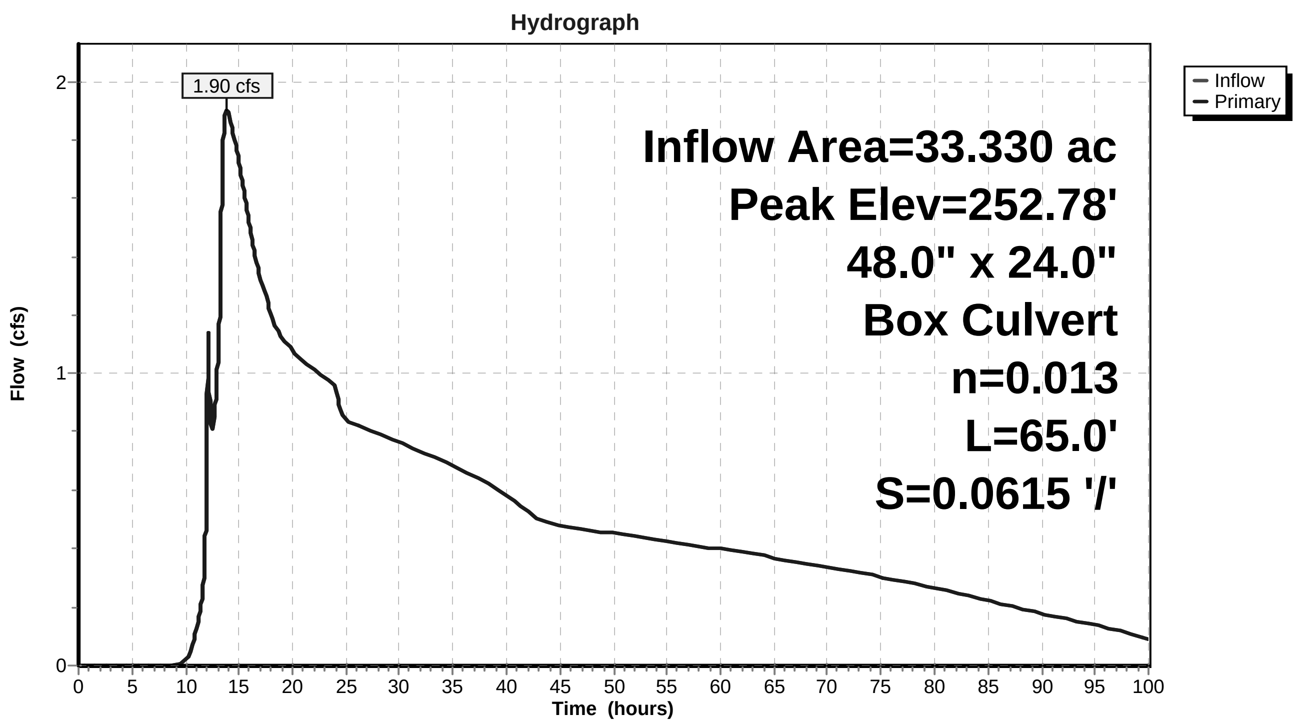
Inflow Area = 33.330 ac, 12.08% Impervious, Inflow Depth > 1.38" for 2 yr event
Inflow = 1.90 cfs @ 13.86 hrs, Volume= 3.843 af
Outflow = 1.90 cfs @ 13.86 hrs, Volume= 3.843 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90 cfs @ 13.86 hrs, Volume= 3.843 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 252.78' @ 13.86 hrs
Flood Elev= 256.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.50'	**48.0" W x 24.0" H Box Culvert** L= 65.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 252.50' / 248.50' S= 0.0615 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.90 cfs @ 13.86 hrs HW=252.78' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.90 cfs @ 1.70 fps)

Pond DMHA:



Summary for Pond P:

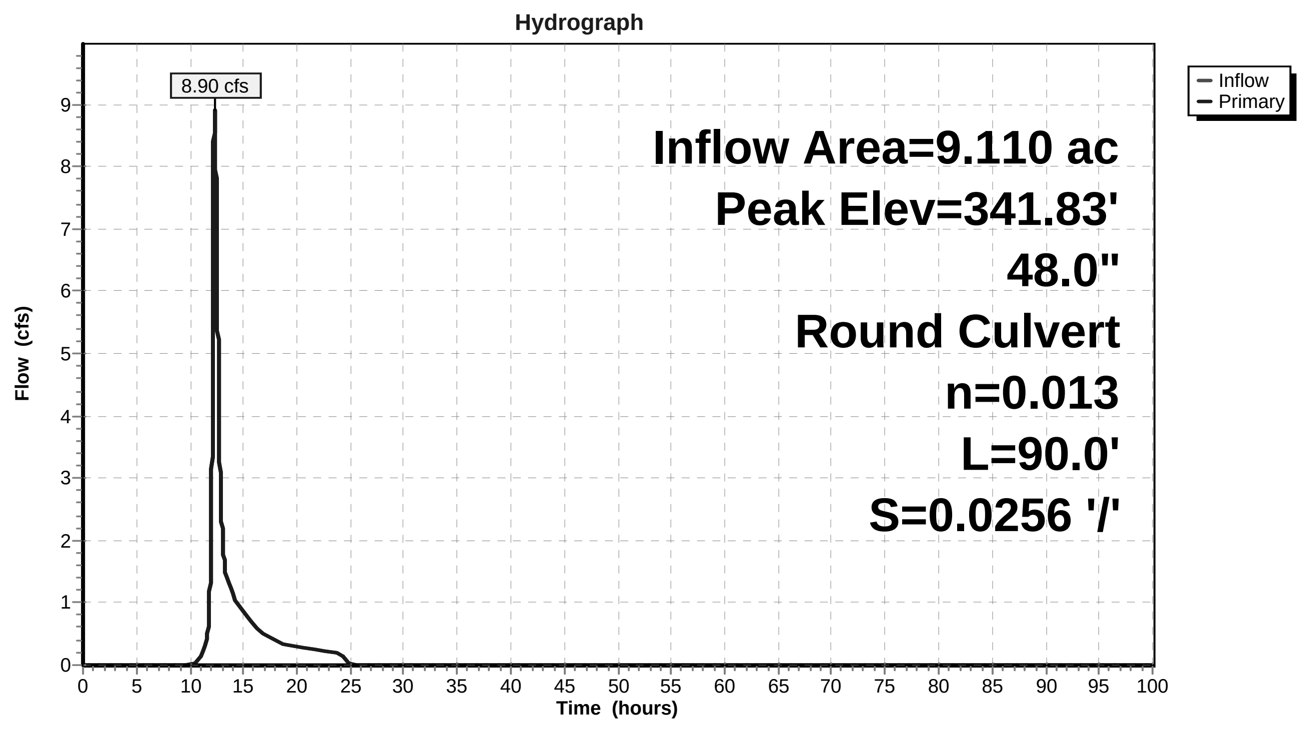
Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 1.30" for 2 yr event
Inflow = 8.90 cfs @ 12.30 hrs, Volume= 0.988 af
Outflow = 8.90 cfs @ 12.30 hrs, Volume= 0.988 af, Atten= 0%, Lag= 0.0 min
Primary = 8.90 cfs @ 12.30 hrs, Volume= 0.988 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.83' @ 12.30 hrs
Flood Elev= 345.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.80'	**48.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 340.80' / 338.50' S= 0.0256 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=8.90 cfs @ 12.30 hrs HW=341.83' TW=334.79' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 8.90 cfs @ 3.46 fps)

Pond P:



Summary for Pond P-1:

Inflow Area = 5.780 ac, 9.52% Impervious, Inflow Depth = 1.38" for 2 yr event
Inflow = 6.40 cfs @ 12.18 hrs, Volume= 0.667 af
Outflow = 0.68 cfs @ 14.12 hrs, Volume= 0.666 af, Atten= 89%, Lag= 116.5 min
Primary = 0.68 cfs @ 14.12 hrs, Volume= 0.666 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 268.55' Surf.Area= 1,982 sf Storage= 2,439 cf
Peak Elev= 271.49' @ 14.12 hrs Surf.Area= 7,897 sf Storage= 19,015 cf (16,575 cf above start)

Plug-Flow detention time= 1,349.2 min calculated for 0.610 af (91% of inflow)
Center-of-Mass det. time= 1,192.0 min (2,047.1 - 855.2)

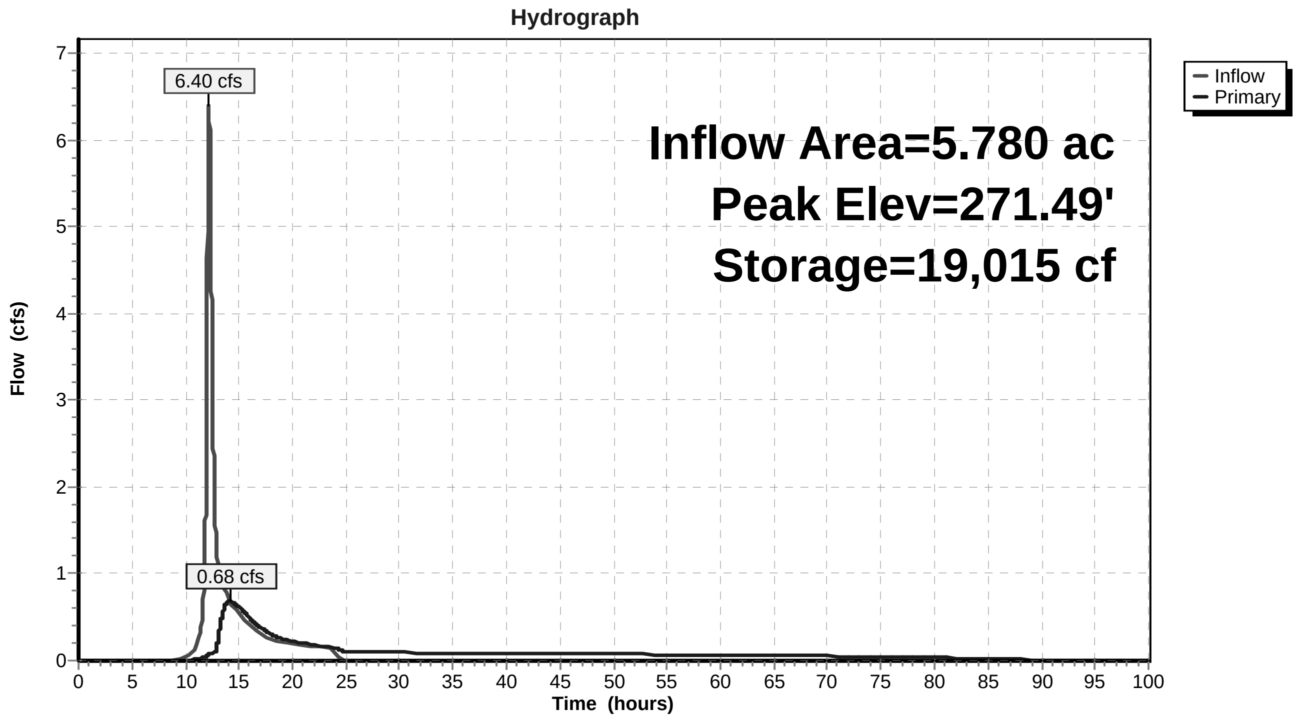
Volume	Invert	Avail.Storage	Storage Description
#1	264.55'	54,362 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
264.55	130	50.0	0	0	130
266.00	385	90.0	357	357	587
268.00	950	115.0	1,293	1,650	1,044
270.00	6,500	200.0	6,623	8,274	3,197
272.00	8,400	400.0	14,859	23,133	12,765
274.00	11,200	435.0	19,533	42,666	15,236
275.00	12,200	405.0	11,696	54,362	17,285

Device	Routing	Invert	Outlet Devices
#1	Primary	264.45'	**18.0" Round Culvert** L= 138.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 264.45' / 262.69' S= 0.0128 '/' Cc= 0.900 n= 0.013
#2	Device 1	268.55'	**1.5" Vert. Orifice** C= 0.600
#3	Device 1	271.25'	**18.0" W x 12.0" H Vert. Grate** C= 0.600
#4	Primary	274.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.68 cfs @ 14.12 hrs HW=271.49' TW=256.53' (Dynamic Tailwater)
1=Culvert (Passes 0.68 cfs of 19.11 cfs potential flow)
2=Orifice (Orifice Controls 0.10 cfs @ 8.17 fps)
3=Grate (Orifice Controls 0.58 cfs @ 1.59 fps)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P-1:


Hydrograph
6.40 cfs
0.68 cfs
Inflow Area=5.780 ac
Peak Elev=271.49'
Storage=19,015 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2:

Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth = 1.41" for 2 yr event
Inflow = 23.51 cfs @ 12.24 hrs, Volume= 2.685 af
Outflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af, Atten= 97%, Lag= 538.2 min
Primary = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 333.05' Surf.Area= 3,307 sf Storage= 6,206 cf
Peak Elev= 336.69' @ 21.21 hrs Surf.Area= 35,156 sf Storage= 95,001 cf (88,795 cf above start)
Flood Elev= 344.75' Surf.Area= 52,000 sf Storage= 259,185 cf (252,979 cf above start)

Plug-Flow detention time= 1,873.5 min calculated for 2.507 af (93% of inflow)
Center-of-Mass det. time= 1,737.7 min (2,595.4 - 857.7)

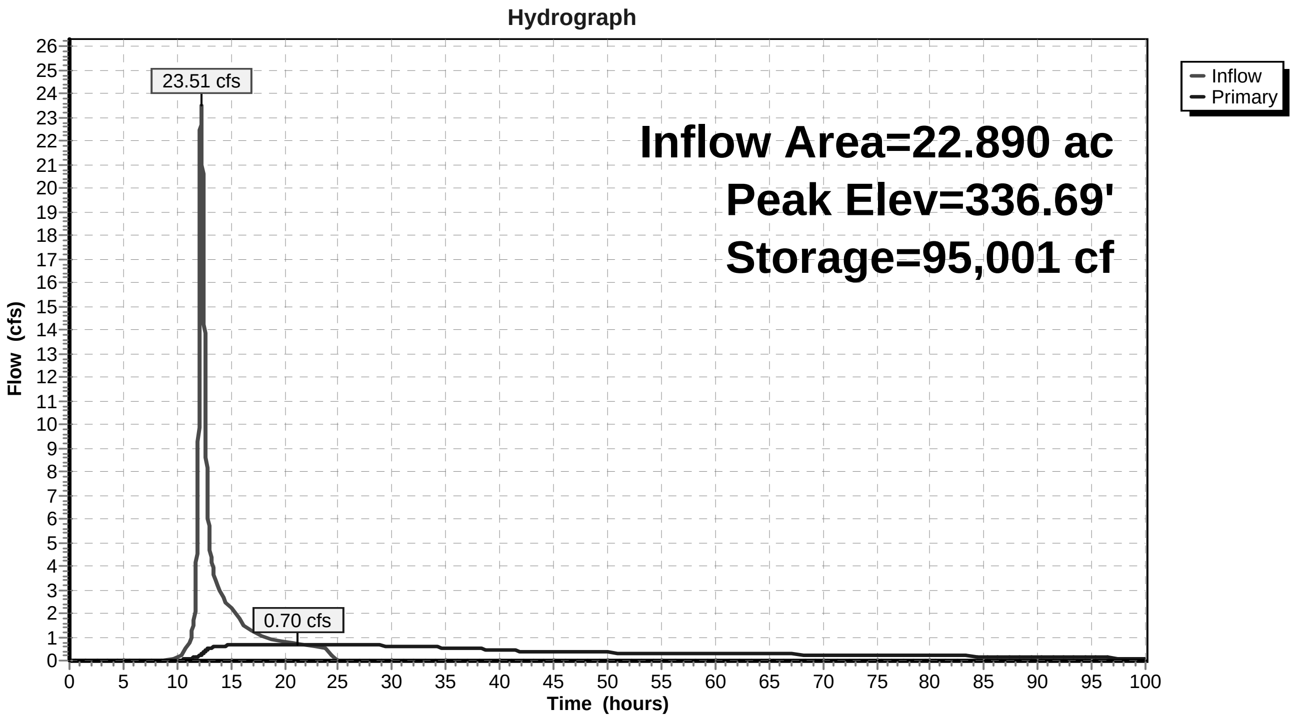
Volume	Invert	Avail.Storage	Storage Description
#1	329.05'	259,185 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
329.05	600	100.0	0	0	600
329.50	1,050	140.0	367	367	1,366
331.50	1,650	165.0	2,677	3,044	2,045
333.00	2,400	190.0	3,020	6,064	2,800
333.50	18,000	625.0	4,495	10,559	31,013
335.50	28,871	750.0	46,445	57,004	44,759
337.50	39,800	860.0	68,379	125,384	58,944
339.50	45,400	900.0	85,139	210,522	64,816
340.50	52,000	925.0	48,663	259,185	68,560

Device	Routing	Invert	Outlet Devices
#1	Primary	333.00'	**36.0" Round Culvert** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.00' / 332.87' S= 0.0050 '/' Cc= 0.900 n= 0.013
#2	Device 1	333.05'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	335.40'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	337.50'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=0.70 cfs @ 21.21 hrs HW=336.69' TW=333.11' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.70 cfs of 43.64 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.44 cfs @ 9.03 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.25 cfs @ 5.19 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Pond P2:


Hydrograph
23.51 cfs
0.70 cfs
Inflow
Primary
Inflow Area=22.890 ac
Peak Elev=336.69'
Storage=95,001 cf
Flow (cfs)
Time (hours)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
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18
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21
22
23
24
25
26

Summary for Pond P2-DMH1:

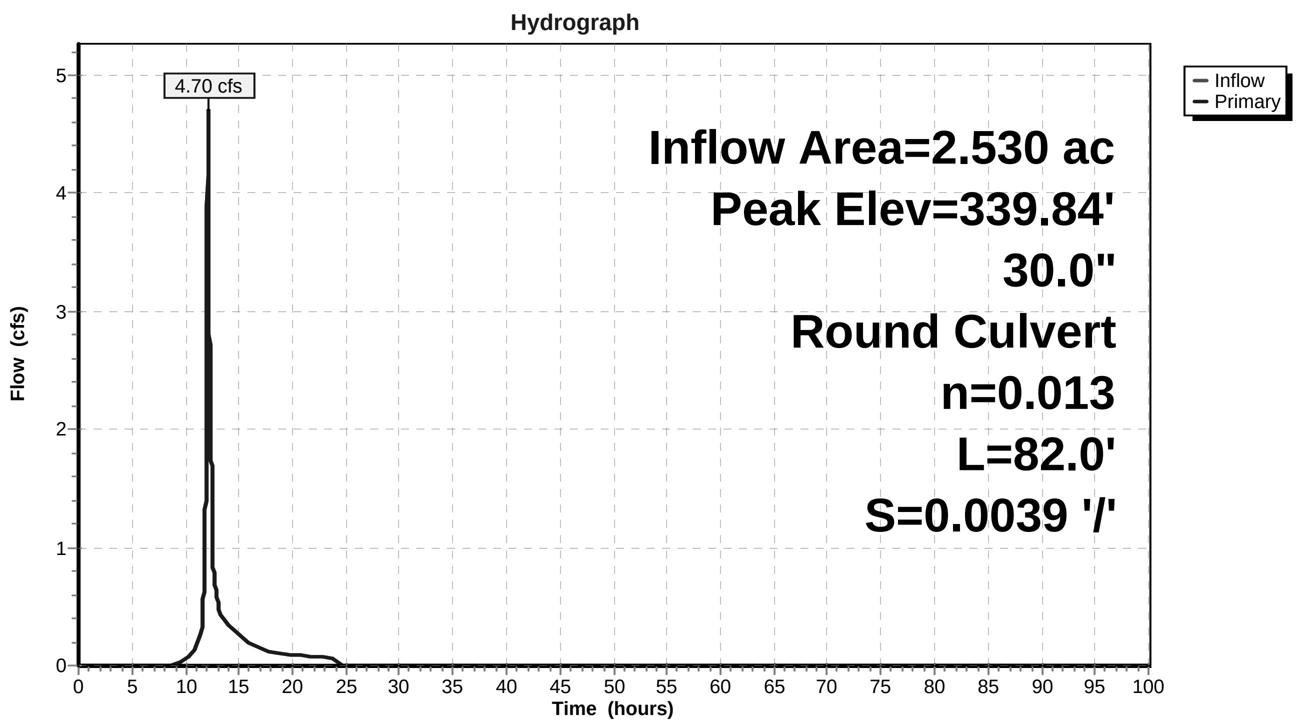
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 1.68" for 2 yr event
Inflow = 4.70 cfs @ 12.10 hrs, Volume= 0.354 af
Outflow = 4.70 cfs @ 12.10 hrs, Volume= 0.354 af, Atten= 0%, Lag= 0.0 min
Primary = 4.70 cfs @ 12.10 hrs, Volume= 0.354 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 339.84' @ 12.10 hrs
Flood Elev= 345.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	338.82'	**30.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 338.82' / 338.50' S= 0.0039 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.69 cfs @ 12.10 hrs HW=339.84' TW=334.08' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 4.69 cfs @ 3.68 fps)

Pond P2-DMH1:



Summary for Pond P2-DMH2:

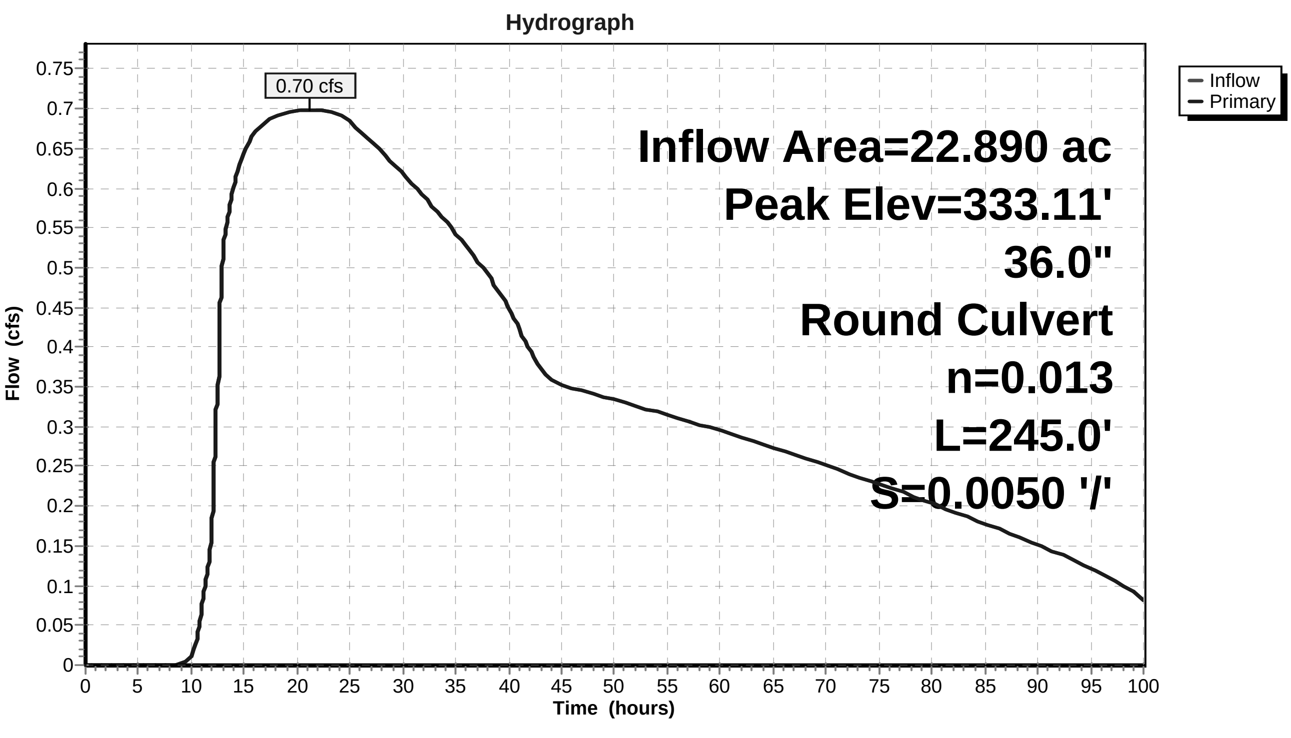
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 1.39" for 2 yr event
Inflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af
Outflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.11' @ 21.21 hrs
Flood Elev= 345.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	332.77'	**36.0" Round Culvert** L= 245.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 332.77' / 331.54' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.70 cfs @ 21.21 hrs HW=333.11' TW=331.79' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.70 cfs @ 2.38 fps)

Pond P2-DMH2:



Summary for Pond P2-DMH3:

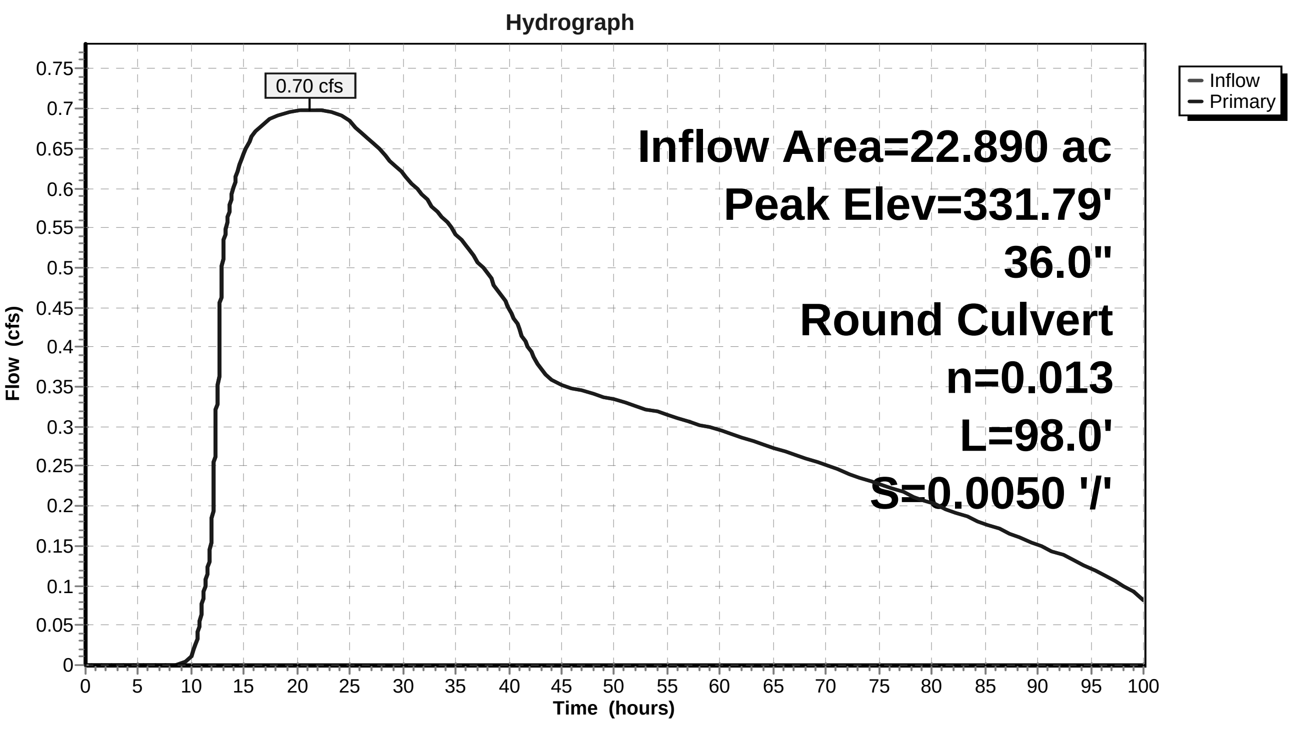
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 1.39" for 2 yr event
Inflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af
Outflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 331.79' @ 21.21 hrs
Flood Elev= 348.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	331.44'	**36.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 331.44' / 330.95' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.70 cfs @ 21.21 hrs HW=331.79' TW=330.15' (Dynamic Tailwater)
1=Culvert (Barrel Controls 0.70 cfs @ 2.34 fps)

Pond P2-DMH3:



Summary for Pond P2-DMH4:

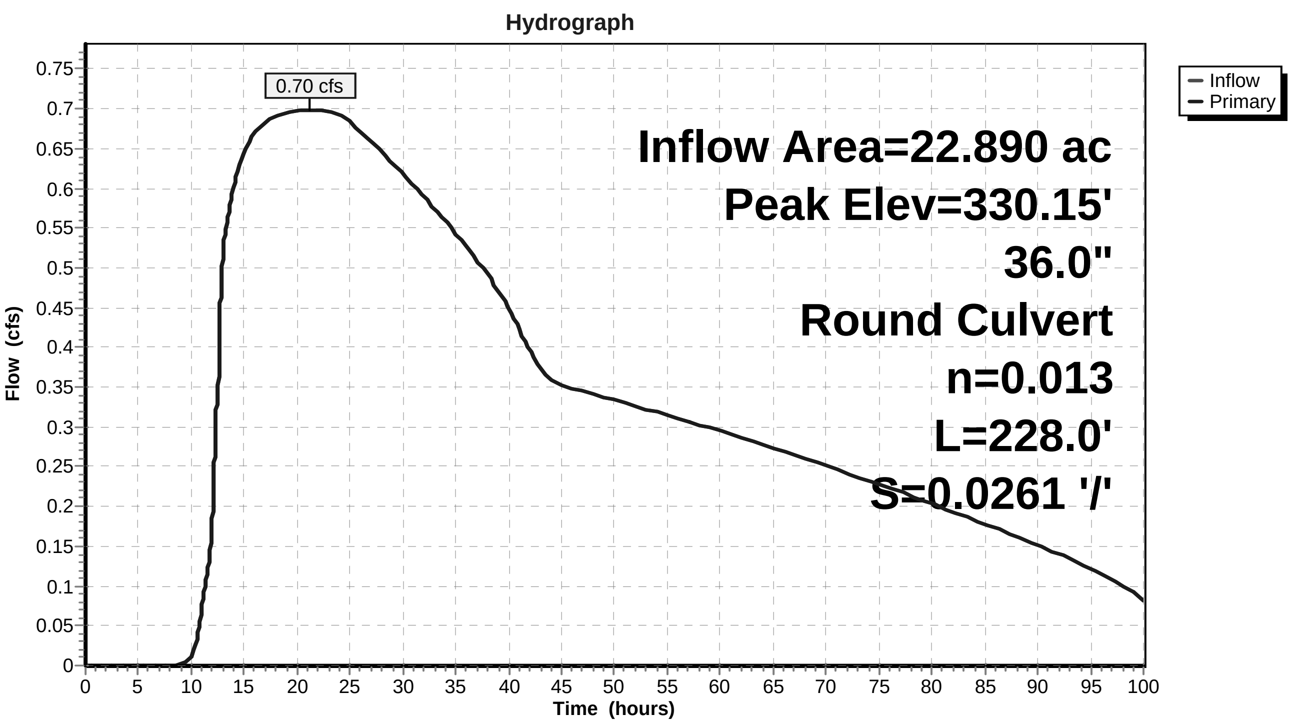
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 1.39" for 2 yr event
Inflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af
Outflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 330.15' @ 21.21 hrs
Flood Elev= 350.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	329.85'	**36.0" Round Culvert** L= 228.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 329.85' / 323.91' S= 0.0261 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.70 cfs @ 21.21 hrs HW=330.15' TW=314.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.70 cfs @ 1.87 fps)

Pond P2-DMH4:



Summary for Pond P2-DMH5:

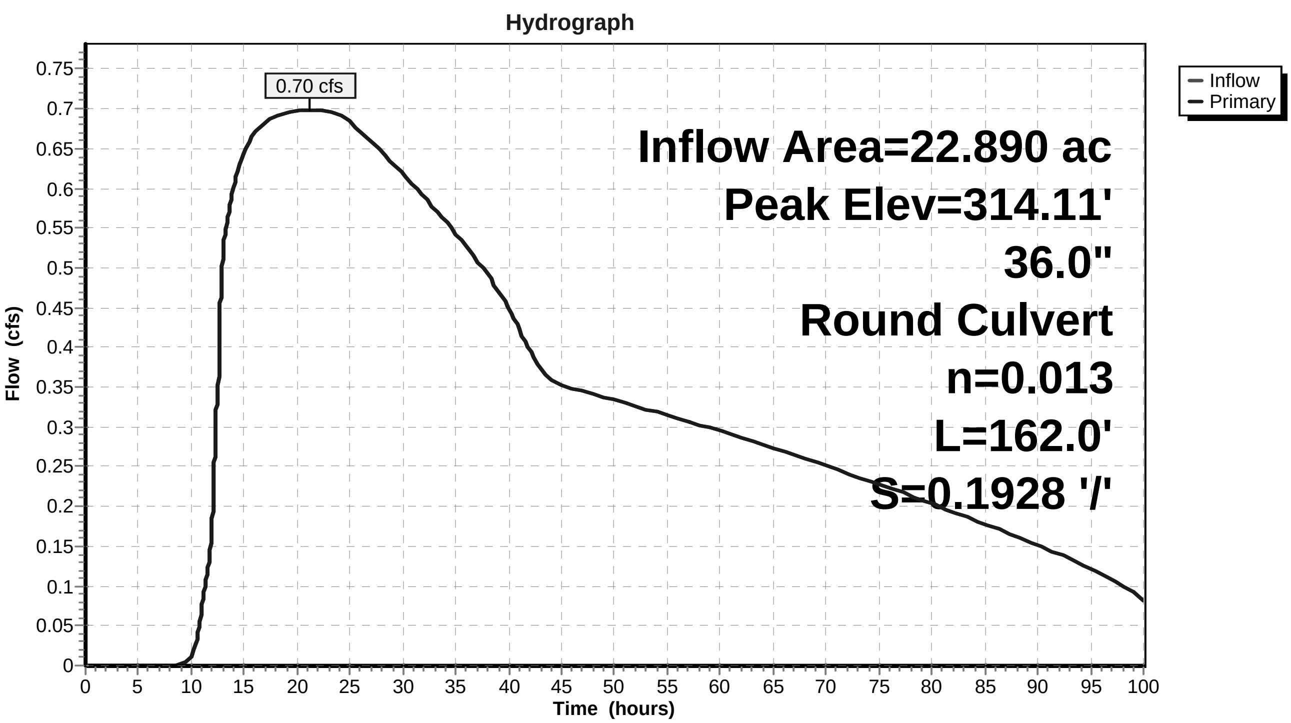
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 1.39" for 2 yr event
Inflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af
Outflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 314.11' @ 21.21 hrs
Flood Elev= 332.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	313.81'	**36.0" Round Culvert** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 313.81' / 282.58' S= 0.1928 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.70 cfs @ 21.21 hrs HW=314.11' TW=278.62' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.70 cfs @ 1.87 fps)

Pond P2-DMH5:



Summary for Pond P2-DMH6:

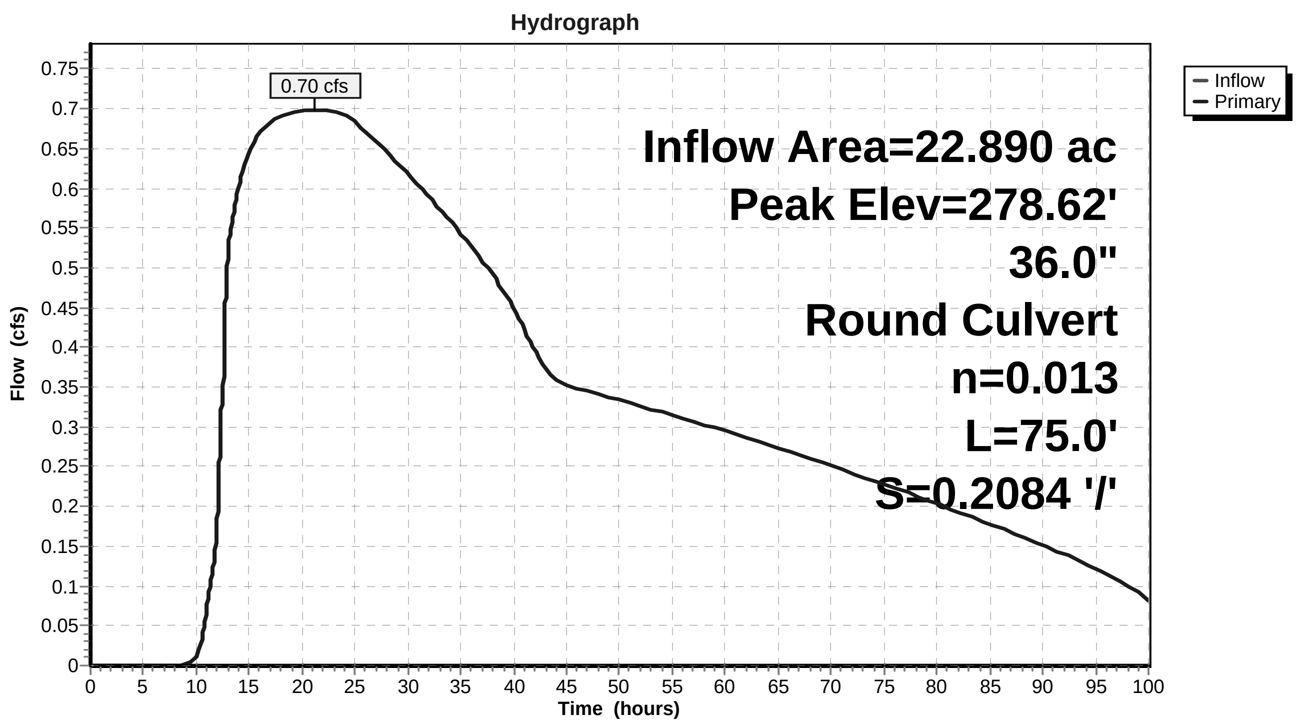
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 1.39" for 2 yr event
Inflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af
Outflow = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 21.21 hrs, Volume= 2.650 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 278.62' @ 21.21 hrs
Flood Elev= 287.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.32'	**36.0" Round Culvert** L= 75.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 278.32' / 262.69' S= 0.2084 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.70 cfs @ 21.21 hrs HW=278.62' TW=256.45' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.70 cfs @ 1.87 fps)

Pond P2-DMH6:



Summary for Pond P2-DMH7:

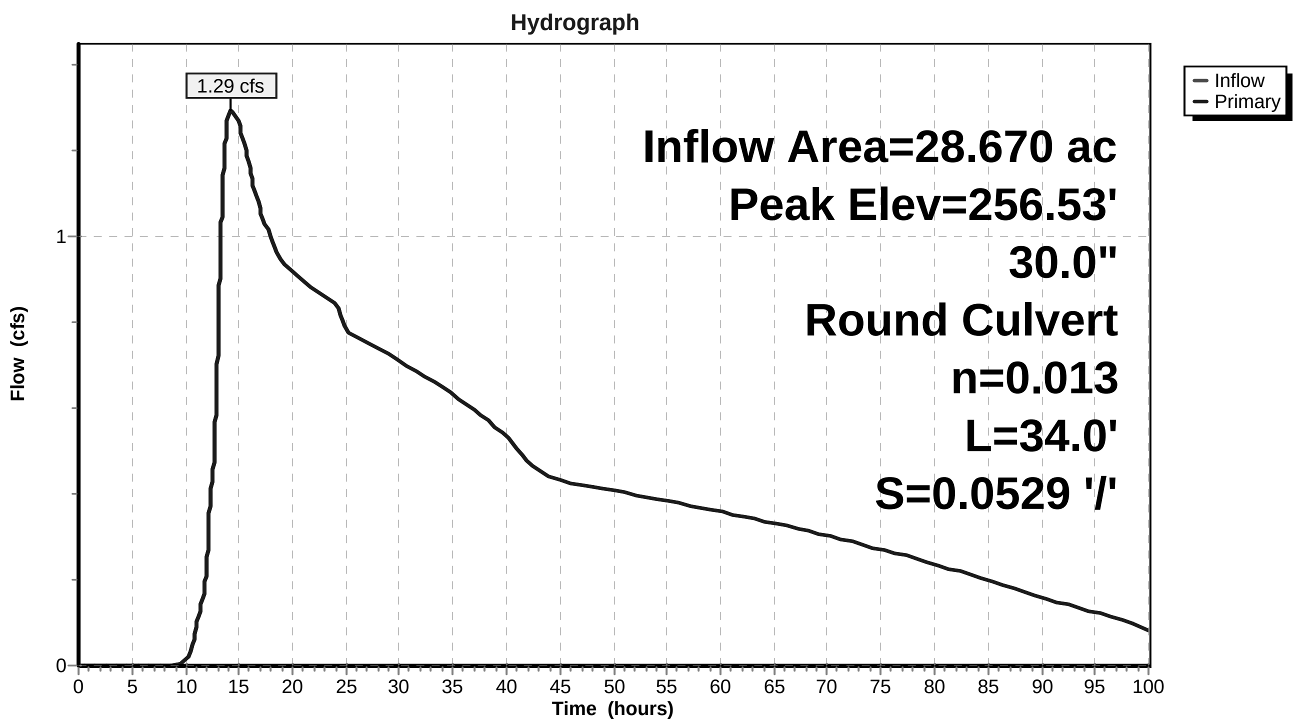
Inflow Area = 28.670 ac, 11.42% Impervious, Inflow Depth > 1.39" for 2 yr event
Inflow = 1.29 cfs @ 14.28 hrs, Volume= 3.315 af
Outflow = 1.29 cfs @ 14.28 hrs, Volume= 3.315 af, Atten= 0%, Lag= 0.0 min
Primary = 1.29 cfs @ 14.28 hrs, Volume= 3.315 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.53' @ 14.28 hrs
Flood Elev= 272.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	256.09'	**30.0" Round Culvert** L= 34.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 256.09' / 254.29' S= 0.0529 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.29 cfs @ 14.28 hrs HW=256.53' TW=254.59' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.29 cfs @ 2.25 fps)

Pond P2-DMH7:



Summary for Pond P3:

Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth = 1.46" for 2 yr event
Inflow = 4.92 cfs @ 12.12 hrs, Volume= 0.421 af
Outflow = 0.49 cfs @ 13.67 hrs, Volume= 0.417 af, Atten= 90%, Lag= 93.3 min
Primary = 0.49 cfs @ 13.67 hrs, Volume= 0.417 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 298.76' Surf.Area= 1,250 sf Storage= 1,395 cf
Peak Elev= 302.06' @ 13.67 hrs Surf.Area= 4,636 sf Storage= 12,100 cf (10,705 cf above start)

Plug-Flow detention time= 1,613.4 min calculated for 0.385 af (91% of inflow)
Center-of-Mass det. time= 1,446.3 min (2,294.4 - 848.0)

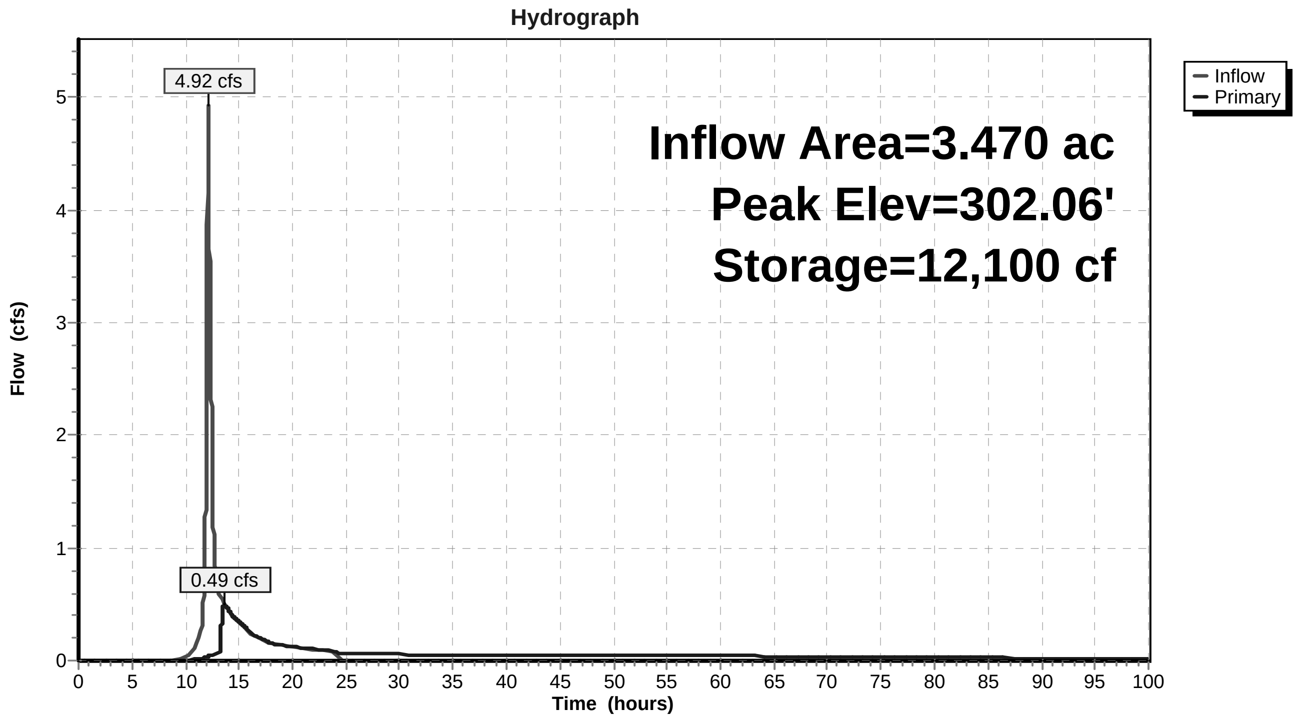
Volume	Invert	Avail.Storage	Storage Description
#1	295.50'	25,269 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
295.50	100	50.0	0	0	100
296.00	200	60.0	74	74	192
298.00	500	75.0	677	751	402
300.00	3,200	250.0	3,310	4,061	4,940
302.00	4,600	300.0	7,758	11,819	7,196
304.50	6,200	310.0	13,450	25,269	8,100

Device	Routing	Invert	Outlet Devices
#1	Primary	295.45'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 295.45' / 290.93' S= 0.0753 '/' Cc= 0.900 n= 0.013
#2	Device 1	298.76'	**1.1" Vert. Orifice** C= 0.600
#3	Device 1	302.00'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600
#4	Primary	303.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.49 cfs @ 13.67 hrs HW=302.06' TW=291.10' (Dynamic Tailwater)
1=Culvert (Passes 0.49 cfs of 20.60 cfs potential flow)
2=Orifice (Orifice Controls 0.06 cfs @ 8.69 fps)
3=Orifice/Grate (Orifice Controls 0.43 cfs @ 0.79 fps)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P3:


Hydrograph
4.92 cfs
0.49 cfs
Inflow Area=3.470 ac
Peak Elev=302.06'
Storage=12,100 cf
Inflow
Primary
Flow (cfs)
Time (hours)

Summary for Pond P3-DMH1:

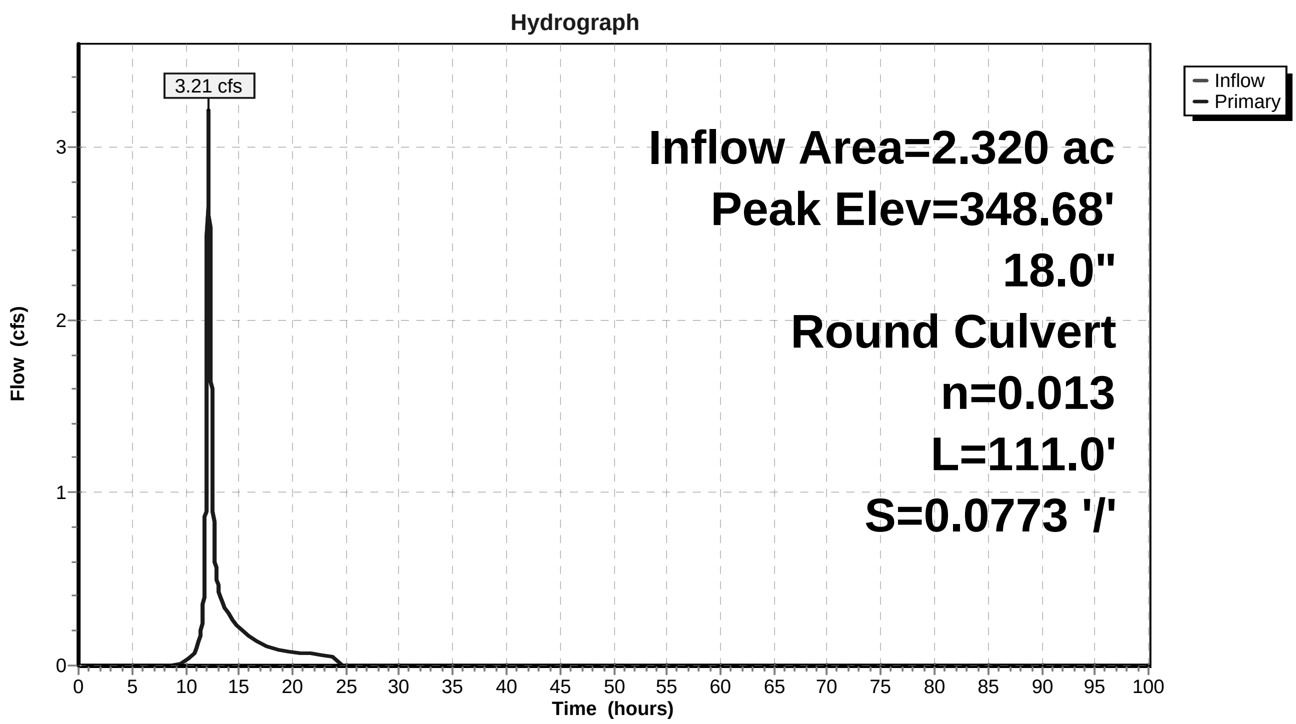
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af
Outflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min
Primary = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.68' @ 12.13 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.83'	**18.0" Round Culvert** L= 111.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.83' / 339.25' S= 0.0773 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.21 cfs @ 12.13 hrs HW=348.68' TW=324.40' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.21 cfs @ 3.13 fps)

Pond P3-DMH1:



Summary for Pond P3-DMH2:

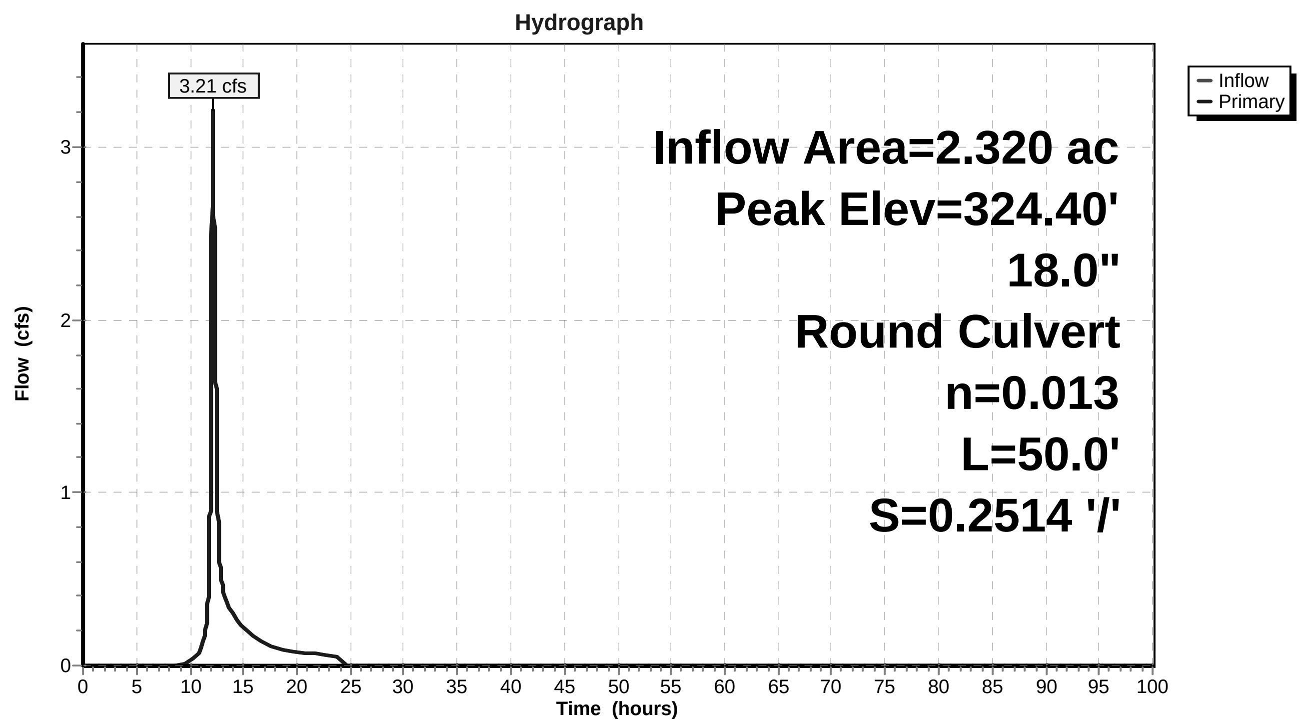
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af
Outflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min
Primary = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 324.40' @ 12.13 hrs
Flood Elev= 342.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	323.55'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 323.55' / 310.98' S= 0.2514 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.21 cfs @ 12.13 hrs HW=324.40' TW=303.66' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.21 cfs @ 3.13 fps)

Pond P3-DMH2:



Summary for Pond P3-DMH3A:

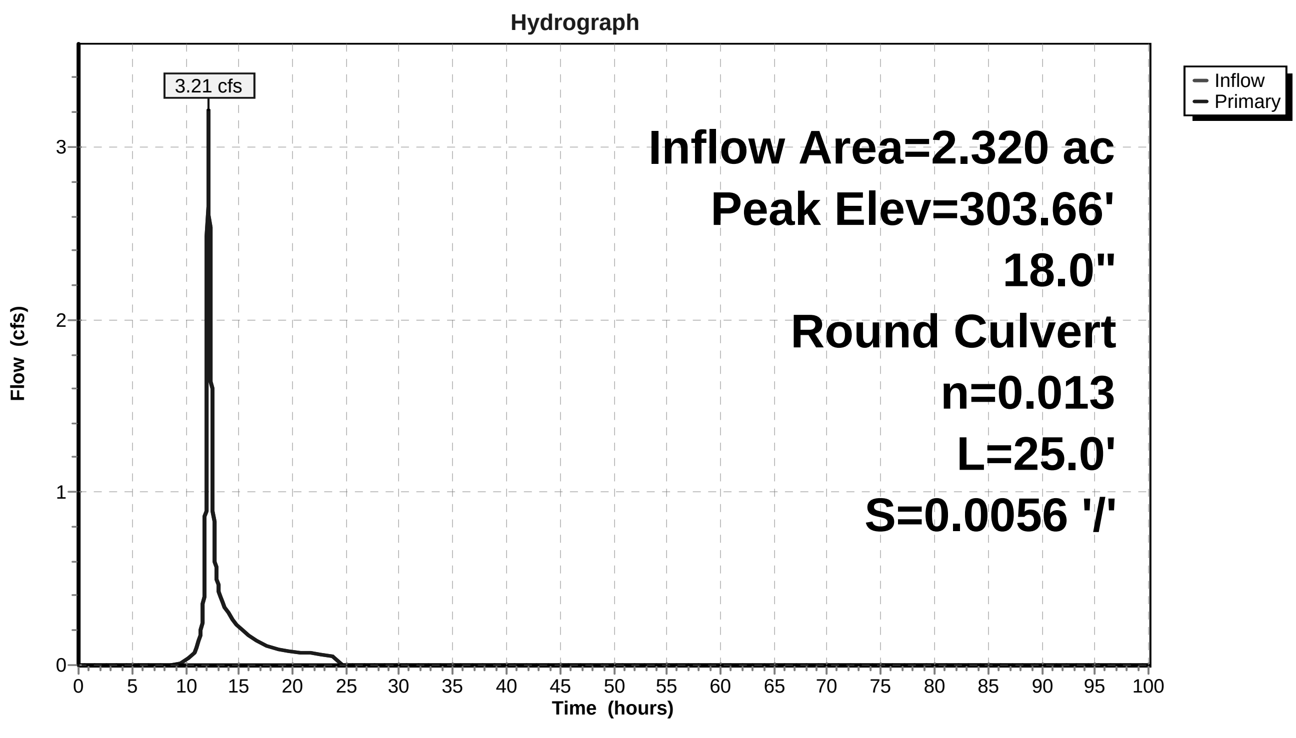
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af
Outflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min
Primary = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 303.66' @ 12.13 hrs
Flood Elev= 321.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.64'	**18.0" Round Culvert** L= 25.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.64' / 302.50' S= 0.0056 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.21 cfs @ 12.13 hrs HW=303.66' TW=303.28' (Dynamic Tailwater)
1=Culvert (Outlet Controls 3.21 cfs @ 3.55 fps)

Pond P3-DMH3A:



Summary for Pond P3-DMH3B:

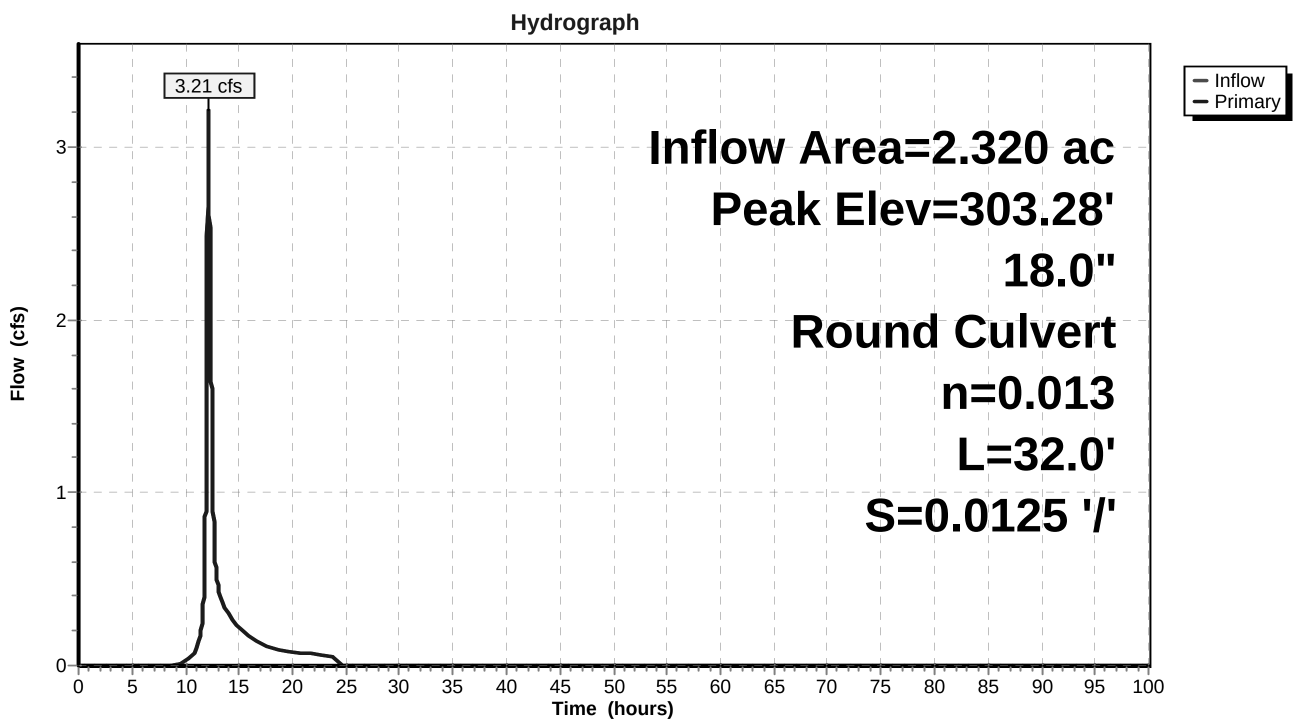
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 1.50" for 2 yr event
Inflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af
Outflow = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af, Atten= 0%, Lag= 0.0 min
Primary = 3.21 cfs @ 12.13 hrs, Volume= 0.290 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 303.28' @ 12.13 hrs
Flood Elev= 305.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.40'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.40' / 302.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=3.21 cfs @ 12.13 hrs HW=303.28' TW=300.44' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 3.21 cfs @ 4.30 fps)

Pond P3-DMH3B:



Summary for Pond P3-DMH4:

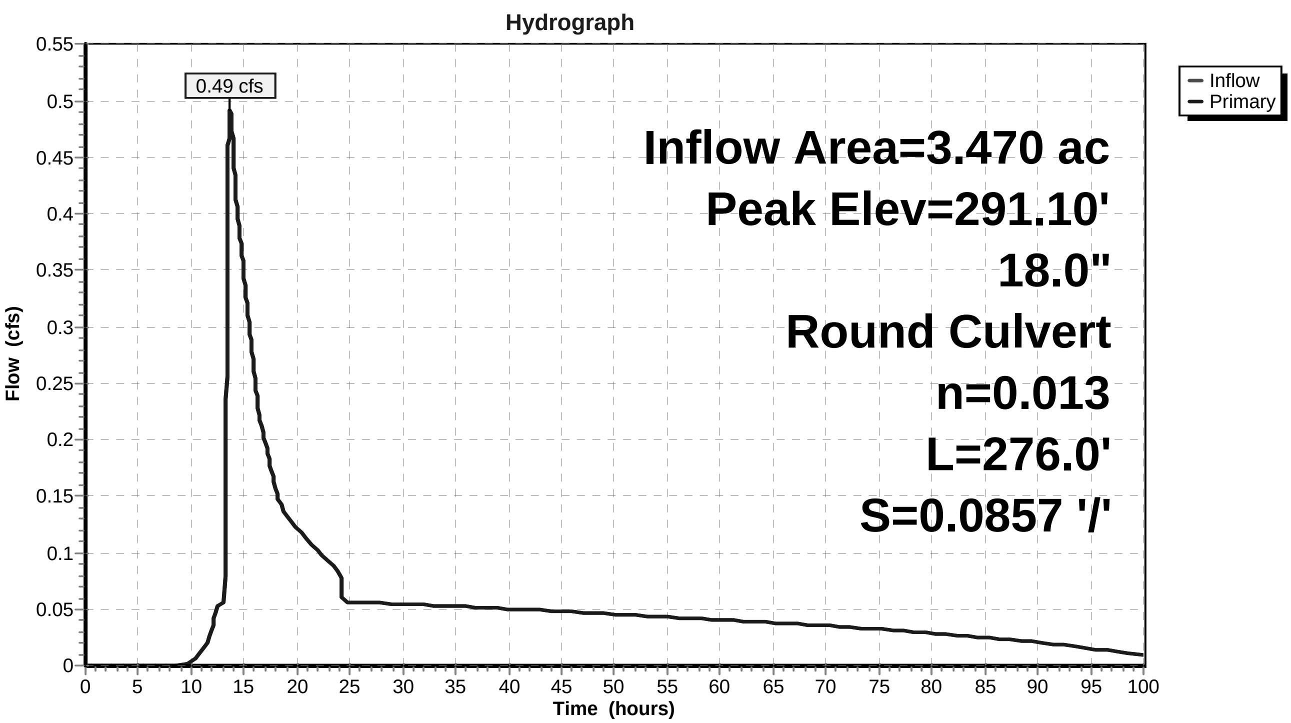
Inflow Area =	3.470 ac, 15.27% Impervious, Inflow Depth > 1.44" for 2 yr event		
Inflow =	0.49 cfs @ 13.67 hrs, Volume=	0.417 af	
Outflow =	0.49 cfs @ 13.67 hrs, Volume=	0.417 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.49 cfs @ 13.67 hrs, Volume=	0.417 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 291.10' @ 13.67 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	290.83'	**18.0" Round Culvert** L= 276.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 290.83' / 267.17' S= 0.0857 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=0.49 cfs @ 13.67 hrs HW=291.10' TW=263.31' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.49 cfs @ 2.23 fps)

Pond P3-DMH4:



Summary for Pond P3-DMH5:

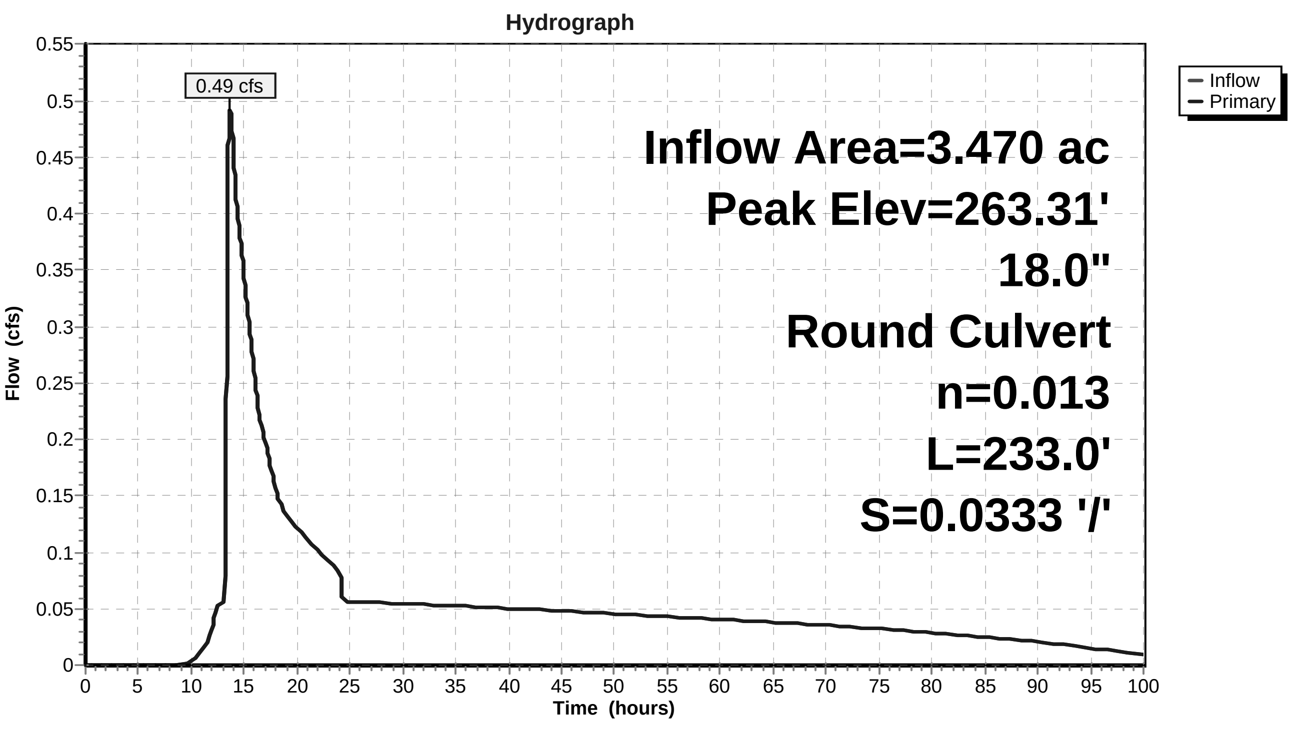
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 1.44" for 2 yr event
Inflow = 0.49 cfs @ 13.67 hrs, Volume= 0.417 af
Outflow = 0.49 cfs @ 13.67 hrs, Volume= 0.417 af, Atten= 0%, Lag= 0.0 min
Primary = 0.49 cfs @ 13.67 hrs, Volume= 0.417 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 263.31' @ 13.67 hrs
Flood Elev= 271.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	263.00'	**18.0" Round Culvert** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 263.00' / 255.25' S= 0.0333 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.49 cfs @ 13.67 hrs HW=263.31' TW=254.59' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.49 cfs @ 1.89 fps)

Pond P3-DMH5:



Summary for Pond WQV-P:

Inflow Area = 0.690 ac, 20.29% Impervious, Inflow Depth = 1.65" for 2 yr event
Inflow = 1.17 cfs @ 12.10 hrs, Volume= 0.095 af
Outflow = 0.16 cfs @ 12.82 hrs, Volume= 0.049 af, Atten= 86%, Lag= 42.9 min
Primary = 0.16 cfs @ 12.82 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.45' @ 12.82 hrs Surf.Area= 1,271 sf Storage= 2,256 cf
Flood Elev= 258.00' Surf.Area= 2,100 sf Storage= 6,625 cf

Plug-Flow detention time= 300.0 min calculated for 0.049 af (51% of inflow)
Center-of-Mass det. time= 172.3 min (988.8 - 816.5)

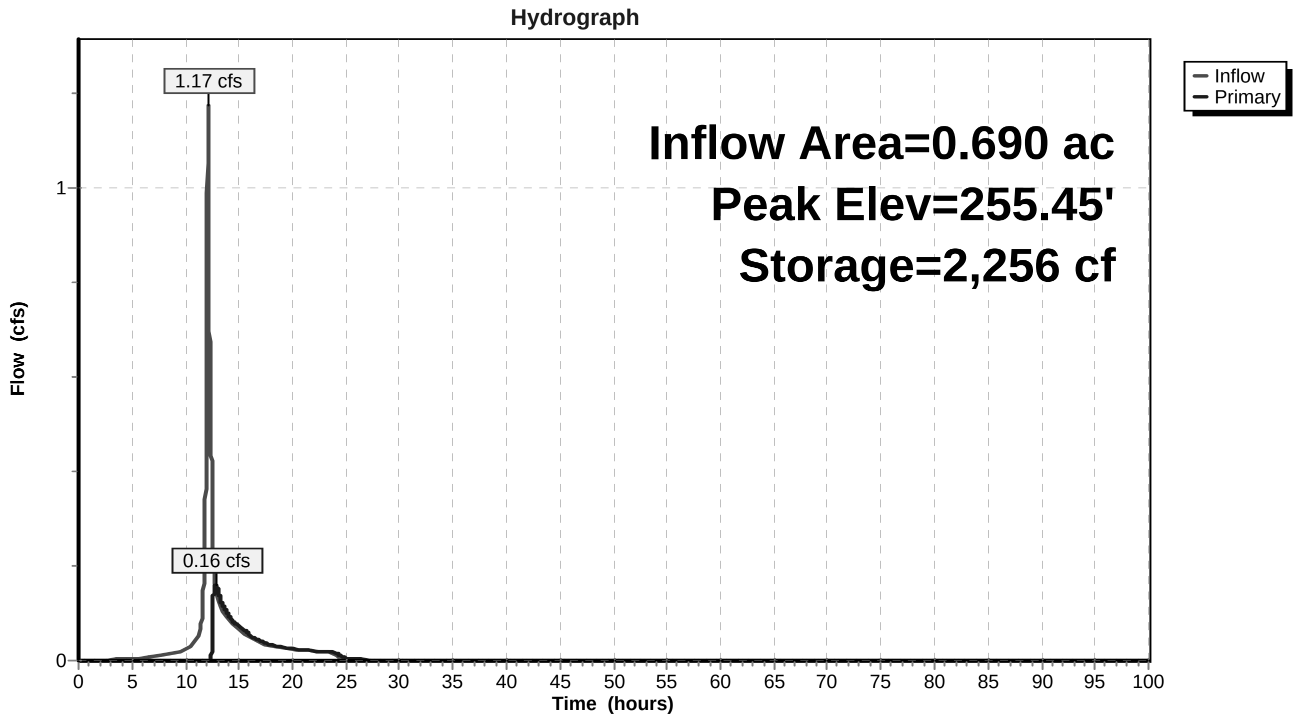
Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	6,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	175	0	0
254.00	675	850	850
256.00	1,500	2,175	3,025
258.00	2,100	3,600	6,625

Device	Routing	Invert	Outlet Devices
#1	Primary	255.25'	**8.0" Round Culvert** L= 22.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 255.25' / 254.00' S= 0.0568 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	255.25'	**36.0" W x 24.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=0.16 cfs @ 12.82 hrs HW=255.45' TW=252.67' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.16 cfs @ 1.88 fps)
  └─**2=Orifice/Grate** (Passes 0.16 cfs of 1.66 cfs potential flow)

Pond WQV-P:


Hydrograph
1.17 cfs
0.16 cfs
Inflow
Primary
Inflow Area=0.690 ac
Peak Elev=255.45'
Storage=2,256 cf
Flow (cfs)
1
0
Time (hours)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Subcatchment 1a:

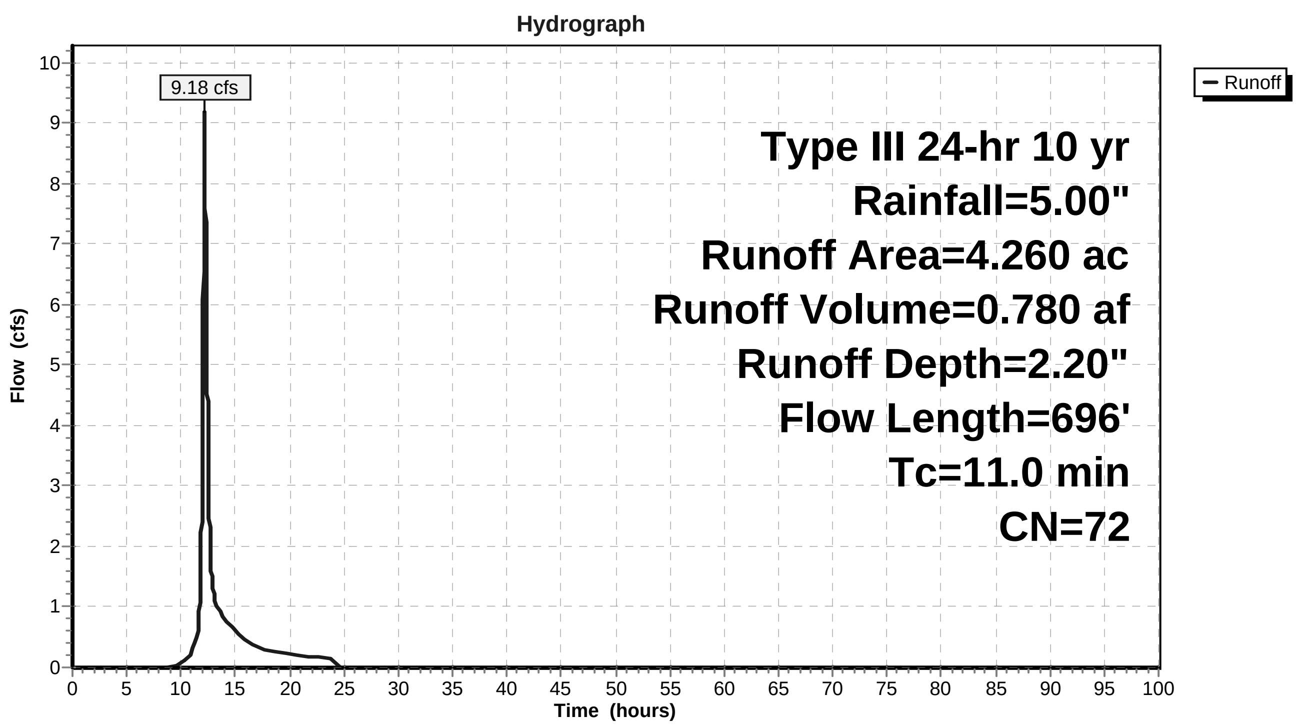
Runoff = 9.18 cfs @ 12.16 hrs, Volume= 0.780 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
2.530	73	Woods, Fair, HSG C
0.040	74	>75% Grass cover, Good, HSG C
4.260	72	Weighted Average
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

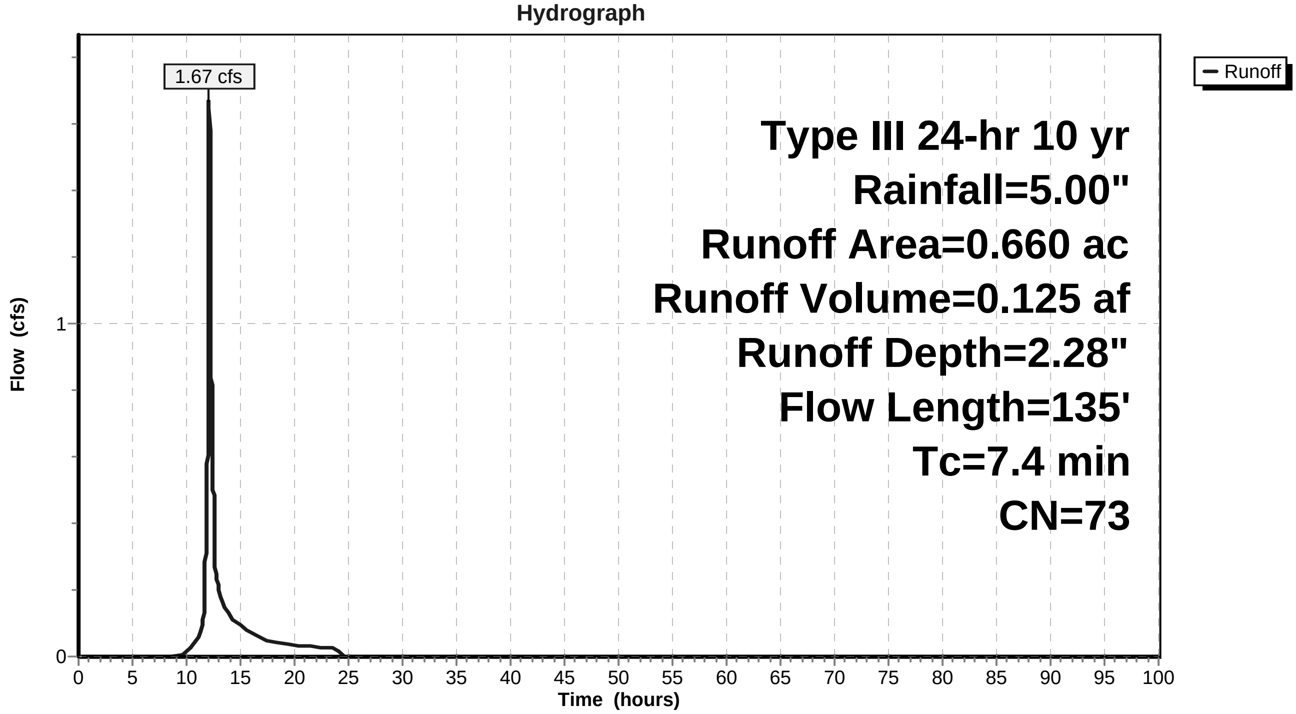
Runoff = 1.67 cfs @ 12.11 hrs, Volume= 0.125 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.350	73	Woods, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.060	70	Brush, Fair, HSG C
0.660	73	Weighted Average
0.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	10	0.3800	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.0	40	0.3800	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	15	0.3800	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	35	0.3800	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	35	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.4	135	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

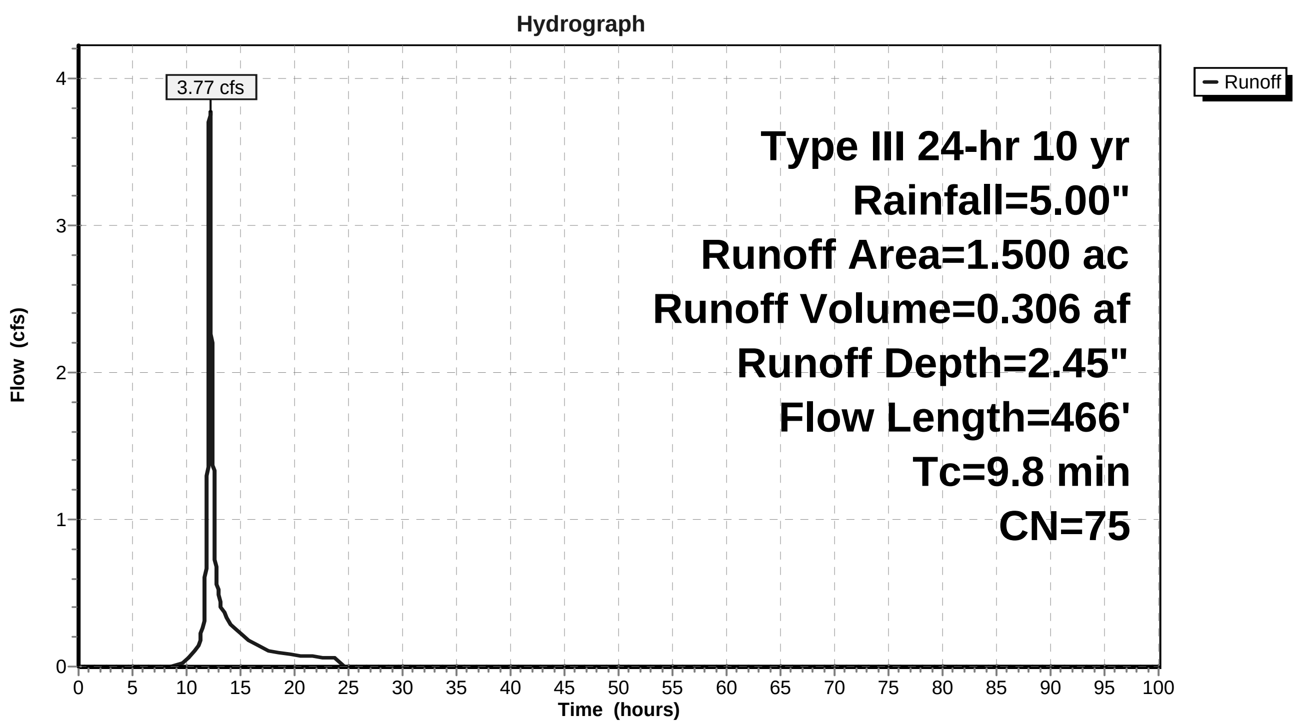
Runoff = 3.77 cfs @ 12.14 hrs, Volume= 0.306 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
1.200	73	Woods, Fair, HSG C
0.100	74	>75% Grass cover, Good, HSG C
0.140	79	50-75% Grass cover, Fair, HSG C
0.060	98	Paved parking & roofs
1.500	75	Weighted Average
1.440		96.00% Pervious Area
0.060		4.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	200	0.2600	8.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	166	0.0150	5.76	15.36	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
9.8	466	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

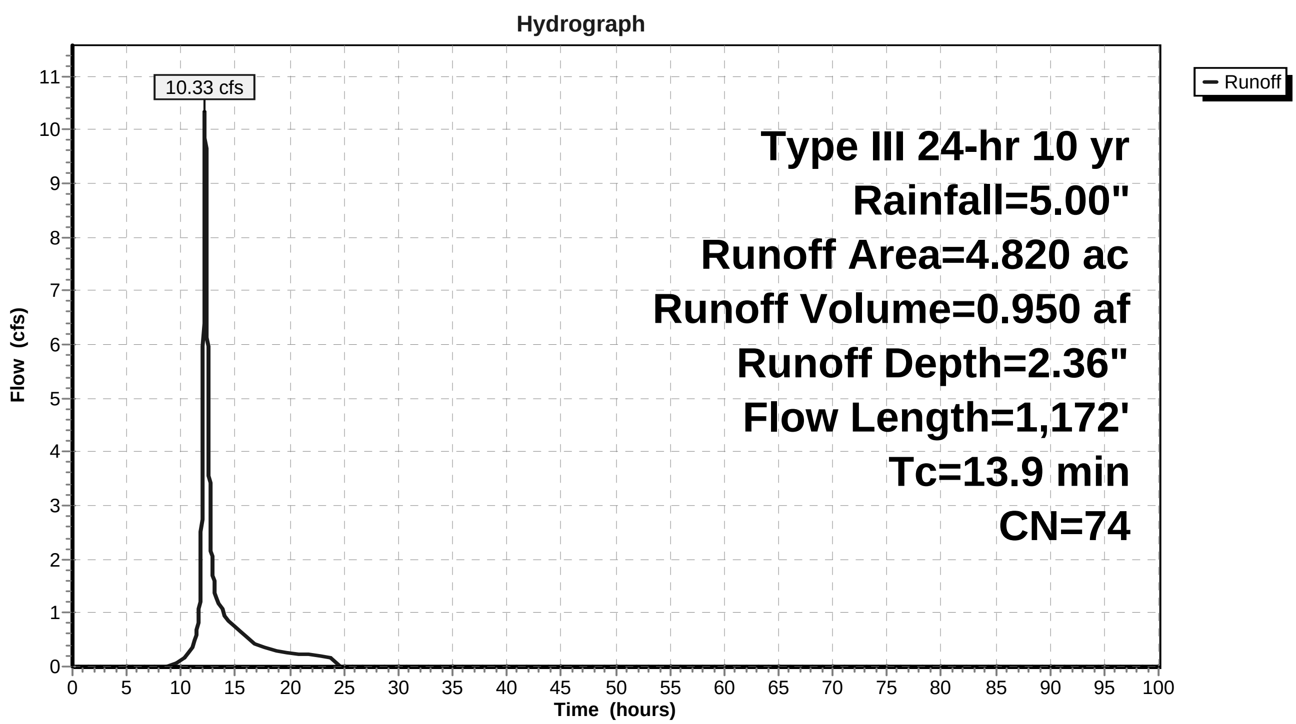
Runoff = 10.33 cfs @ 12.19 hrs, Volume= 0.950 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
3.910	73	Woods, Fair, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking & roofs
4.820	74	Weighted Average
4.670		96.89% Pervious Area
0.150		3.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.7	850	0.1040	5.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	222	0.0450	9.97	26.60	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
13.9	1,172	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

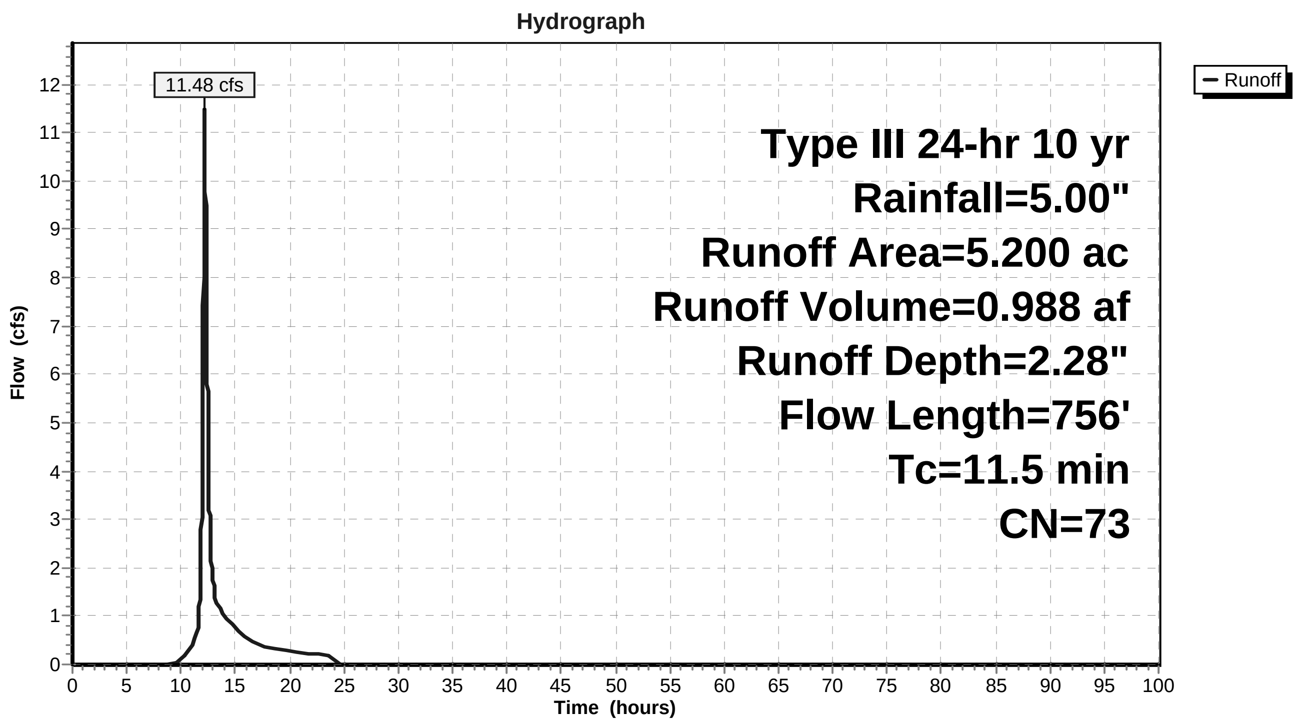
Runoff = 11.48 cfs @ 12.16 hrs, Volume= 0.988 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
4.160	73	Woods, Fair, HSG C
5.200	73	Weighted Average
5.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	656	0.0910	4.86		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	756	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

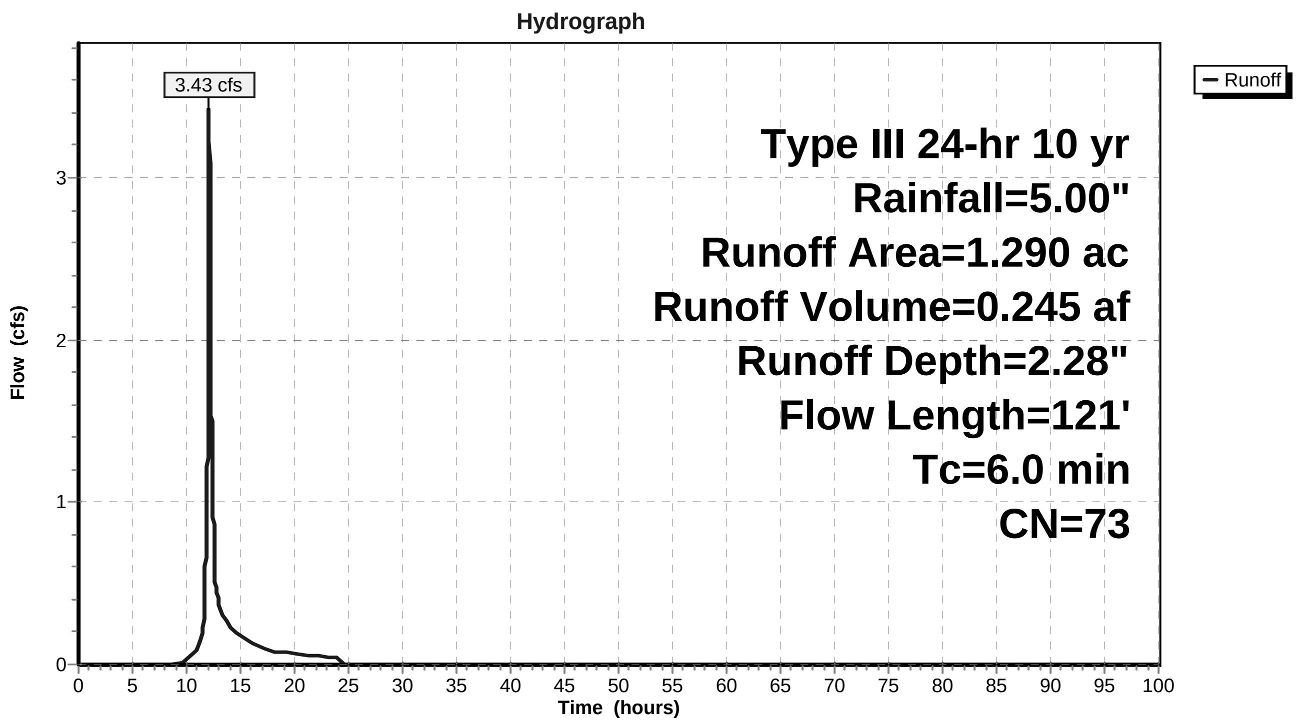
Runoff = 3.43 cfs @ 12.09 hrs, Volume= 0.245 af, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.610	74	>75% Grass cover, Good, HSG C
0.680	73	Woods, Fair, HSG C
1.290	73	Weighted Average
1.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	100	0.3300	0.37		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.1	21	0.1420	6.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.5	121	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2b:



Summary for Subcatchment 2c:

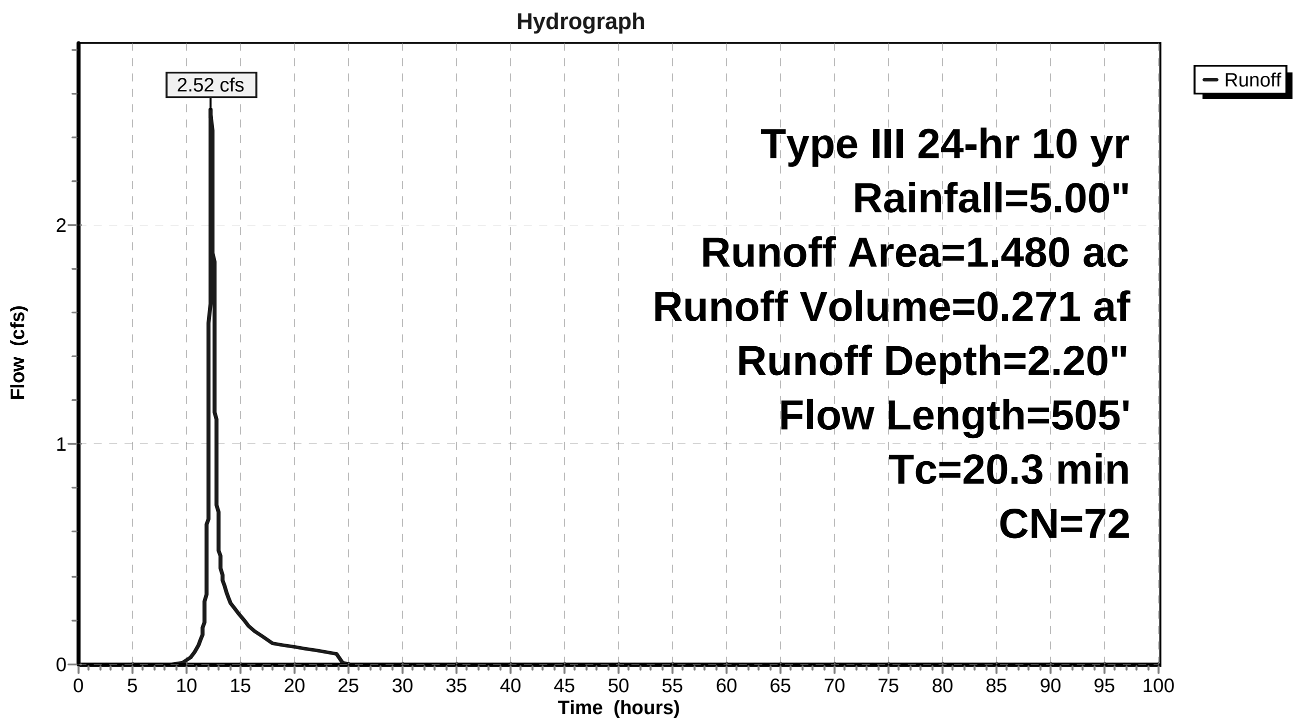
Runoff = 2.52 cfs @ 12.29 hrs, Volume= 0.271 af, Depth= 2.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.800	73	Woods, Fair, HSG C
0.680	70	Brush, Fair, HSG C
1.480	72	Weighted Average
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0250	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	405	0.0790	4.53		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.3	505	Total			

Subcatchment 2c:



Summary for Subcatchment CB10A:

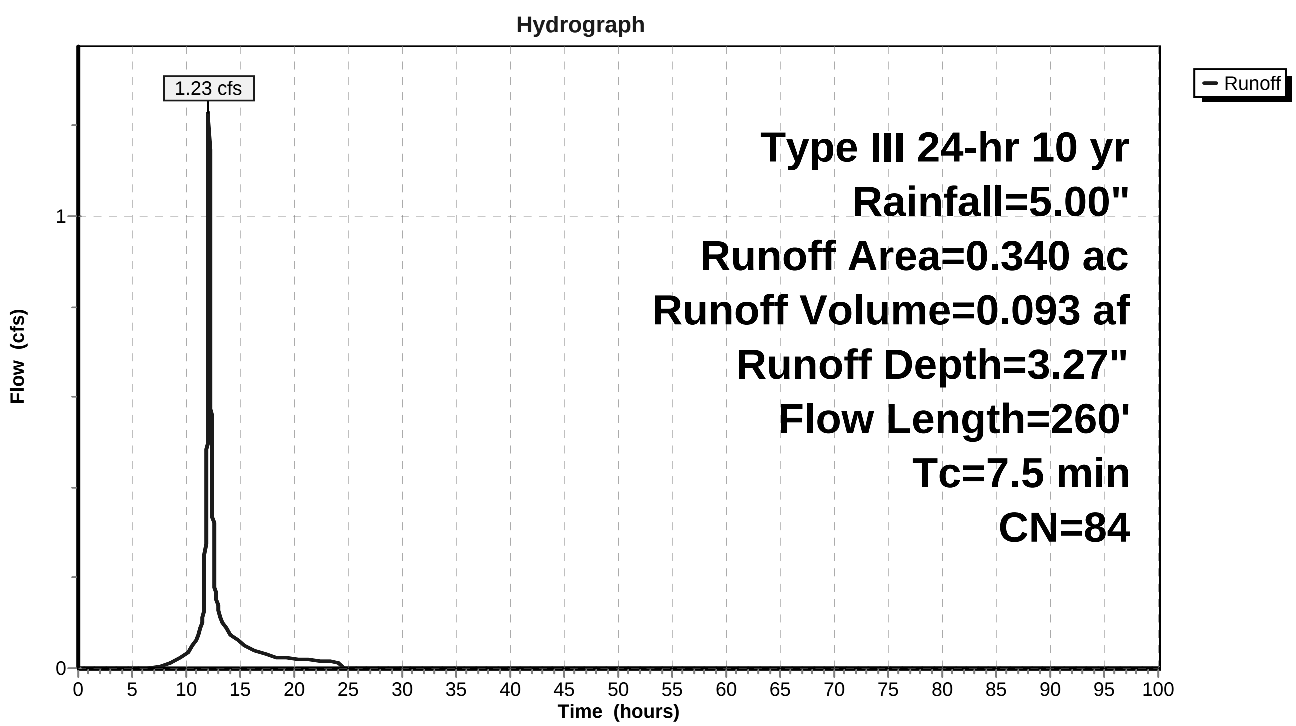
Runoff = 1.23 cfs @ 12.11 hrs, Volume= 0.093 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.200	74	>75% Grass cover, Good, HSG C
0.340	84	Weighted Average
0.200		58.82% Pervious Area
0.140		41.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0600	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.6	40	0.0200	1.20		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	160	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	260	Total			

Subcatchment CB10A:



Summary for Subcatchment CB10B:

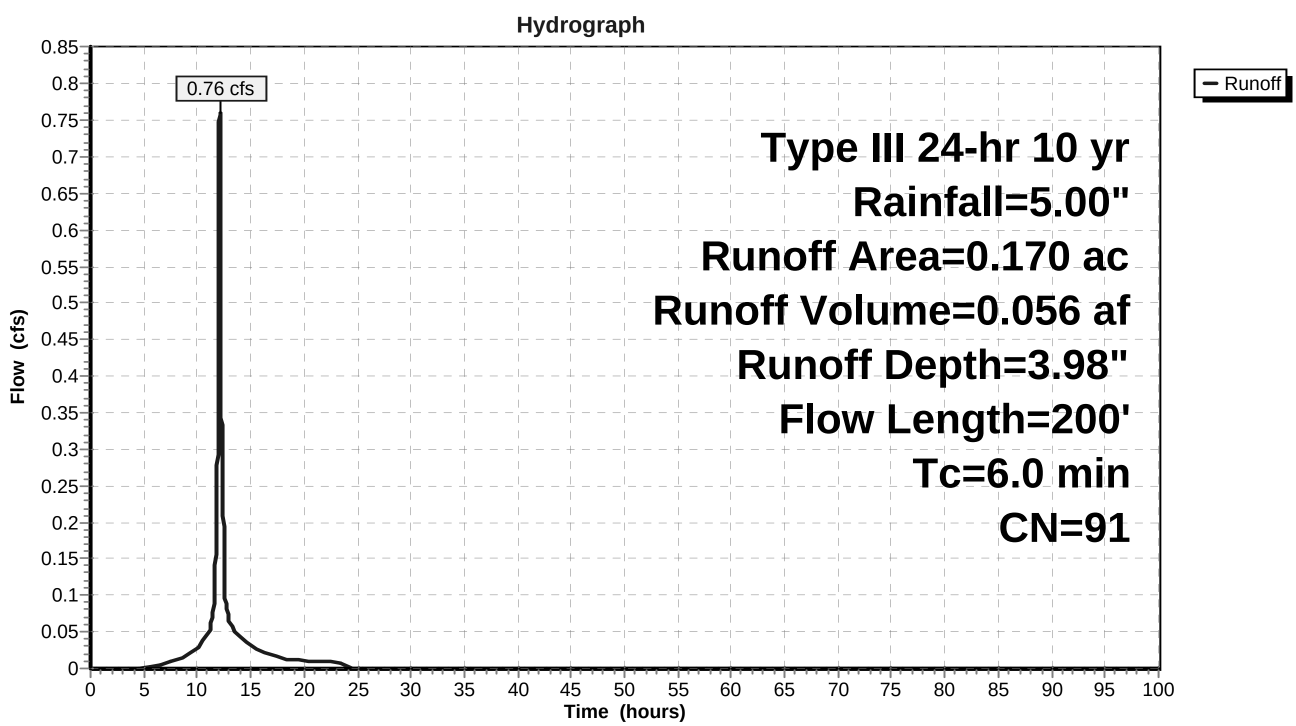
Runoff = 0.76 cfs @ 12.08 hrs, Volume= 0.056 af, Depth= 3.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.120	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.170	91	Weighted Average
0.050		29.41% Pervious Area
0.120		70.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	80	0.0100	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	100	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB10B:



Summary for Subcatchment CB11A:

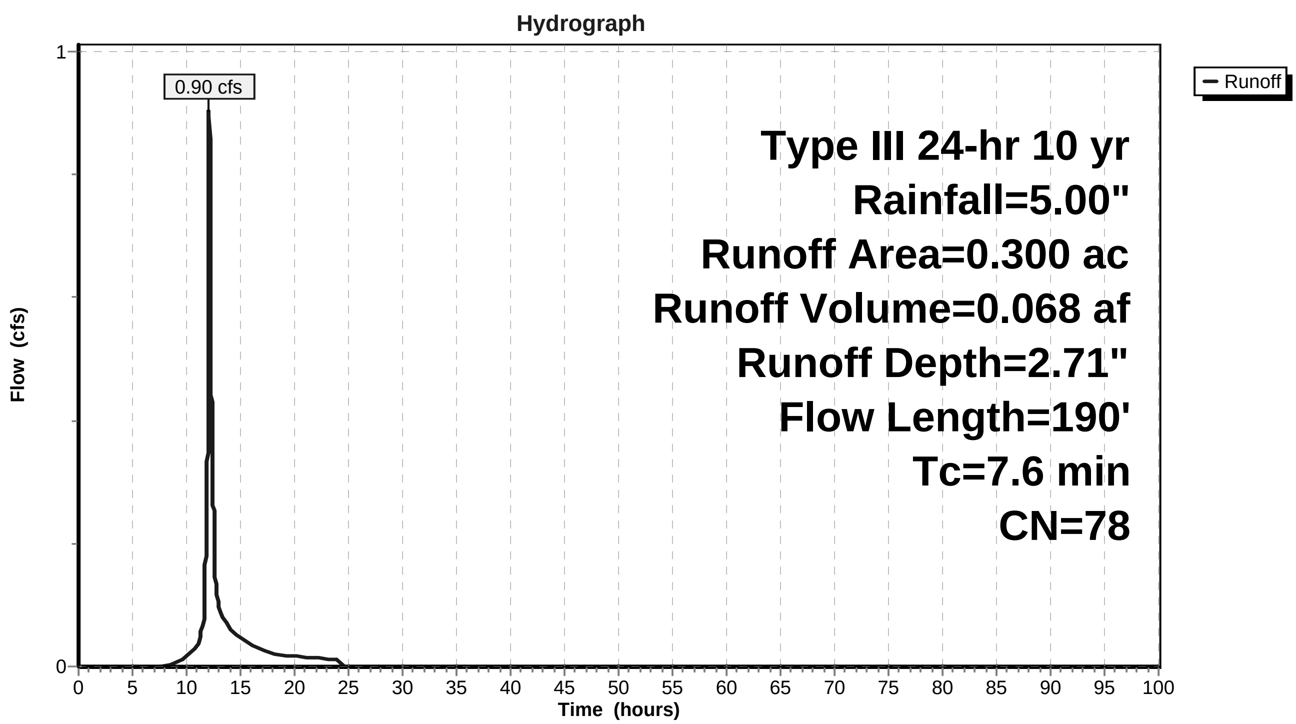
Runoff = 0.90 cfs @ 12.11 hrs, Volume= 0.068 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.300	78	Weighted Average
0.250		83.33% Pervious Area
0.050		16.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	15	0.2500	8.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	75	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.6	190	Total			

Subcatchment CB11A:



Summary for Subcatchment CB11B:

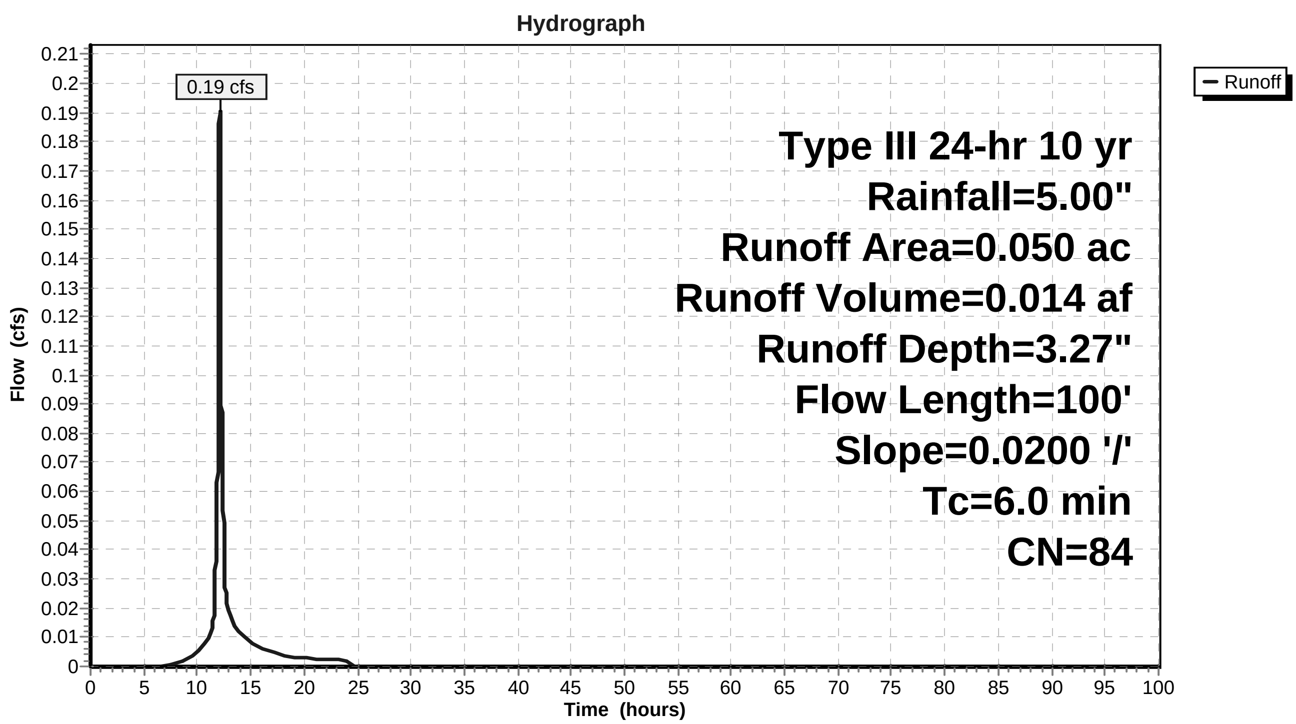
Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.030	74	>75% Grass cover, Good, HSG C
0.050	84	Weighted Average
0.030		60.00% Pervious Area
0.020		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.2	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB11B:



Summary for Subcatchment CB12A:

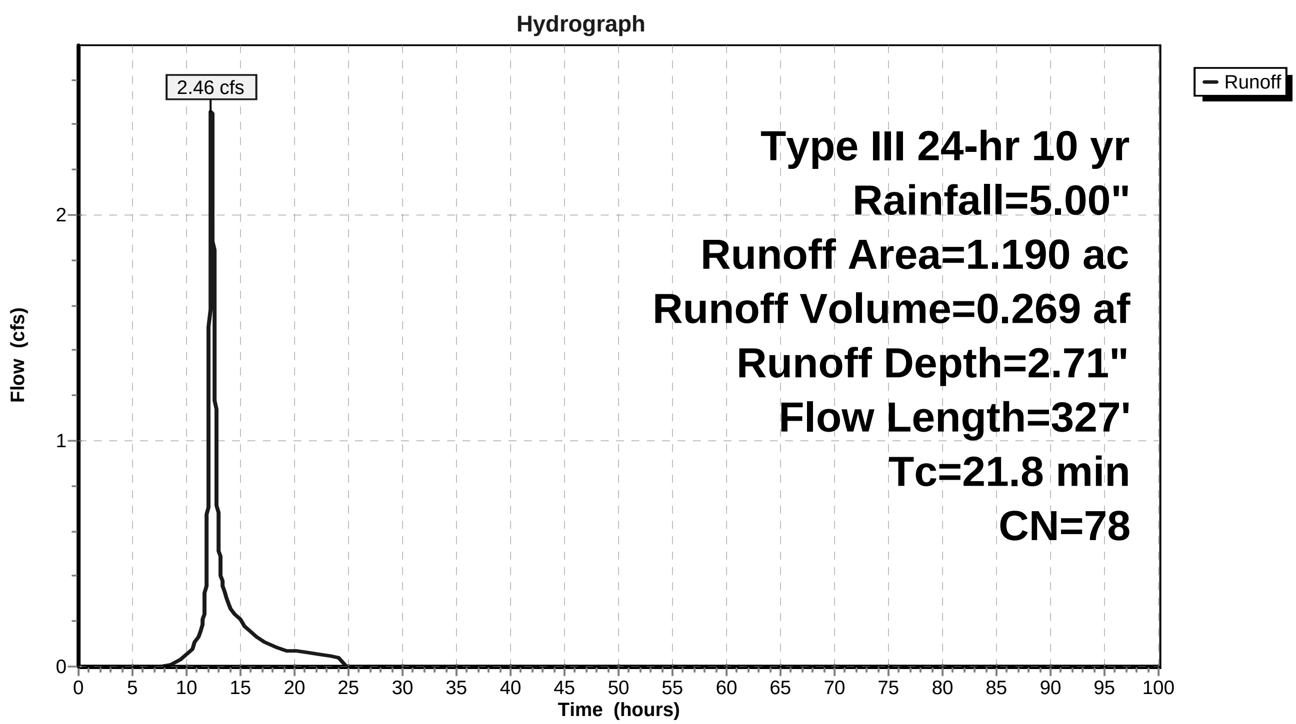
Runoff = 2.46 cfs @ 12.30 hrs, Volume= 0.269 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.590	74	>75% Grass cover, Good, HSG C
0.400	73	Woods, Fair, HSG C
1.190	78	Weighted Average
0.990		83.19% Pervious Area
0.200		16.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	70	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.2	30	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	177	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.8	327	Total			

Subcatchment CB12A:



Summary for Subcatchment CB12B:

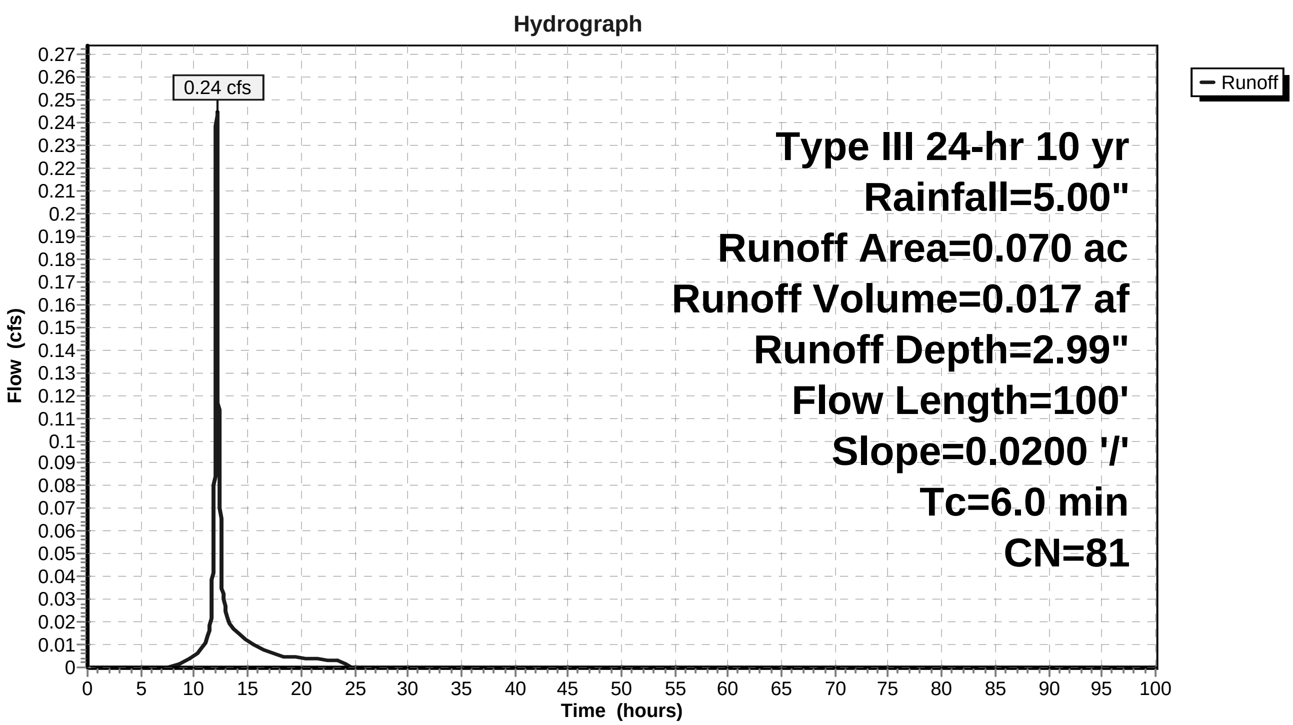
Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB12B:



Summary for Subcatchment CB13A:

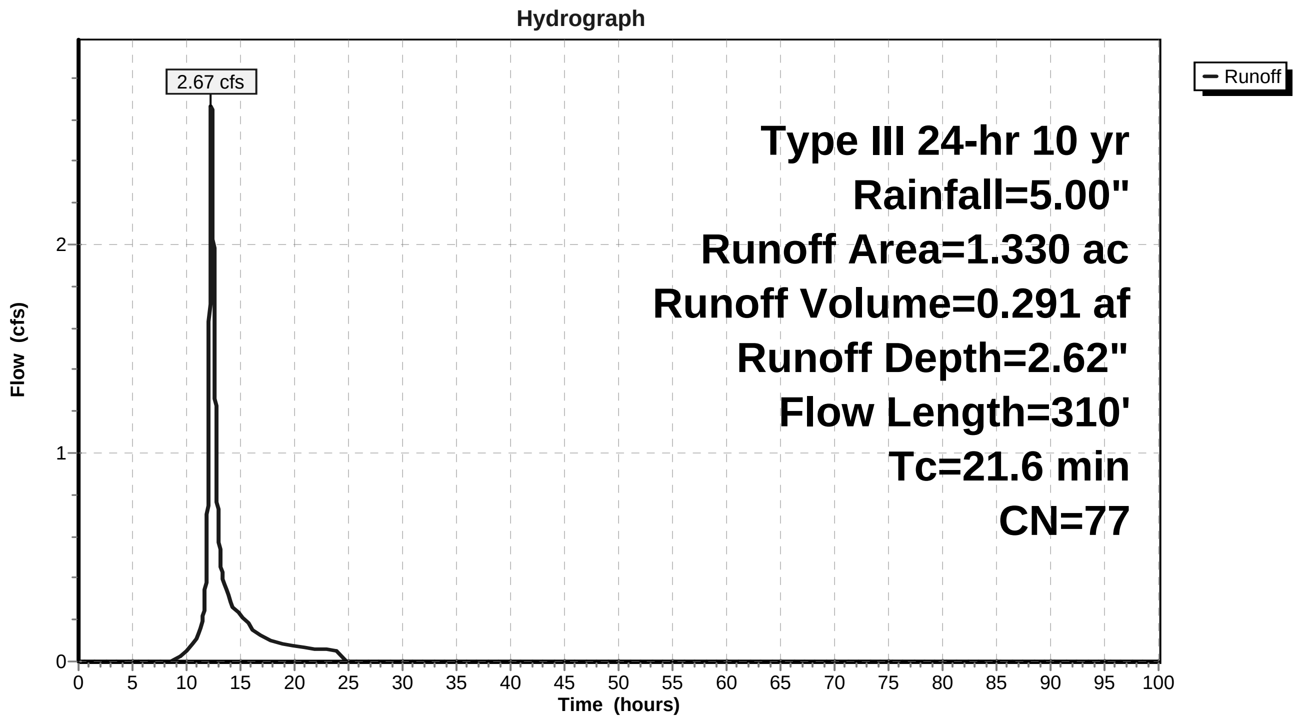
Runoff = 2.67 cfs @ 12.31 hrs, Volume= 0.291 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.500	73	Woods, Fair, HSG C
0.630	74	>75% Grass cover, Good, HSG C
1.330	77	Weighted Average
1.130		84.96% Pervious Area
0.200		15.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	90	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	120	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.6	310	Total			

Subcatchment CB13A:



Summary for Subcatchment CB13B:

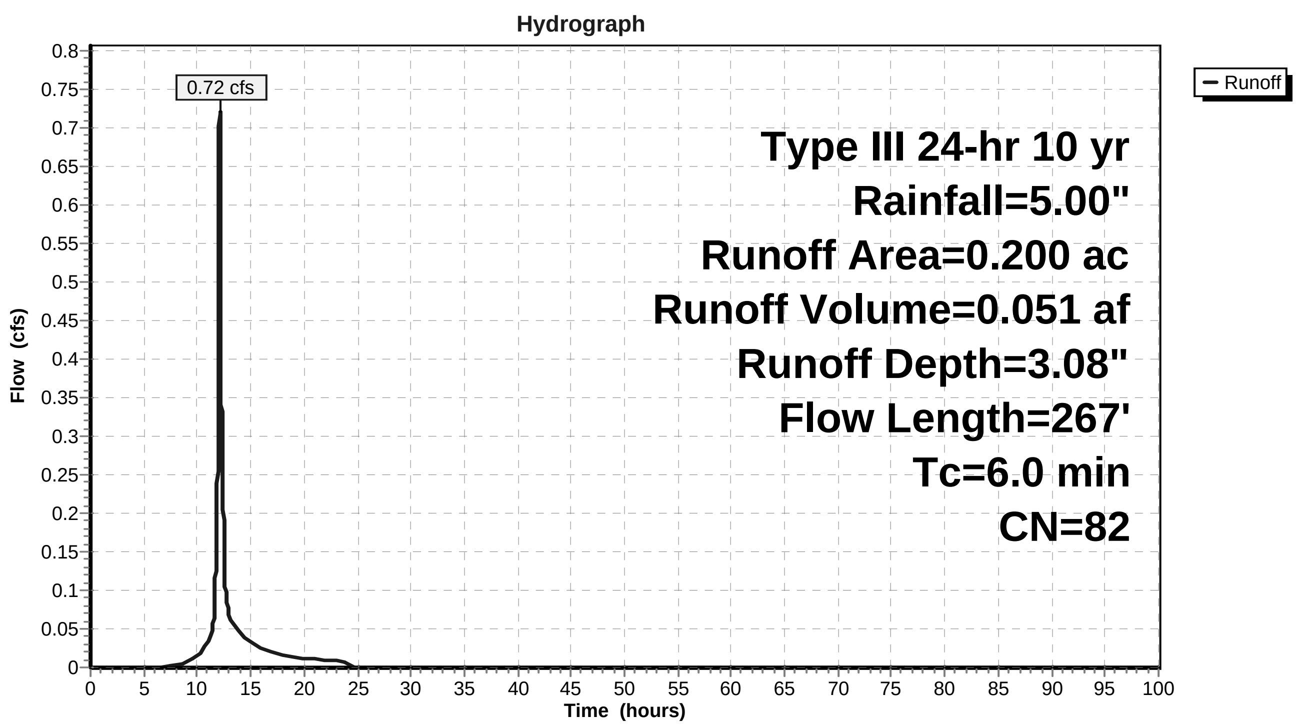
Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.051 af, Depth= 3.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.200	82	Weighted Average
0.130		65.00% Pervious Area
0.070		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
2.0	247	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.3	267	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB13B:



Summary for Subcatchment CB14A:

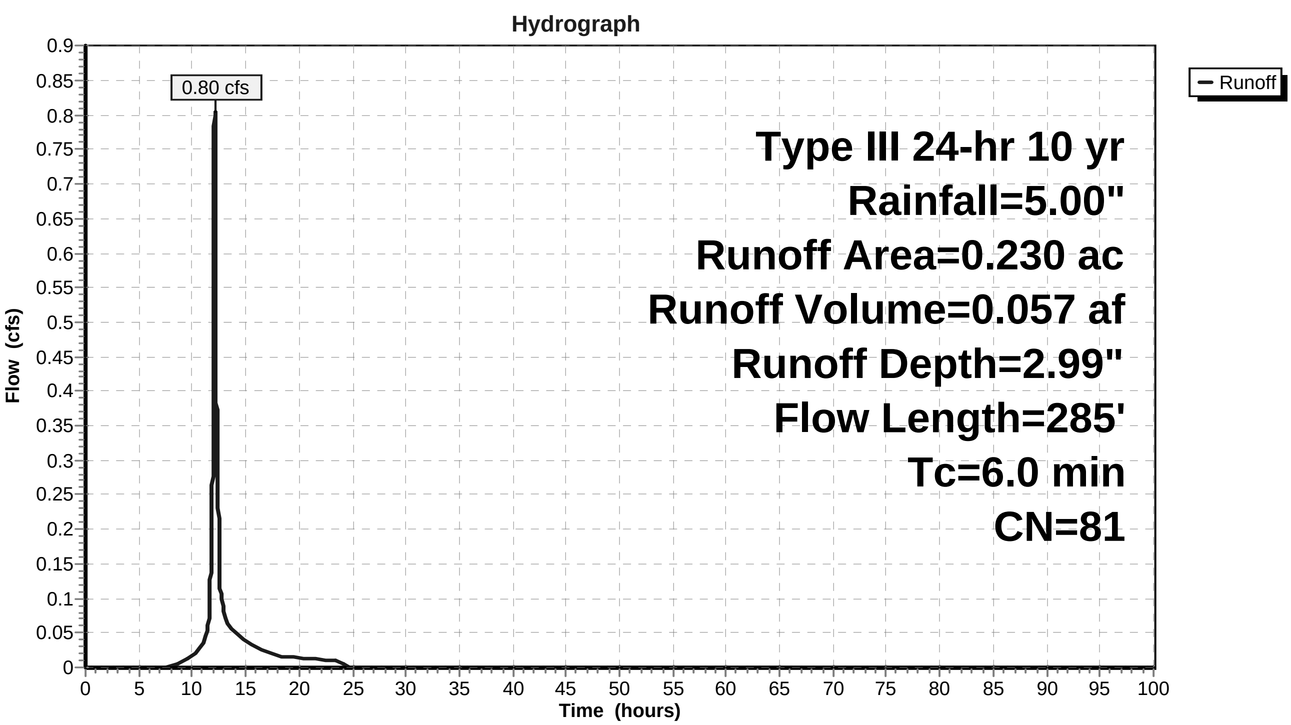
Runoff = 0.80 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.160	74	>75% Grass cover, Good, HSG C
0.230	81	Weighted Average
0.160		69.57% Pervious Area
0.070		30.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14A:



Summary for Subcatchment CB14B:

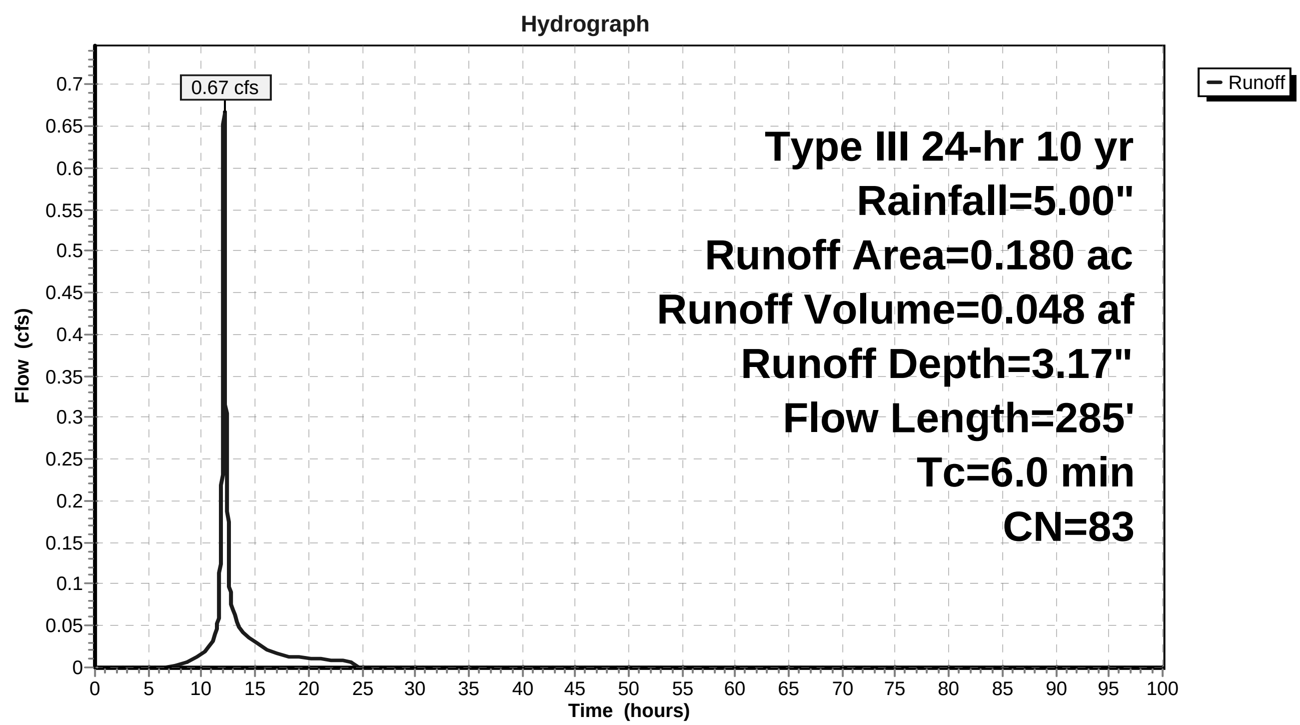
Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.048 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.110	74	>75% Grass cover, Good, HSG C
0.180	83	Weighted Average
0.110		61.11% Pervious Area
0.070		38.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14B:



Summary for Subcatchment CB15A:

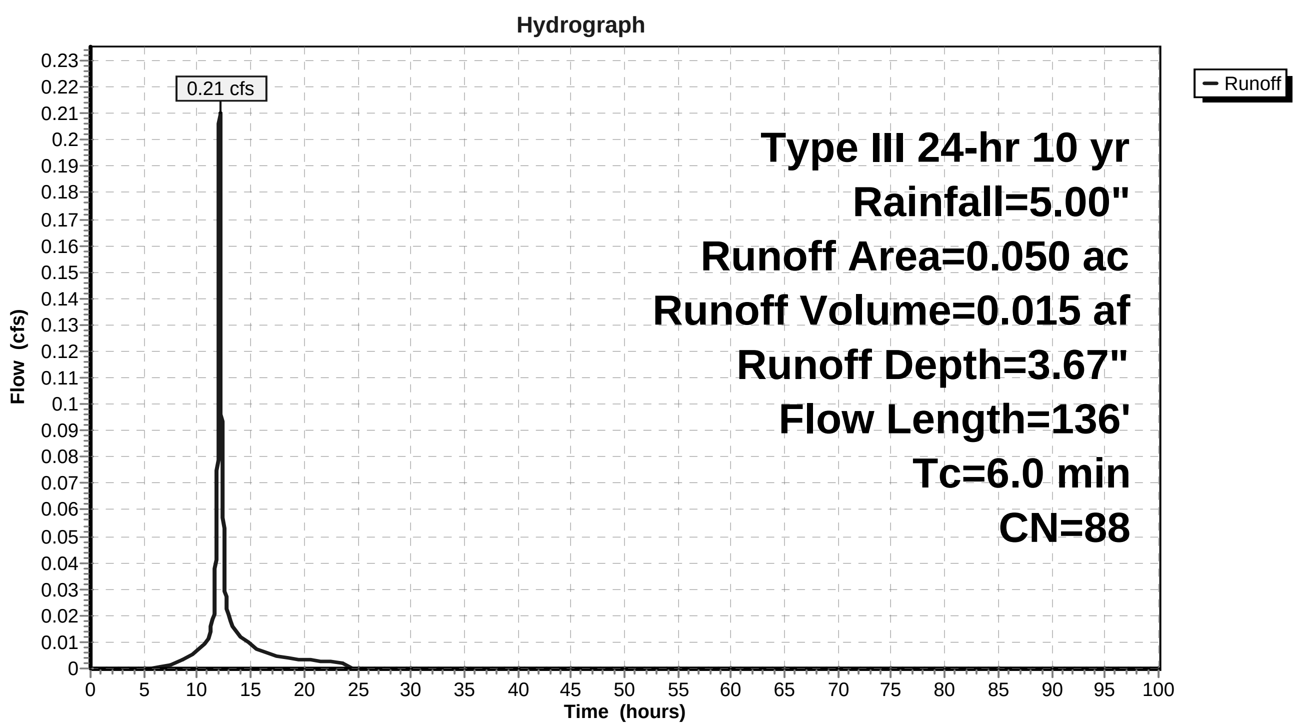
Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15A:



Summary for Subcatchment CB15B:

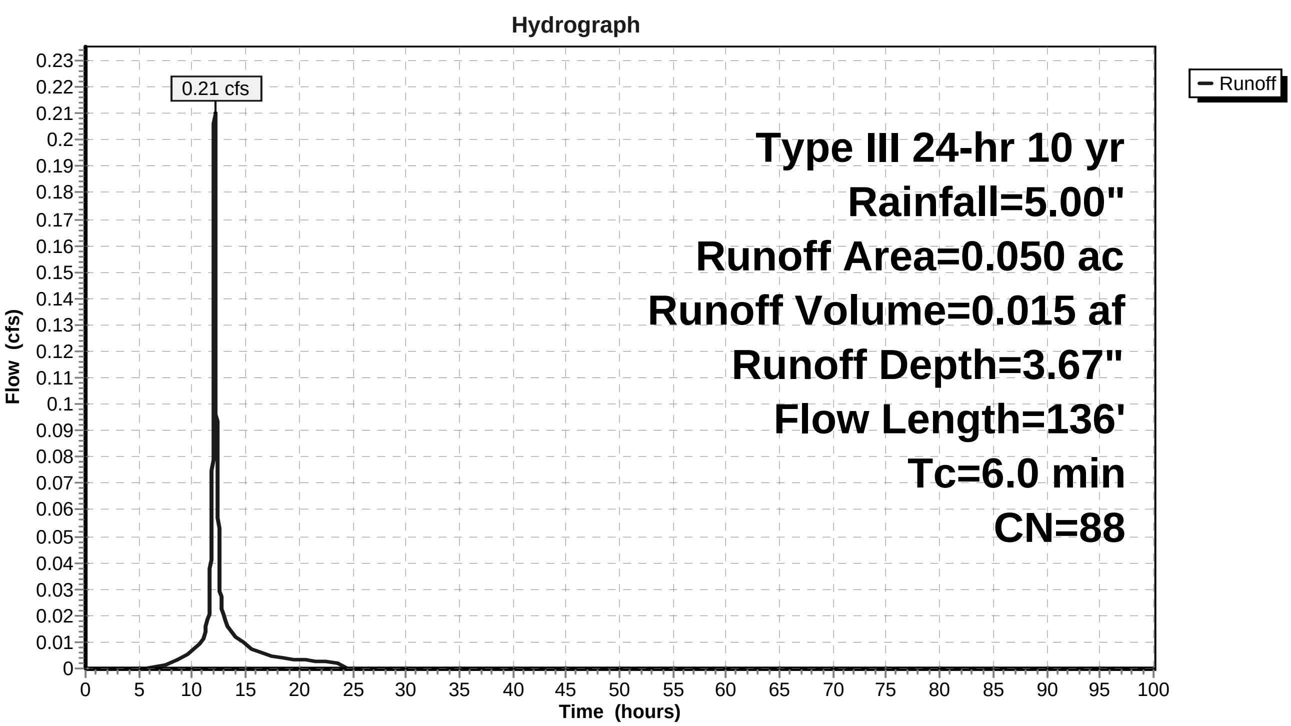
Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15B:



Summary for Subcatchment CB16A:

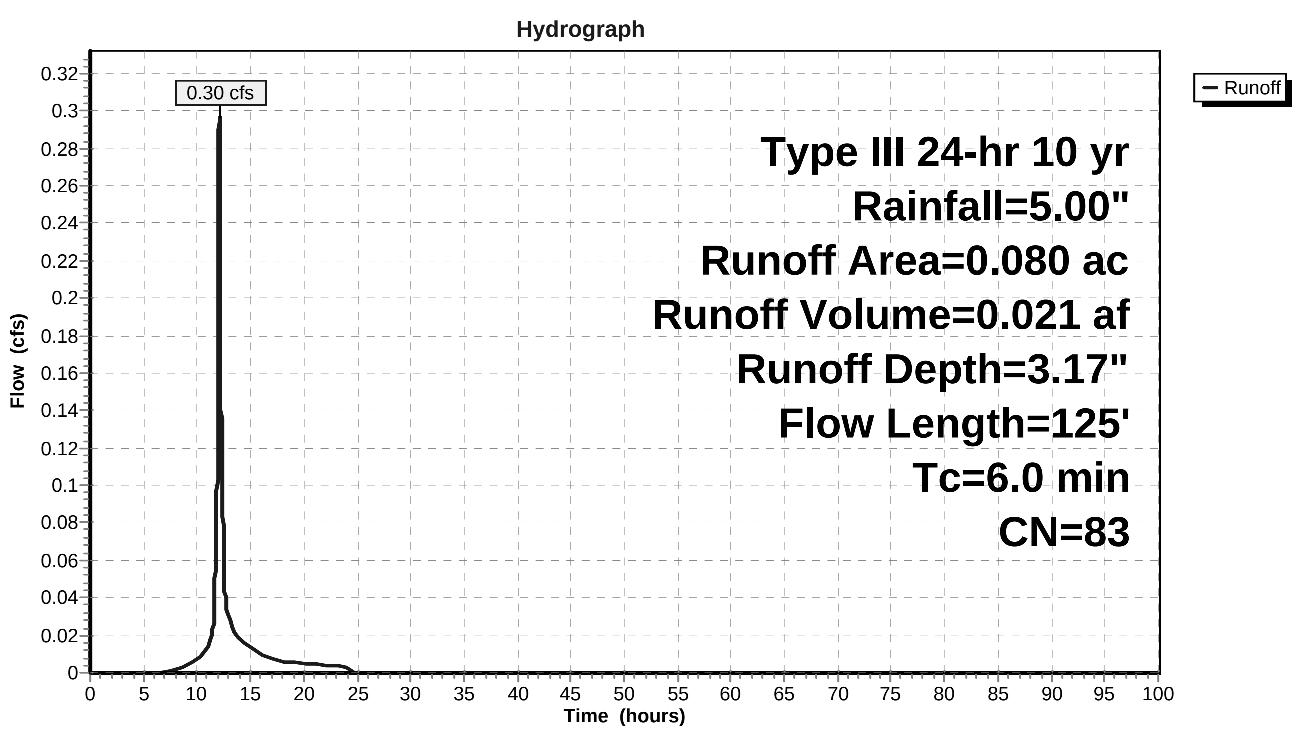
Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.080	83	Weighted Average
0.050		62.50% Pervious Area
0.030		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16A:



Summary for Subcatchment CB16B:

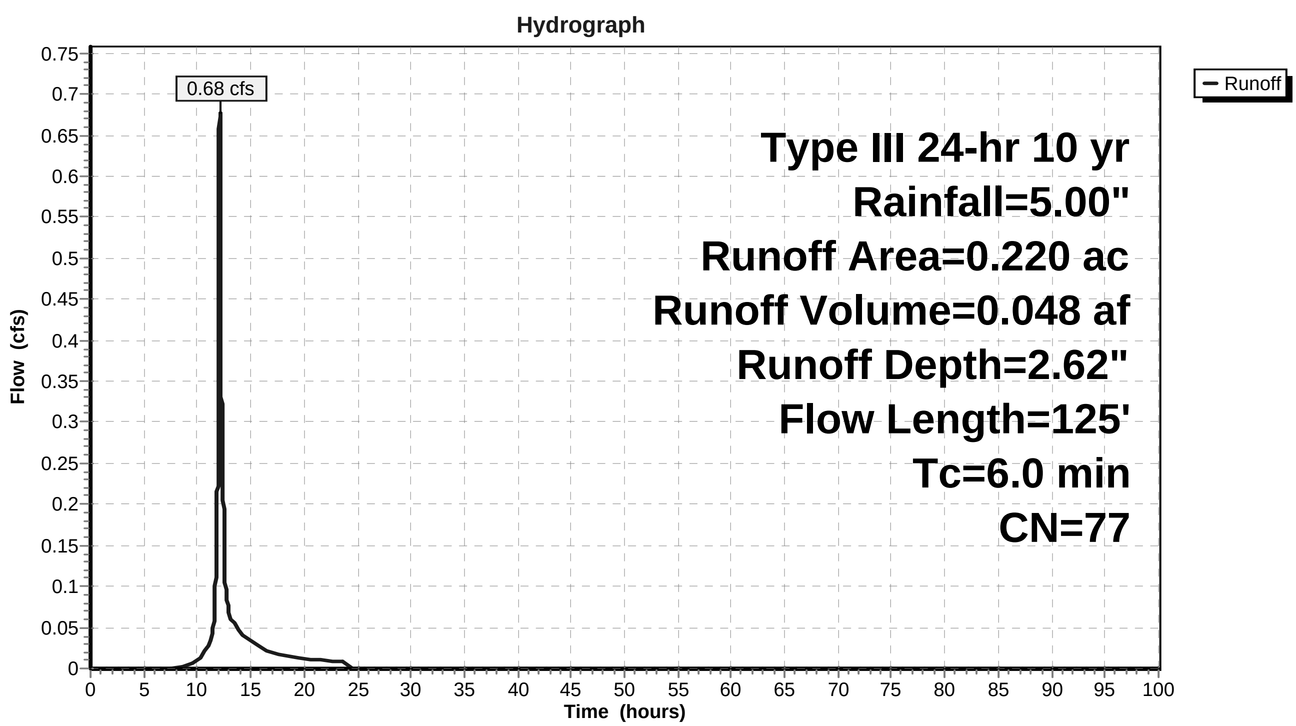
Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.048 af, Depth= 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.190	74	>75% Grass cover, Good, HSG C
0.220	77	Weighted Average
0.190		86.36% Pervious Area
0.030		13.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16B:



Summary for Subcatchment CB17A:

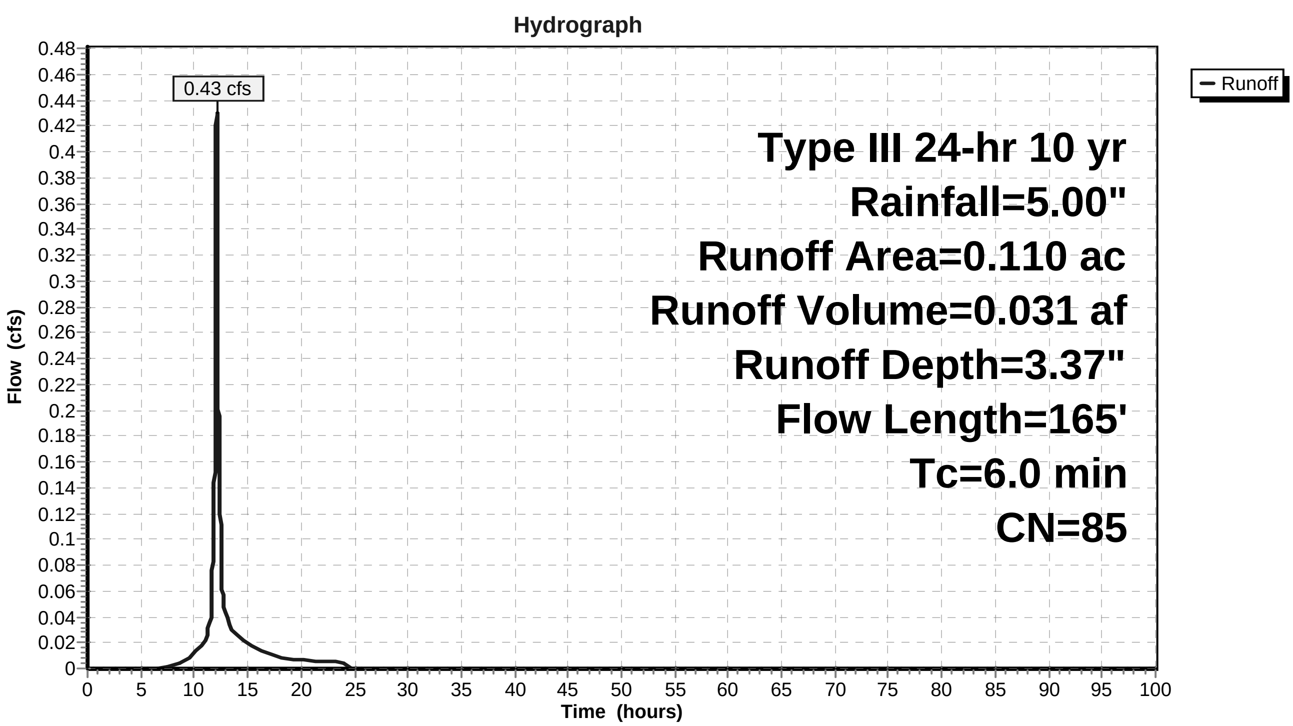
Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 3.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.110	85	Weighted Average
0.060		54.55% Pervious Area
0.050		45.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17A:



Summary for Subcatchment CB17B:

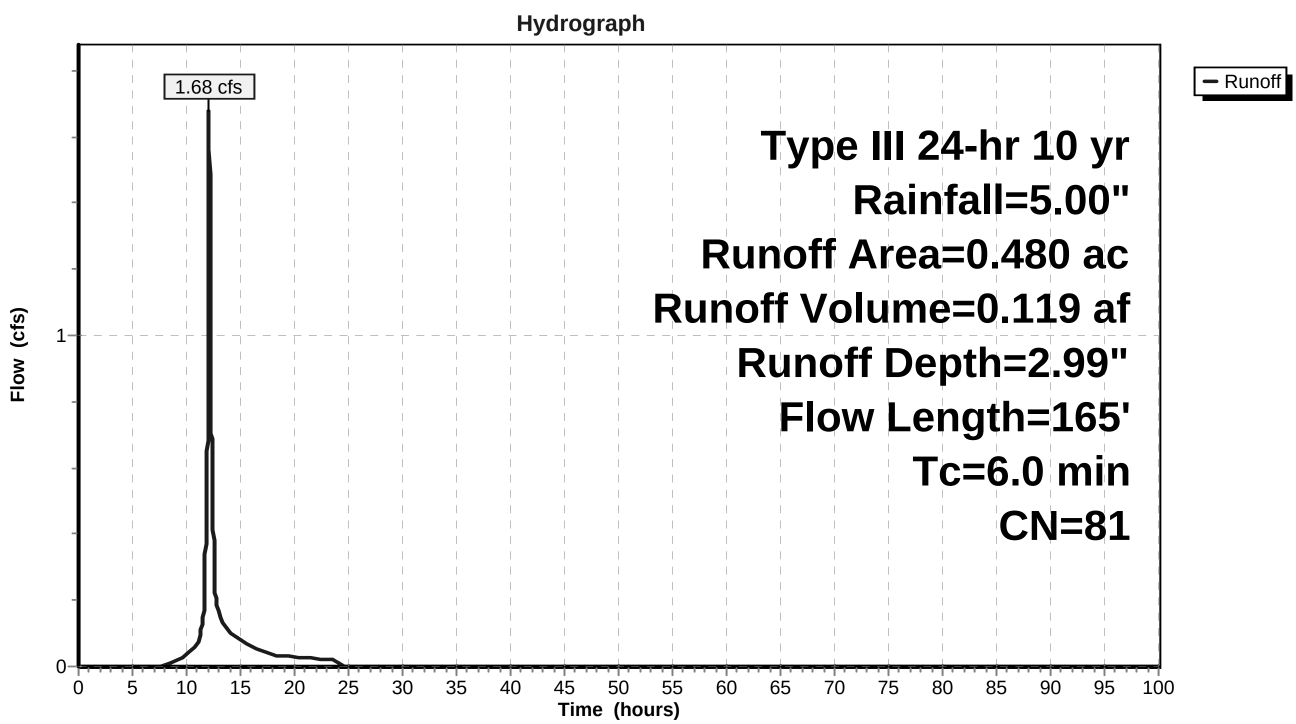
Runoff = 1.68 cfs @ 12.09 hrs, Volume= 0.119 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.100	73	Woods, Fair, HSG C
0.240	74	>75% Grass cover, Good, HSG C
0.480	81	Weighted Average
0.340		70.83% Pervious Area
0.140		29.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17B:



Summary for Subcatchment CB18A:

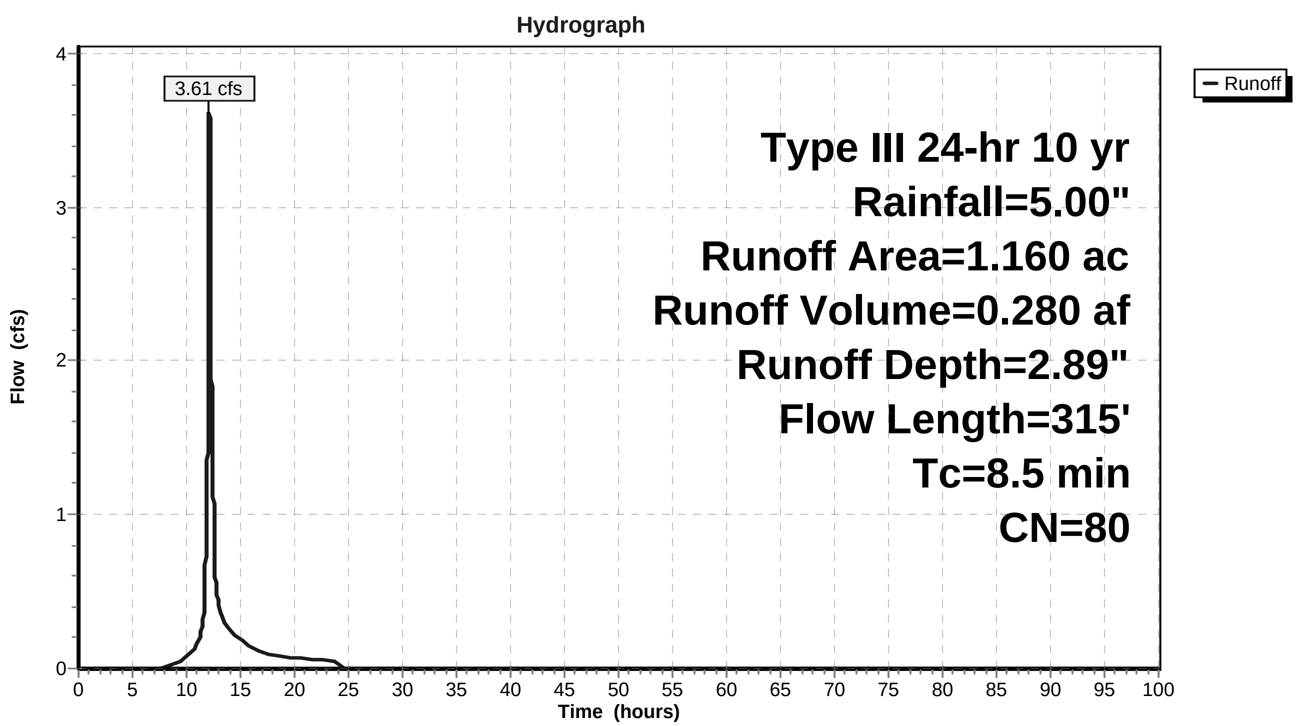
Runoff = 3.61 cfs @ 12.12 hrs, Volume= 0.280 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.310	98	Paved parking & roofs
0.850	74	>75% Grass cover, Good, HSG C
1.160	80	Weighted Average
0.850		73.28% Pervious Area
0.310		26.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	130	0.0400	3.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	85	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	315	Total			

Subcatchment CB18A:



Summary for Subcatchment CB18B:

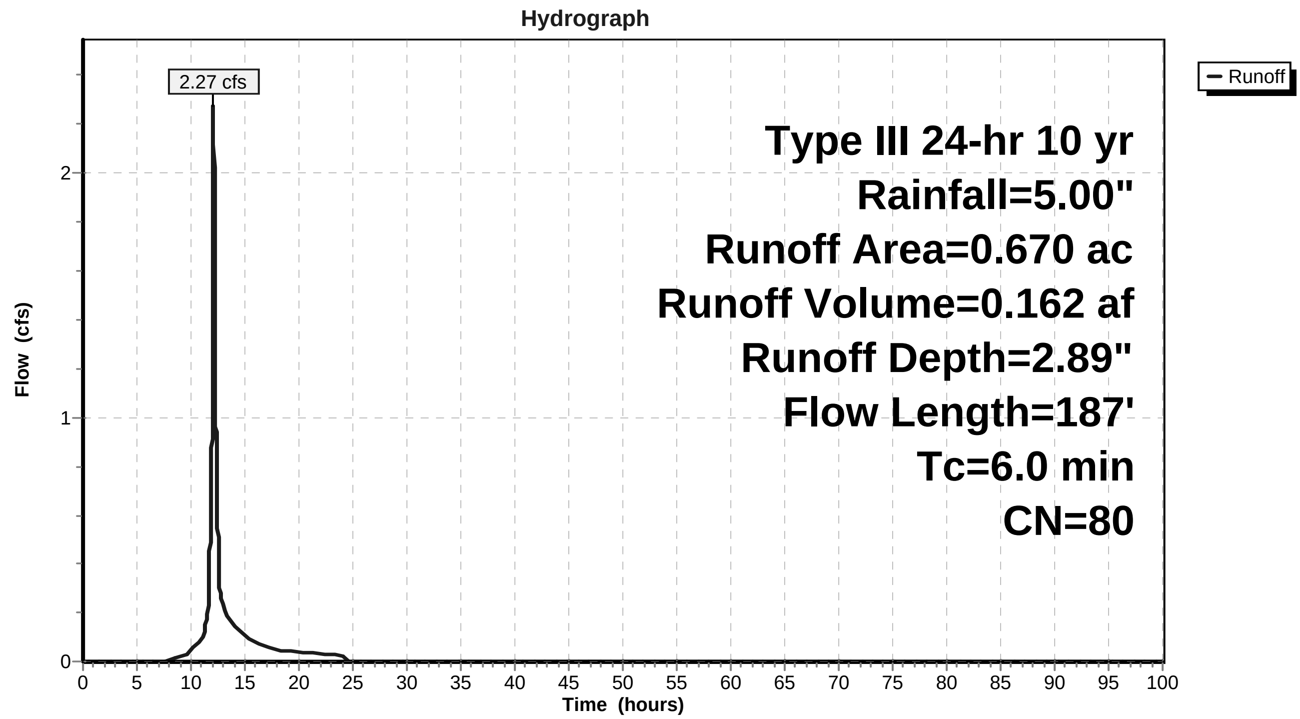
Runoff = 2.27 cfs @ 12.09 hrs, Volume= 0.162 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.170	98	Paved parking & roofs
0.050	73	Woods, Fair, HSG C
0.450	74	>75% Grass cover, Good, HSG C
0.670	80	Weighted Average
0.500		74.63% Pervious Area
0.170		25.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	87	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	187	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB18B:



Summary for Subcatchment CB1A:

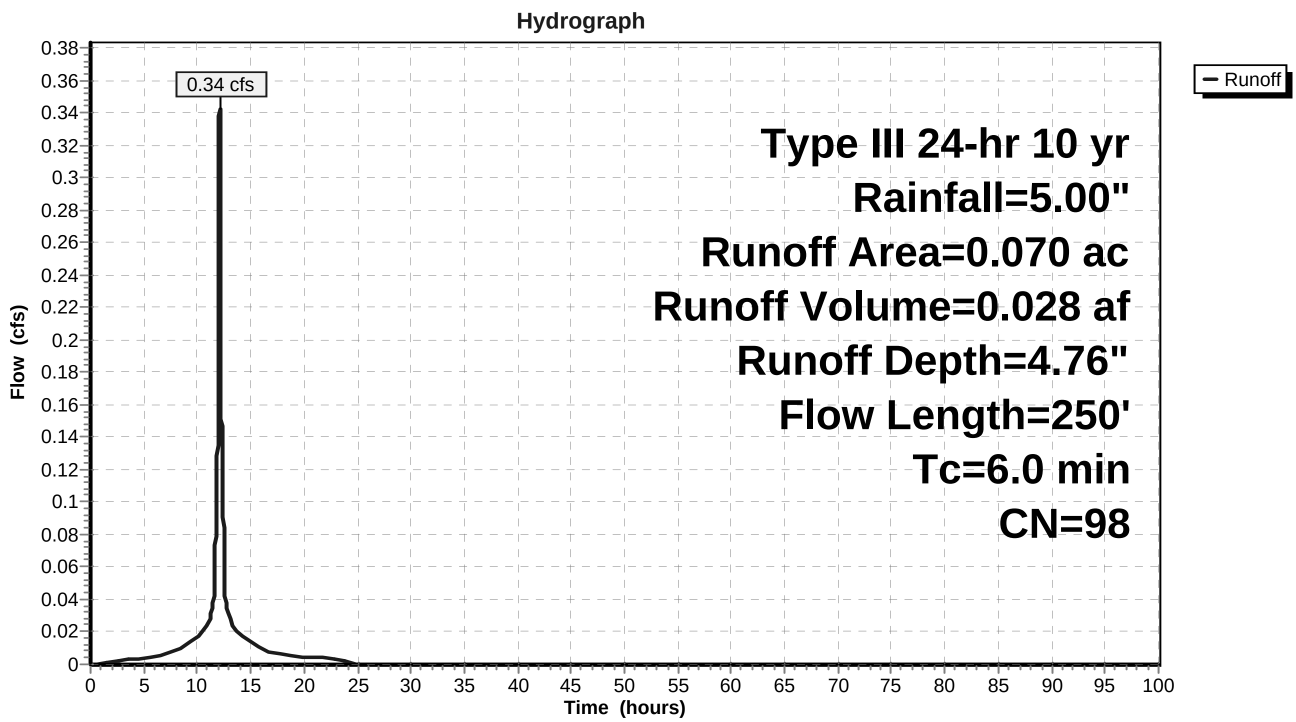
Runoff = 0.34 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1A:



Summary for Subcatchment CB1B:

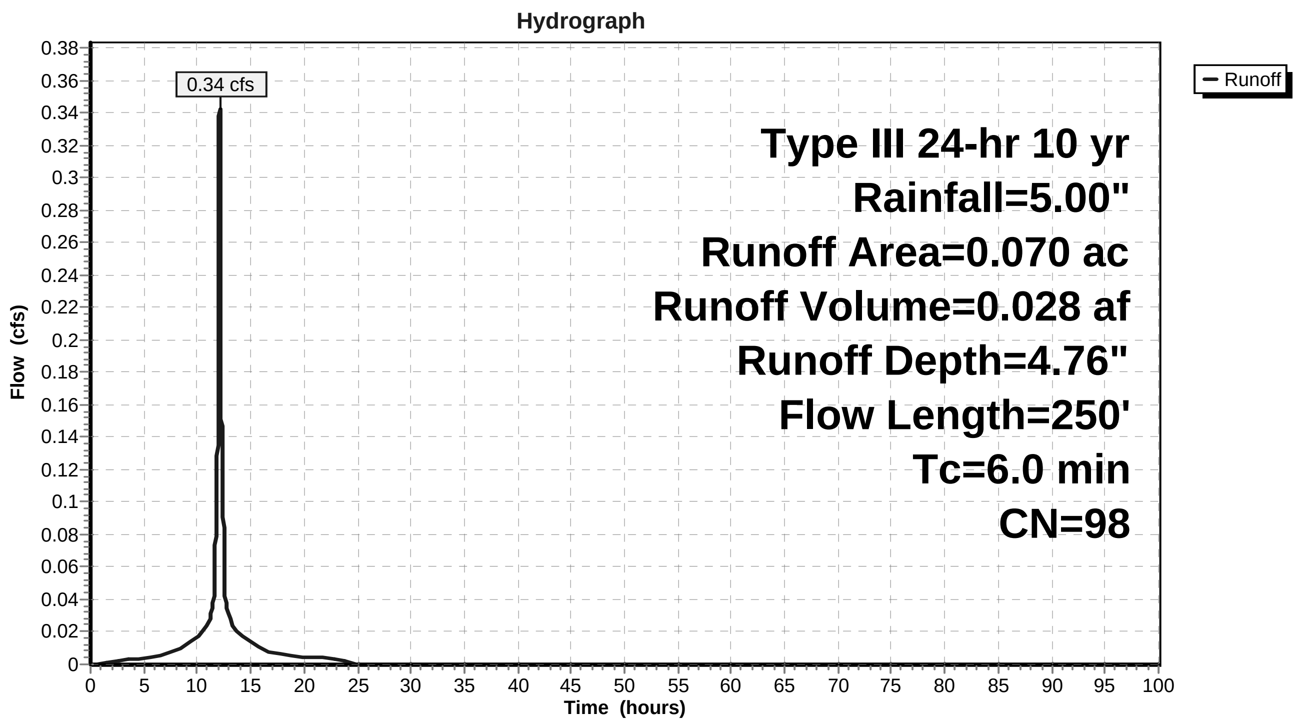
Runoff = 0.34 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1B:



Summary for Subcatchment CB1C:

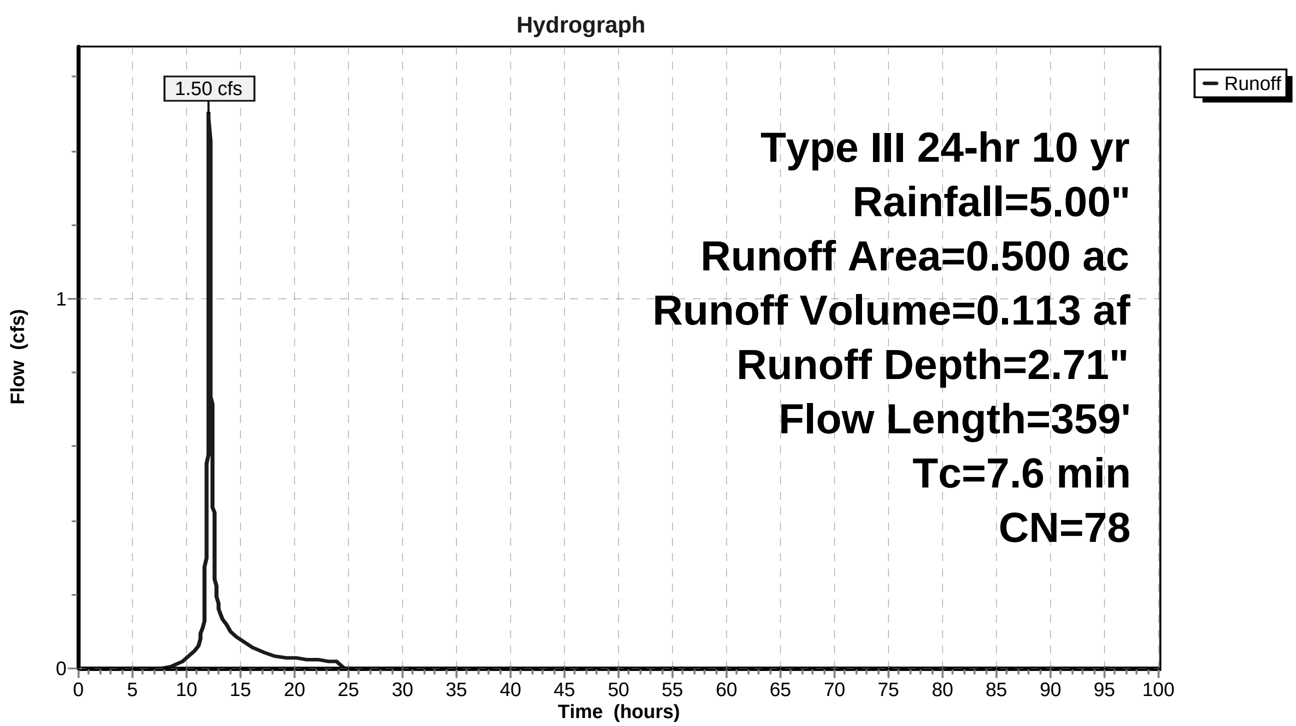
Runoff = 1.50 cfs @ 12.11 hrs, Volume= 0.113 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.020	89	Gravel roads, HSG C
0.080	98	Paved parking & roofs
0.300	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.500	78	Weighted Average
0.420		84.00% Pervious Area
0.080		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.2600	0.34		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	259	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	359	Total			

Subcatchment CB1C:



Summary for Subcatchment CB2A:

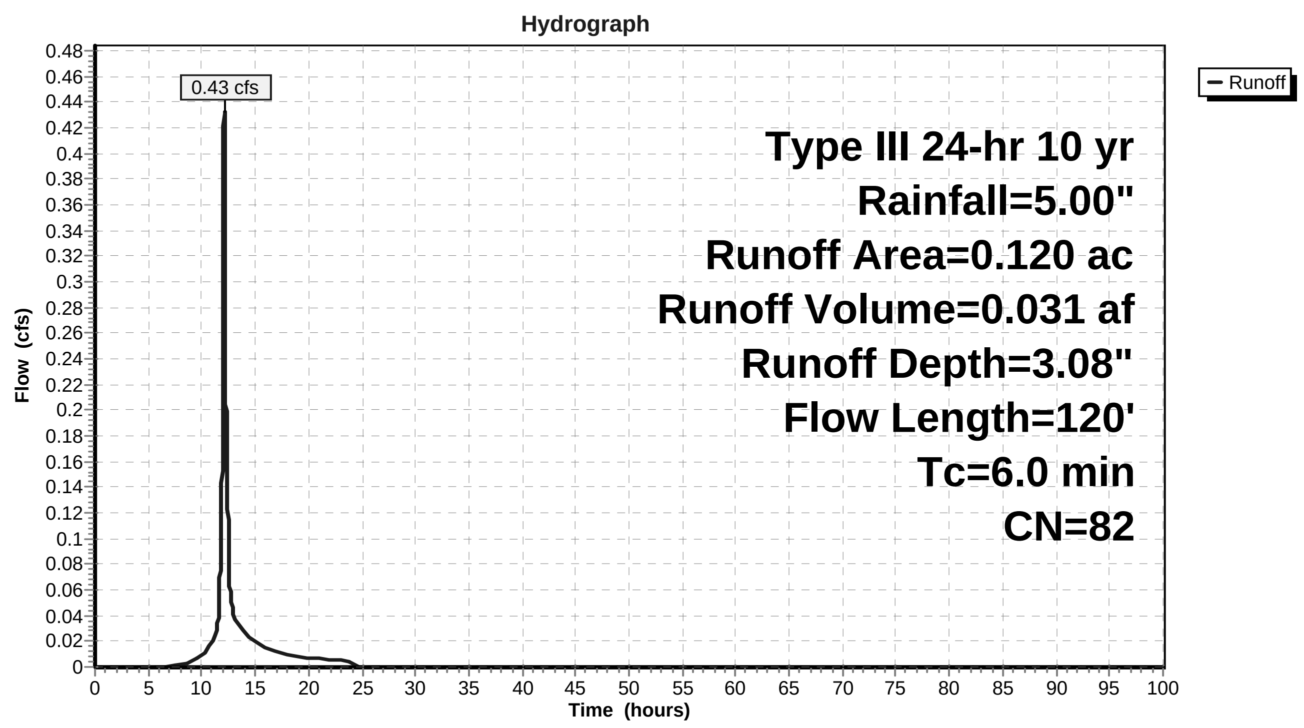
Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 3.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.080	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.120	82	Weighted Average
0.080		66.67% Pervious Area
0.040		33.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2A:



Summary for Subcatchment CB2B:

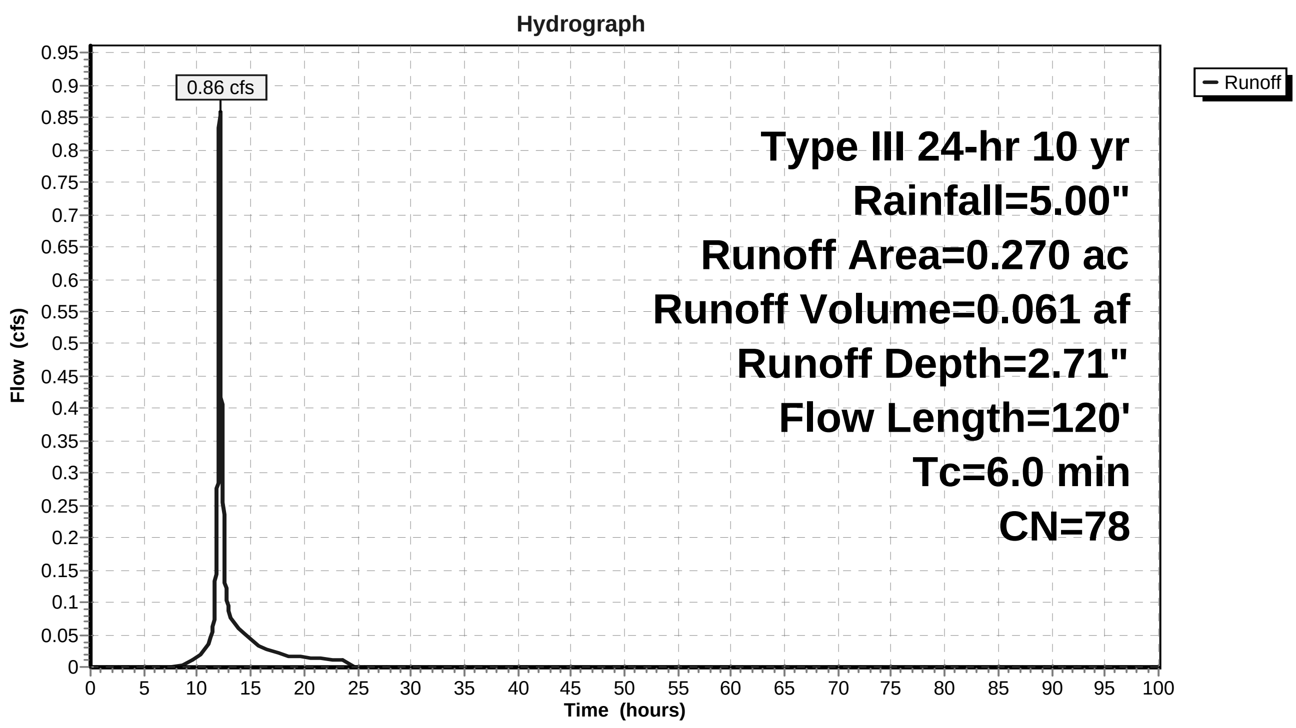
Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.061 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.270	78	Weighted Average
0.230		85.19% Pervious Area
0.040		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2B:



Summary for Subcatchment CB3A:

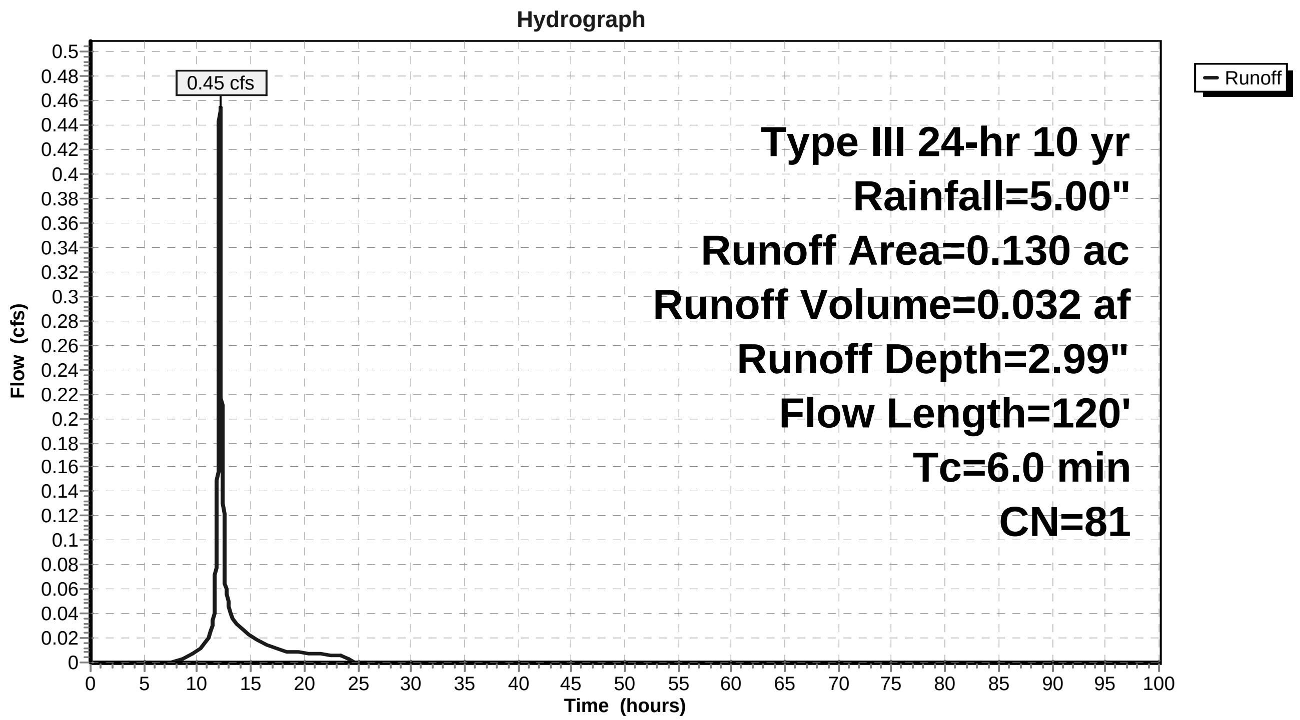
Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.032 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.090	74	>75% Grass cover, Good, HSG C
0.130	81	Weighted Average
0.090		69.23% Pervious Area
0.040		30.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	100	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3A:



Summary for Subcatchment CB3B:

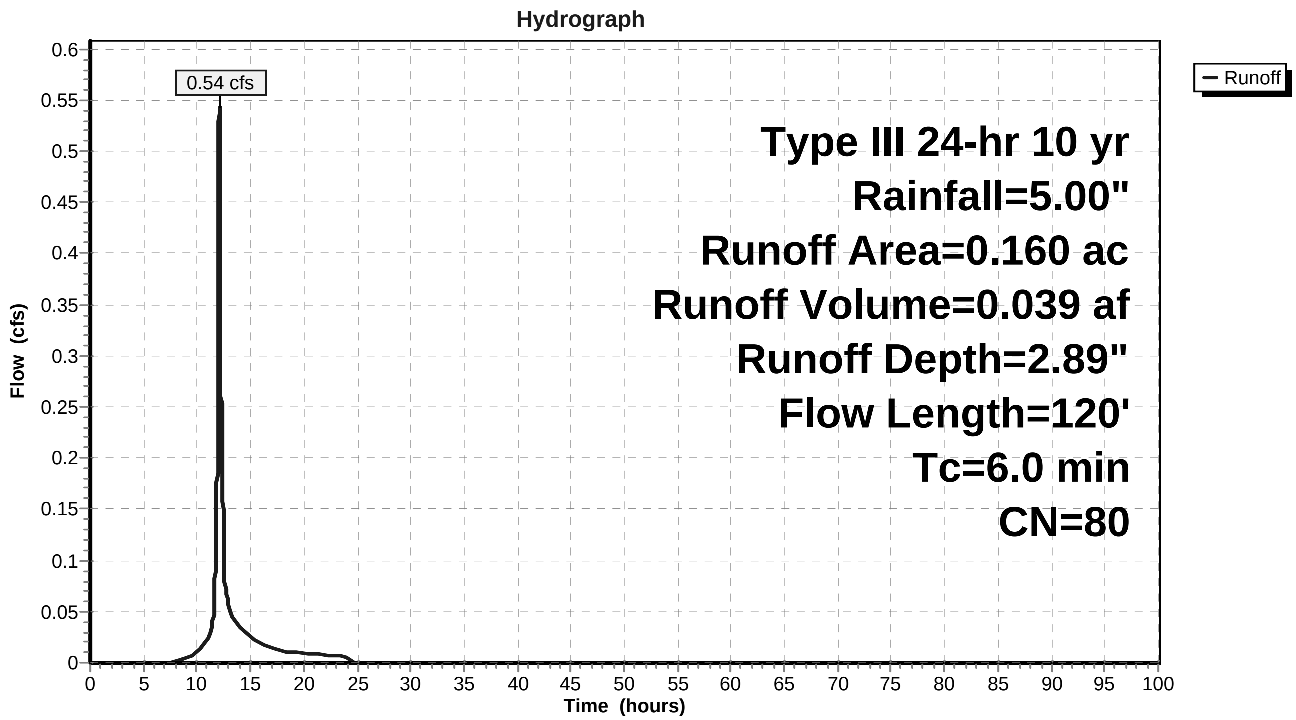
Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.120	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.160	80	Weighted Average
0.120		75.00% Pervious Area
0.040		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3B:



Summary for Subcatchment CB4A:

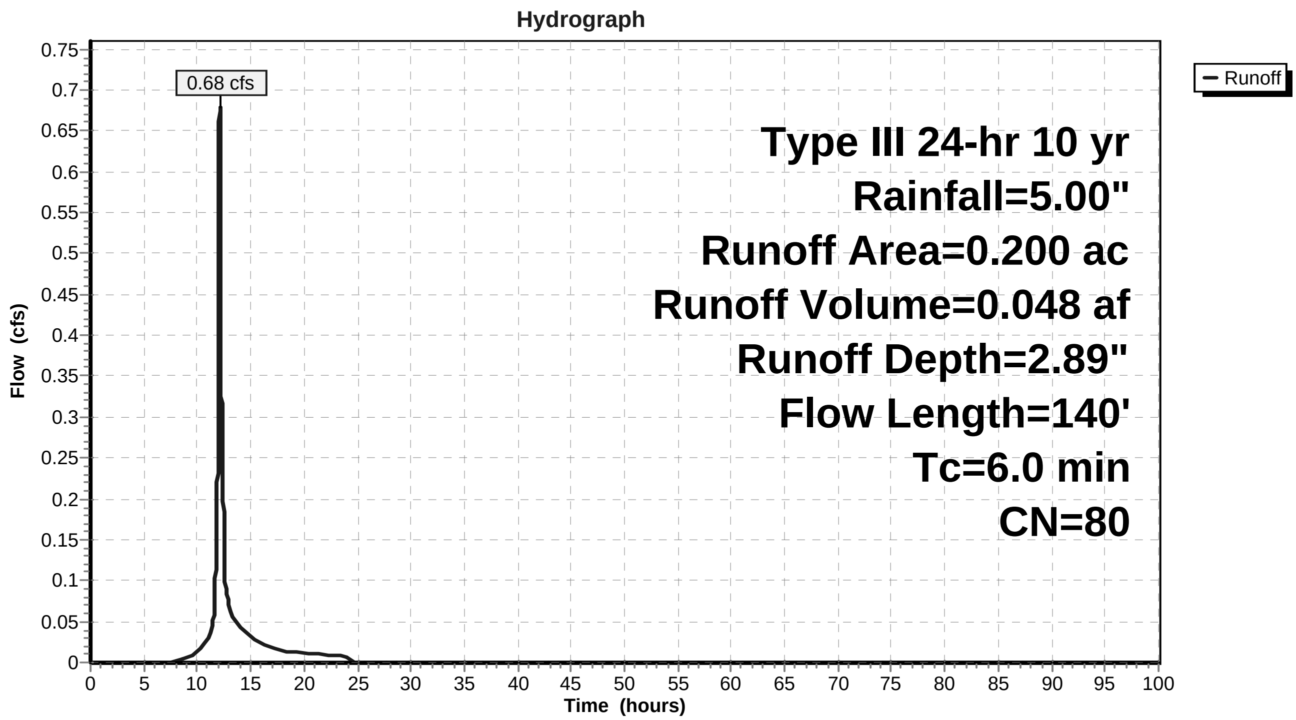
Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.048 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.200	80	Weighted Average
0.150		75.00% Pervious Area
0.050		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4A:



Summary for Subcatchment CB4B:

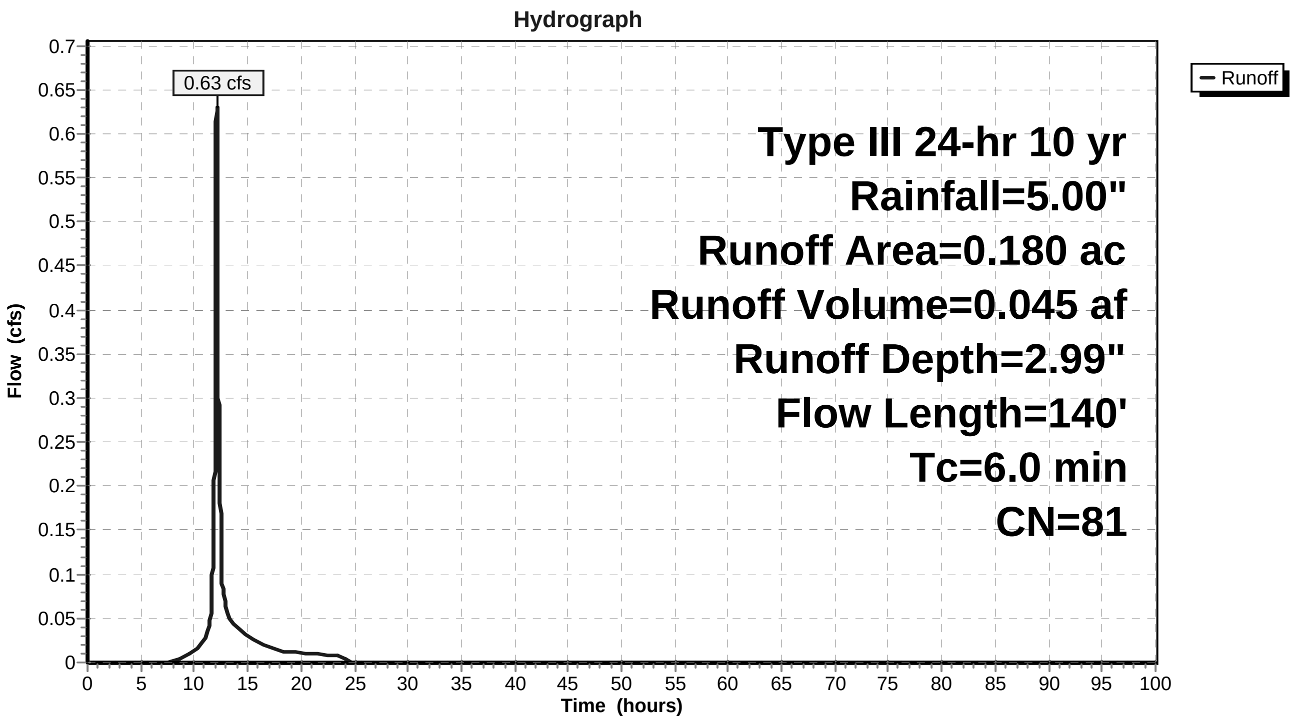
Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.045 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.180	81	Weighted Average
0.130		72.22% Pervious Area
0.050		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4B:



Summary for Subcatchment CB5A:

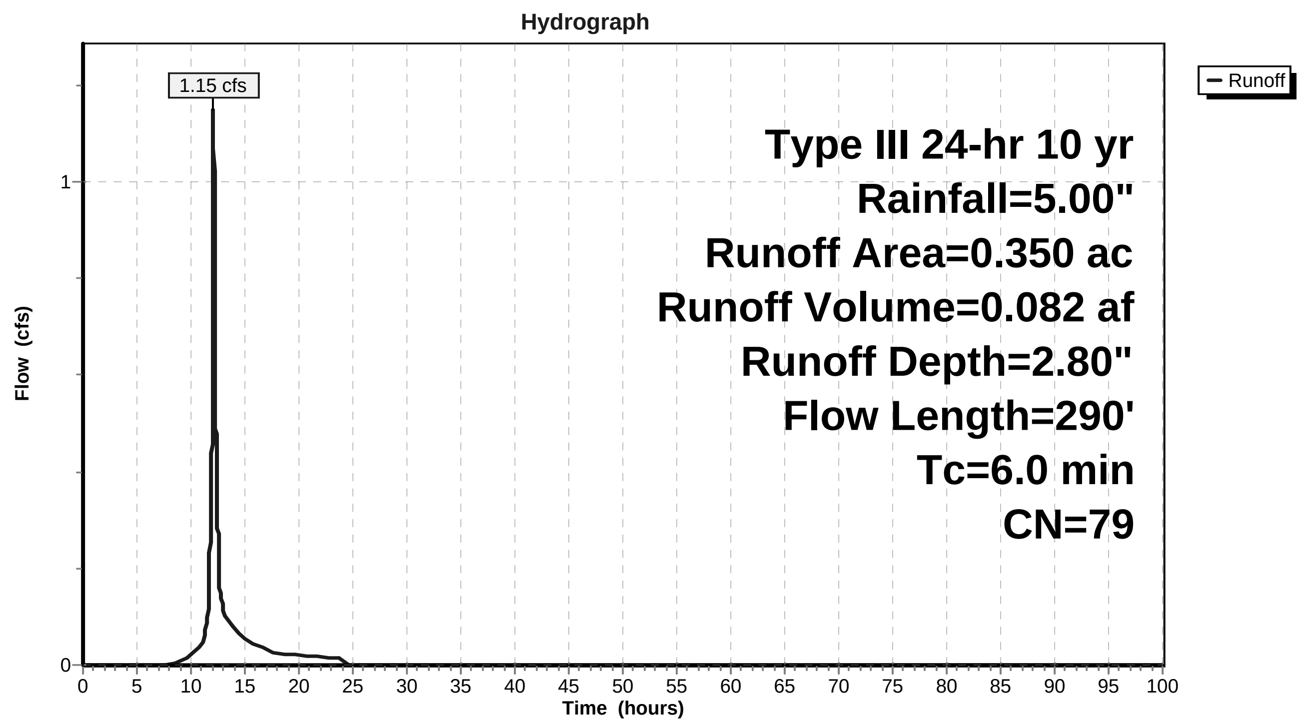
Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.082 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.140	73	Woods, Fair, HSG C
0.350	79	Weighted Average
0.270		77.14% Pervious Area
0.080		22.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	270	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	290	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5A:



Summary for Subcatchment CB5B:

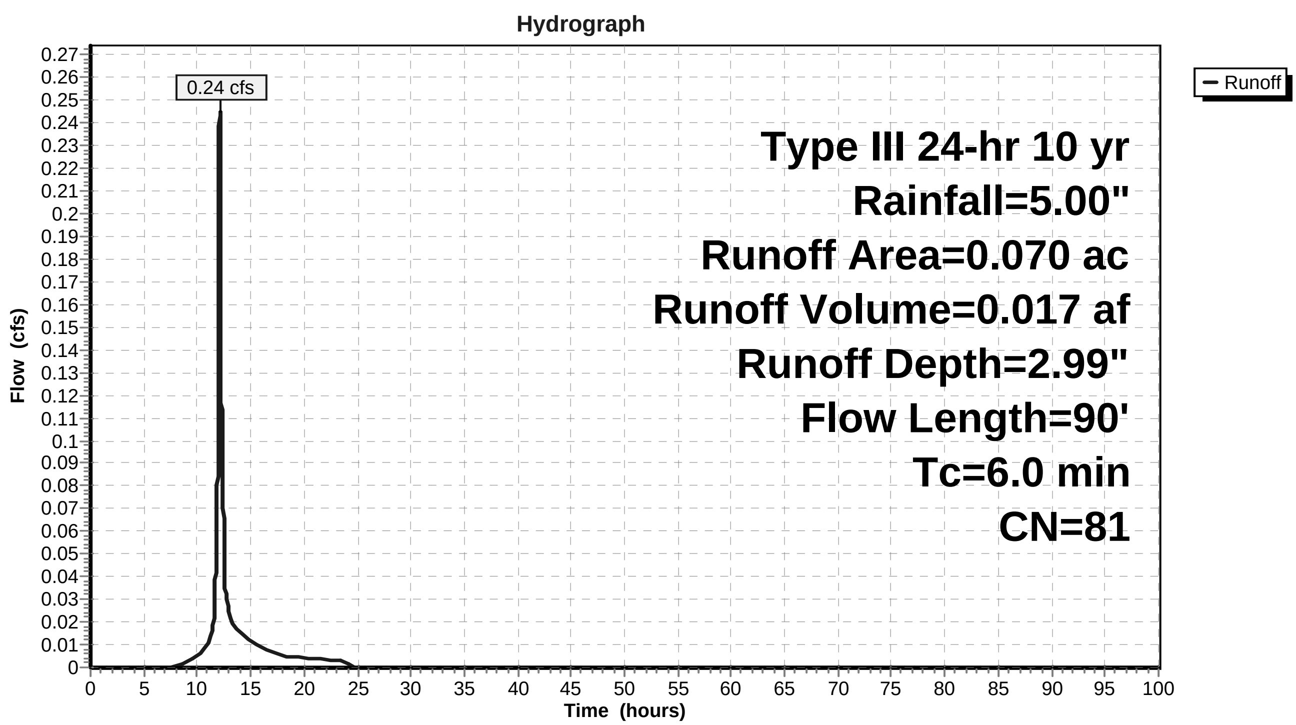
Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.050	74	>75% Grass cover, Good, HSG C
0.020	98	Paved parking & roofs
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	70	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	90	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5B:



Summary for Subcatchment CB6A:

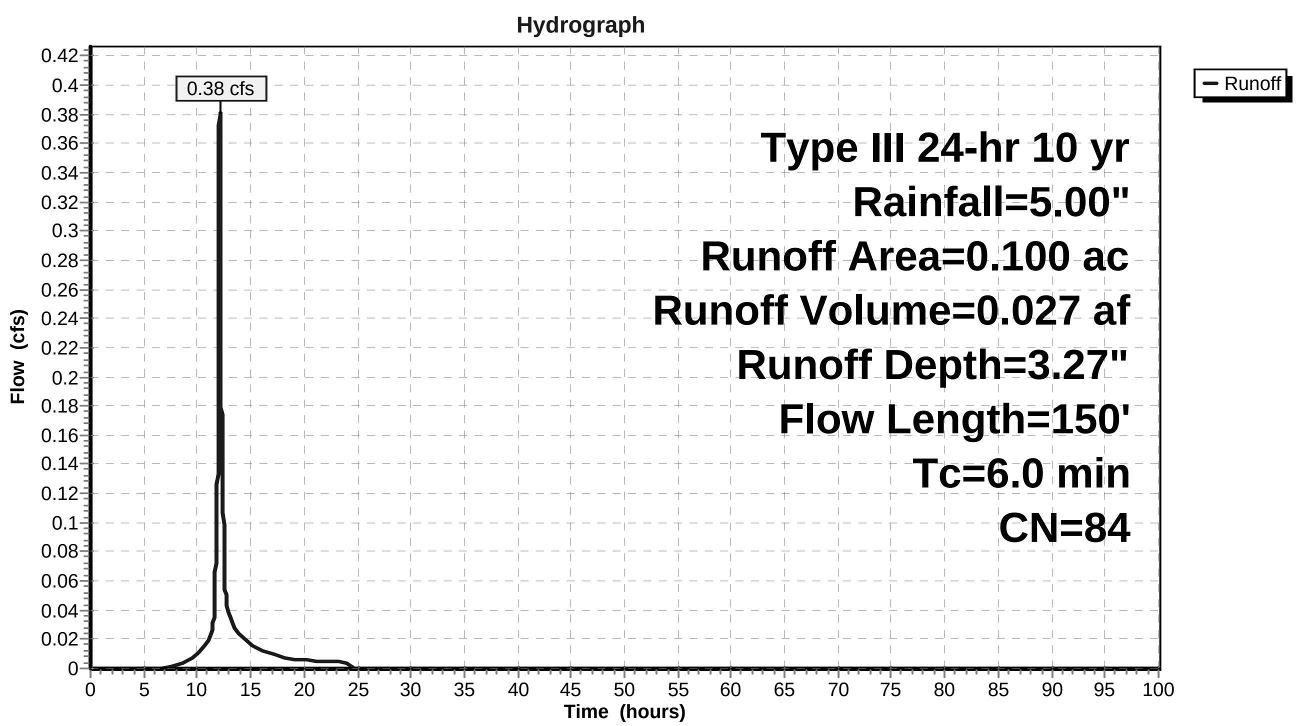
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.7	80	0.0500	1.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6A:



Summary for Subcatchment CB6B:

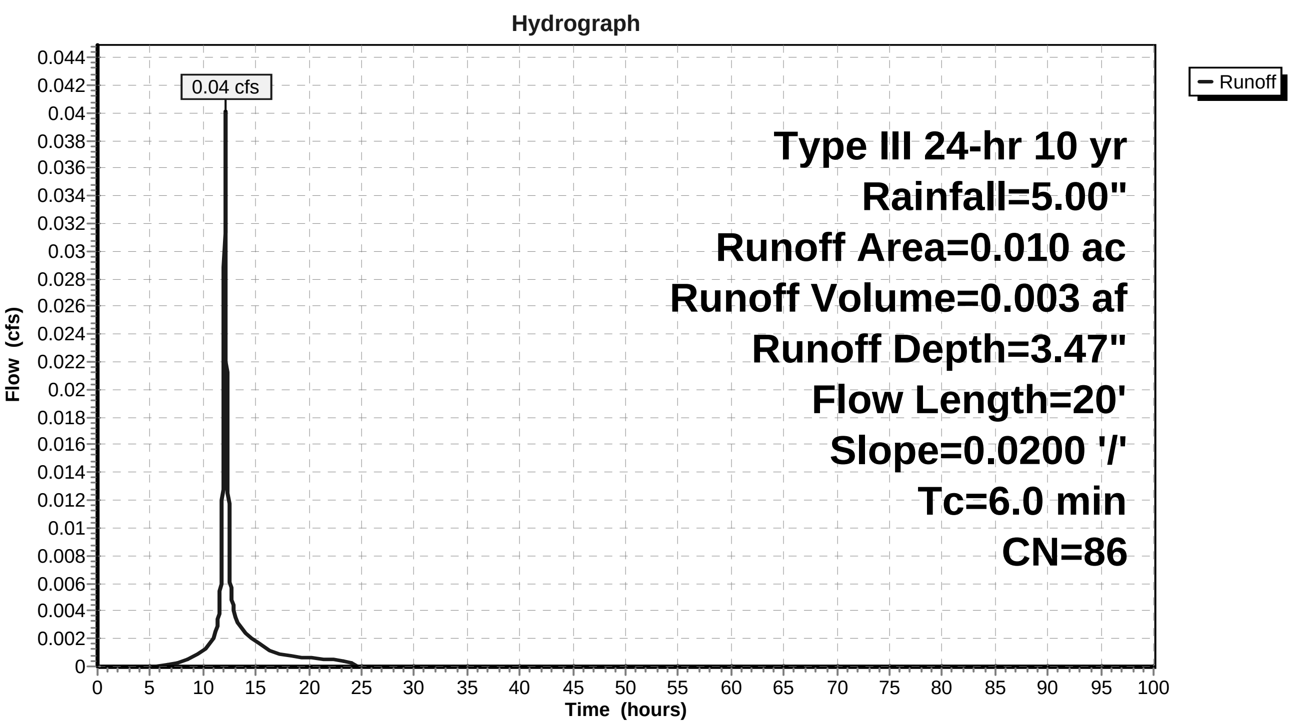
Runoff = 0.04 cfs @ 12.09 hrs, Volume= 0.003 af, Depth= 3.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.005	74	>75% Grass cover, Good, HSG C
0.005	98	Paved parking & roofs
0.010	86	Weighted Average
0.005		50.00% Pervious Area
0.005		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6B:



Summary for Subcatchment CB7A:

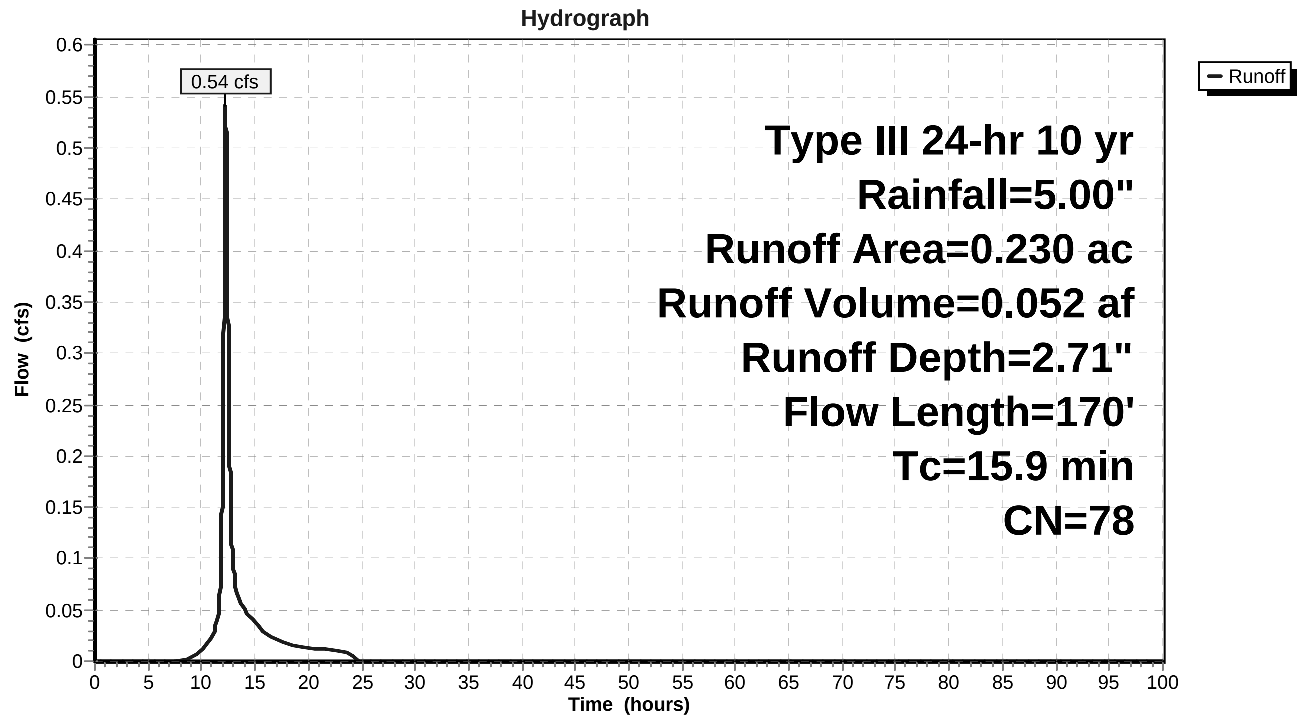
Runoff = 0.54 cfs @ 12.21 hrs, Volume= 0.052 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.130	73	Woods, Fair, HSG C
0.060	74	>75% Grass cover, Good, HSG C
0.230	78	Weighted Average
0.190		82.61% Pervious Area
0.040		17.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	30	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	40	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.9	170	Total			

Subcatchment CB7A:



Summary for Subcatchment CB7B:

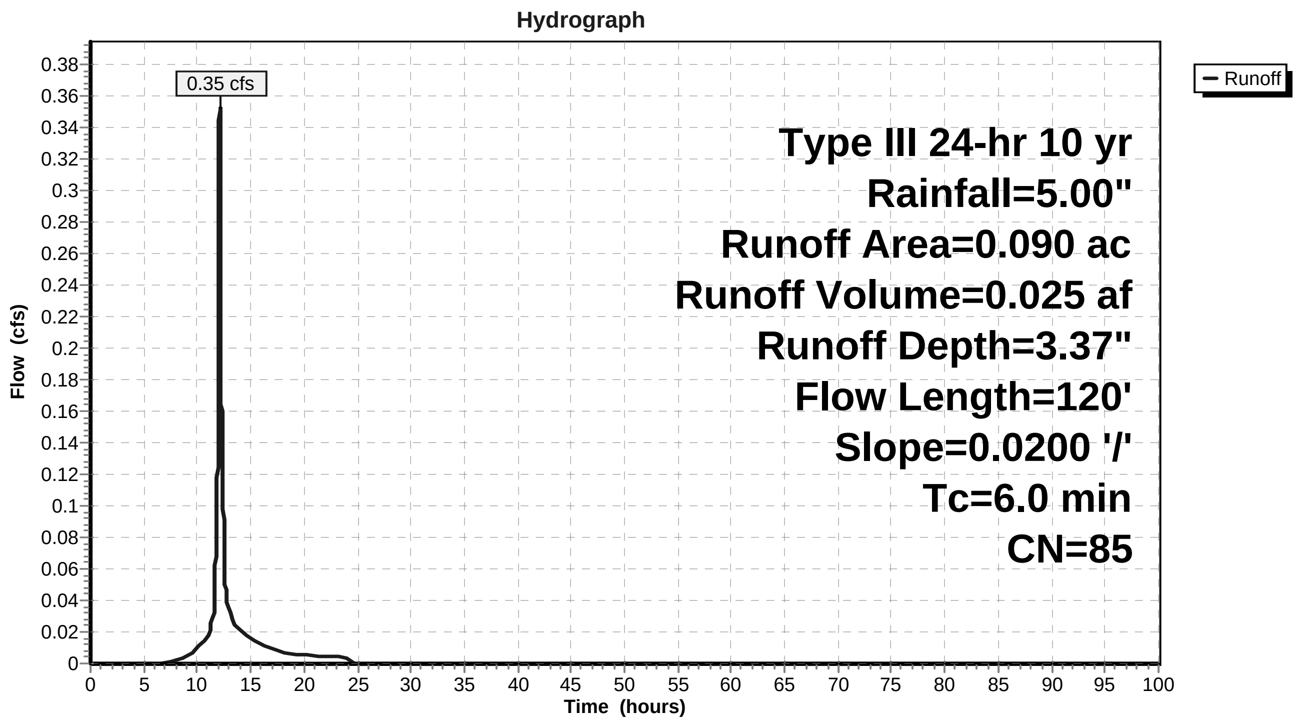
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 3.37"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.090	85	Weighted Average
0.050		55.56% Pervious Area
0.040		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB7B:



Summary for Subcatchment CB8A:

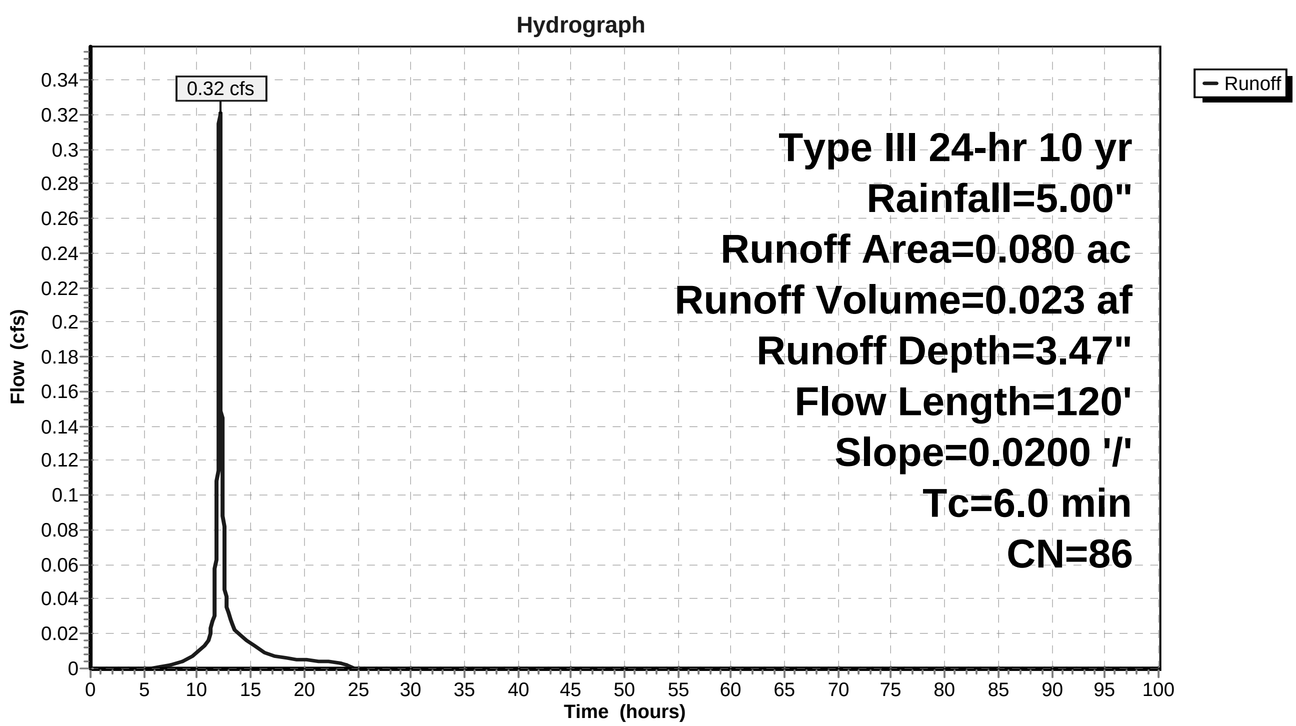
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 3.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.040	74	>75% Grass cover, Good, HSG C
0.080	86	Weighted Average
0.040		50.00% Pervious Area
0.040		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8A:



Summary for Subcatchment CB8B:

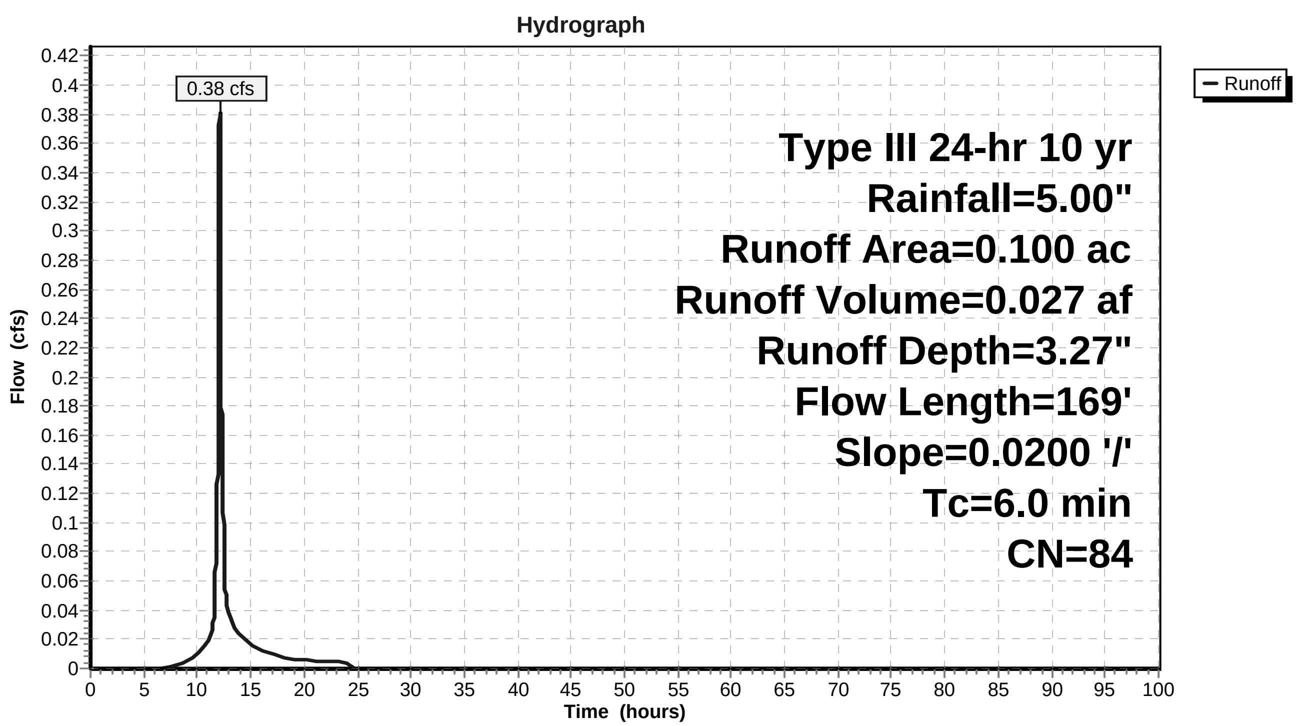
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	169	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8B:



Summary for Subcatchment CB9A:

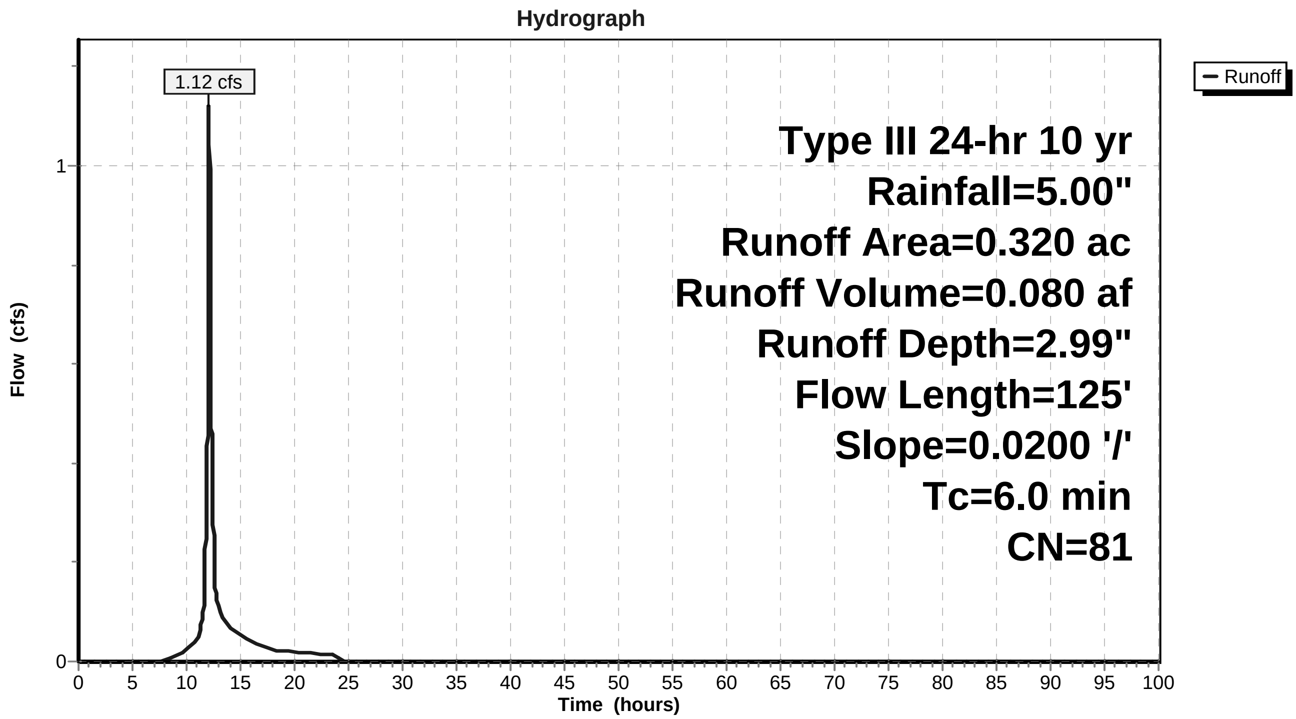
Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.100	98	Paved parking & roofs
0.120	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.320	81	Weighted Average
0.220		68.75% Pervious Area
0.100		31.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9A:



Summary for Subcatchment CB9B:

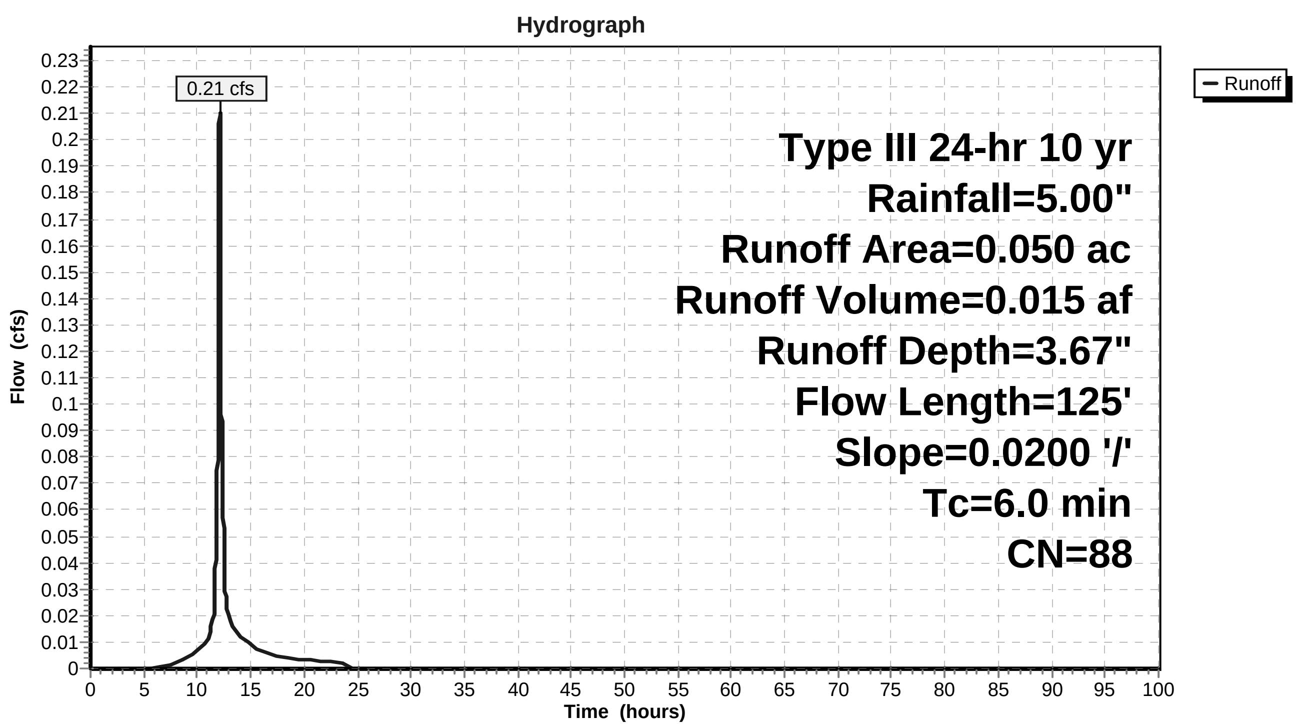
Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.020	74	>75% Grass cover, Good, HSG C
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9B:



Summary for Subcatchment I-14A:

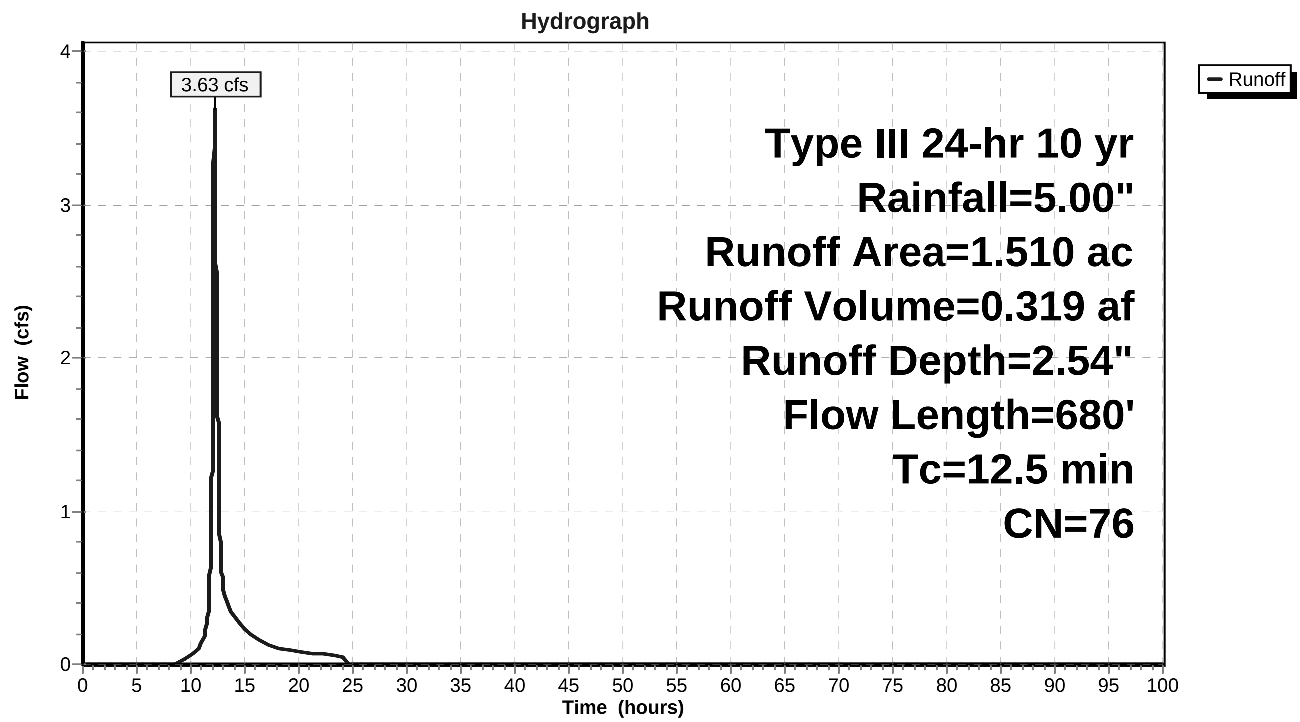
Runoff = 3.63 cfs @ 12.18 hrs, Volume= 0.319 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.160	98	Paved parking & roofs
0.140	73	Woods, Fair, HSG C
1.210	74	>75% Grass cover, Good, HSG C
1.510	76	Weighted Average
1.350		89.40% Pervious Area
0.160		10.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.2	80	0.1250	5.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.5	500	0.0160	2.39	11.95	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
12.5	680	Total			

Subcatchment I-14A:



Summary for Subcatchment IN-CB1A:

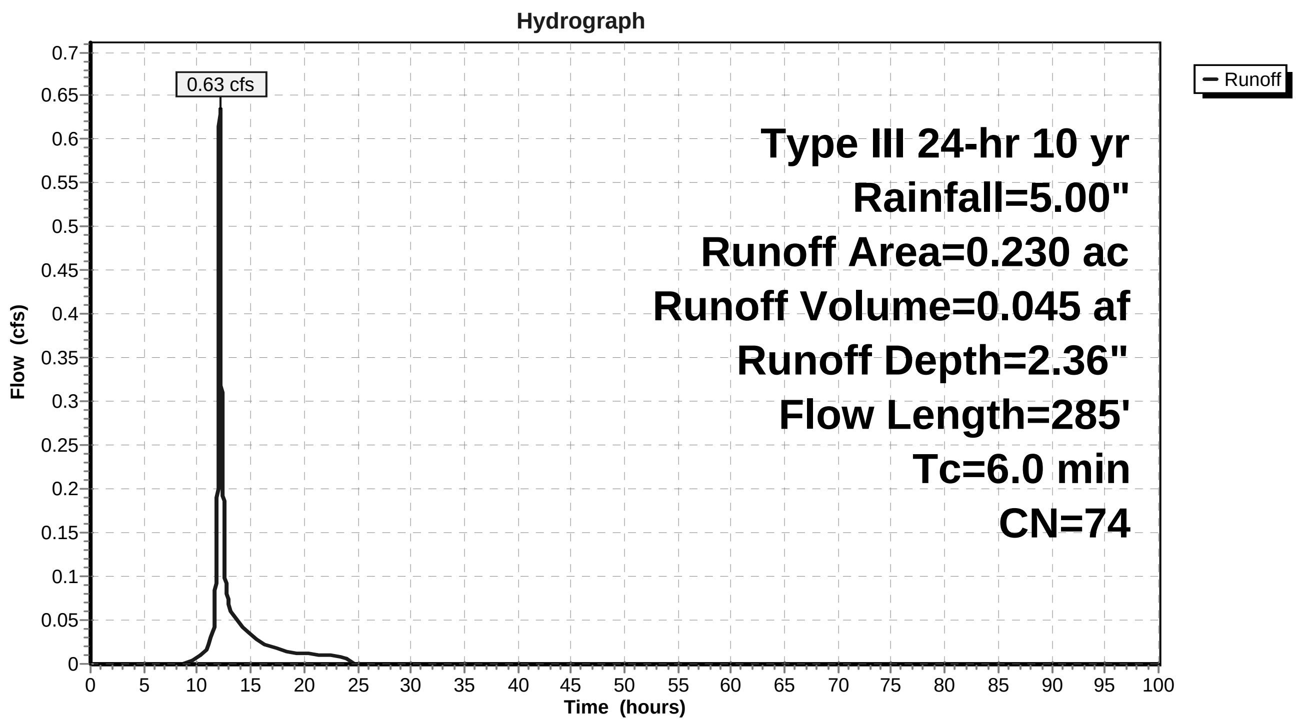
Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.045 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	55	0.9000	0.50		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	230	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.5	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment IN-CB1A:



Summary for Subcatchment P-2:

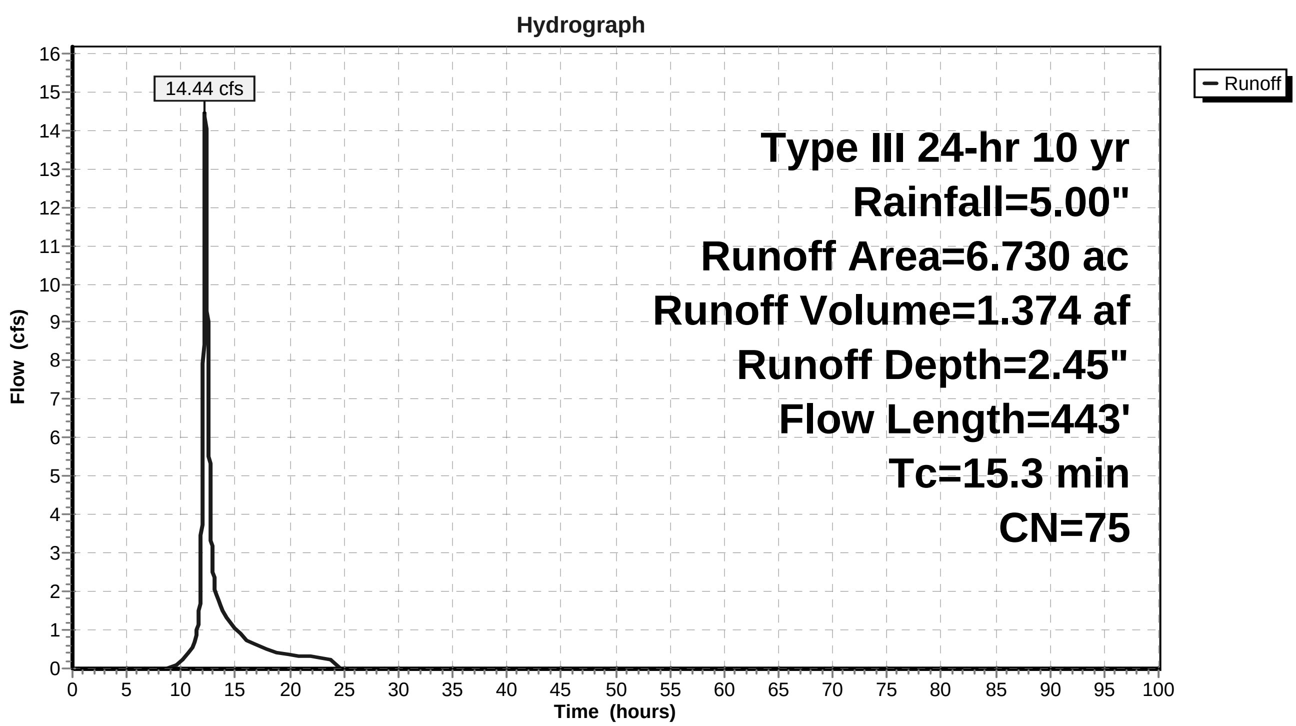
Runoff = 14.44 cfs @ 12.22 hrs, Volume= 1.374 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
3.680	73	Woods, Fair, HSG C
0.200	98	Paved parking & roofs
2.720	74	>75% Grass cover, Good, HSG C
0.130	98	Water Surface, HSG C
6.730	75	Weighted Average
6.400		95.10% Pervious Area
0.330		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.6	343	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.3	443	Total			

Subcatchment P-2:



Summary for Subcatchment P-3:

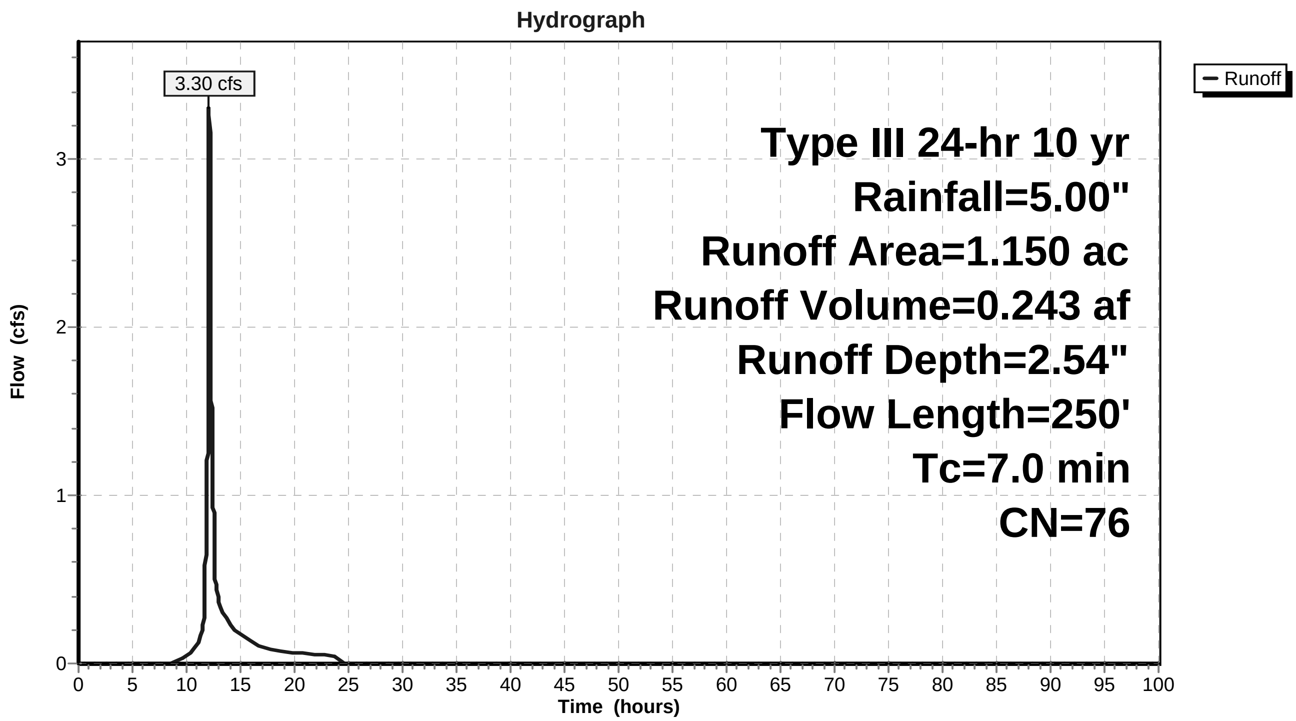
Runoff = 3.30 cfs @ 12.10 hrs, Volume= 0.243 af, Depth= 2.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.460	74	>75% Grass cover, Good, HSG C
0.050	98	Paved parking & roofs
0.580	73	Woods, Fair, HSG C
0.060	98	Water Surface, HSG C
1.150	76	Weighted Average
1.040		90.43% Pervious Area
0.110		9.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.1200	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.3	150	0.3000	8.82		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	250	Total			

Subcatchment P-3:



Summary for Subcatchment P1:

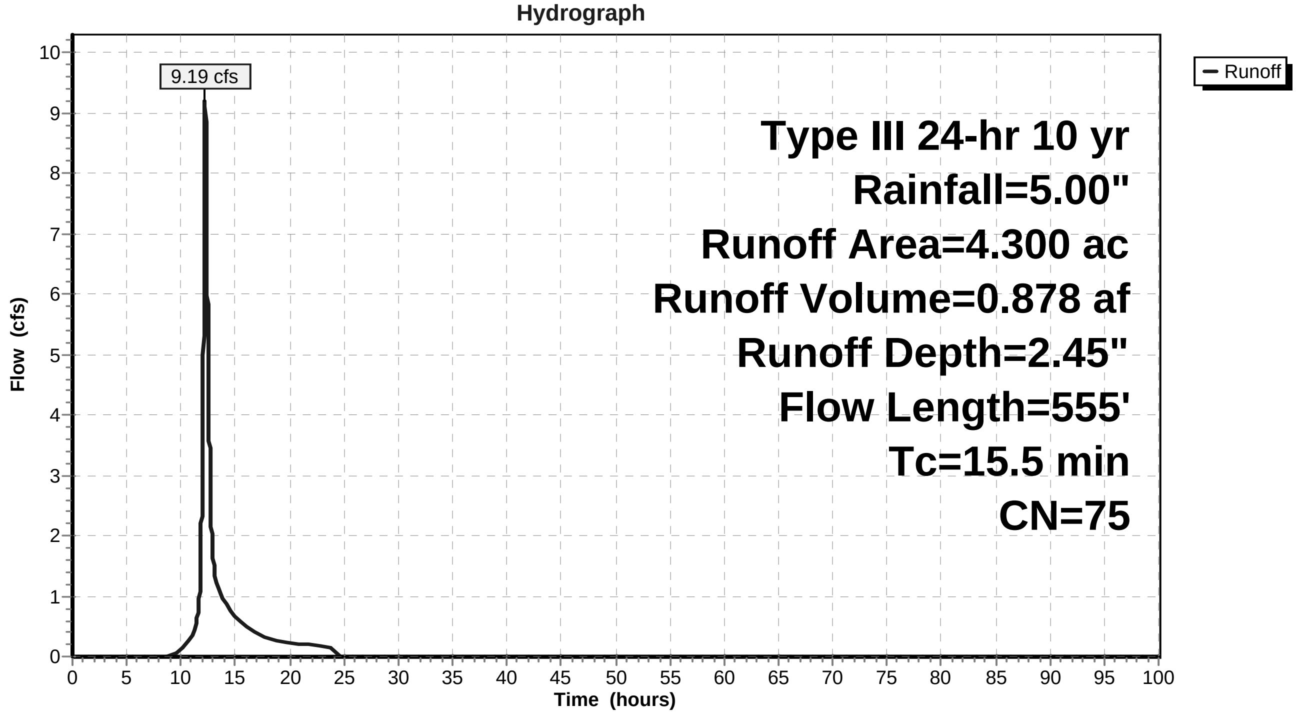
Runoff = 9.19 cfs @ 12.21 hrs, Volume= 0.878 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
2.990	73	Woods, Fair, HSG C
1.000	74	>75% Grass cover, Good, HSG C
0.120	89	Gravel roads, HSG C
0.050	98	Water Surface, HSG C
4.300	75	Weighted Average
4.110		95.58% Pervious Area
0.190		4.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	155	0.0600	3.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	300	0.2260	8.45	25.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 2.0 '/' Top.W=5.00' n= 0.056
15.5	555	Total			

Subcatchment P1:



Summary for Subcatchment SW1A:

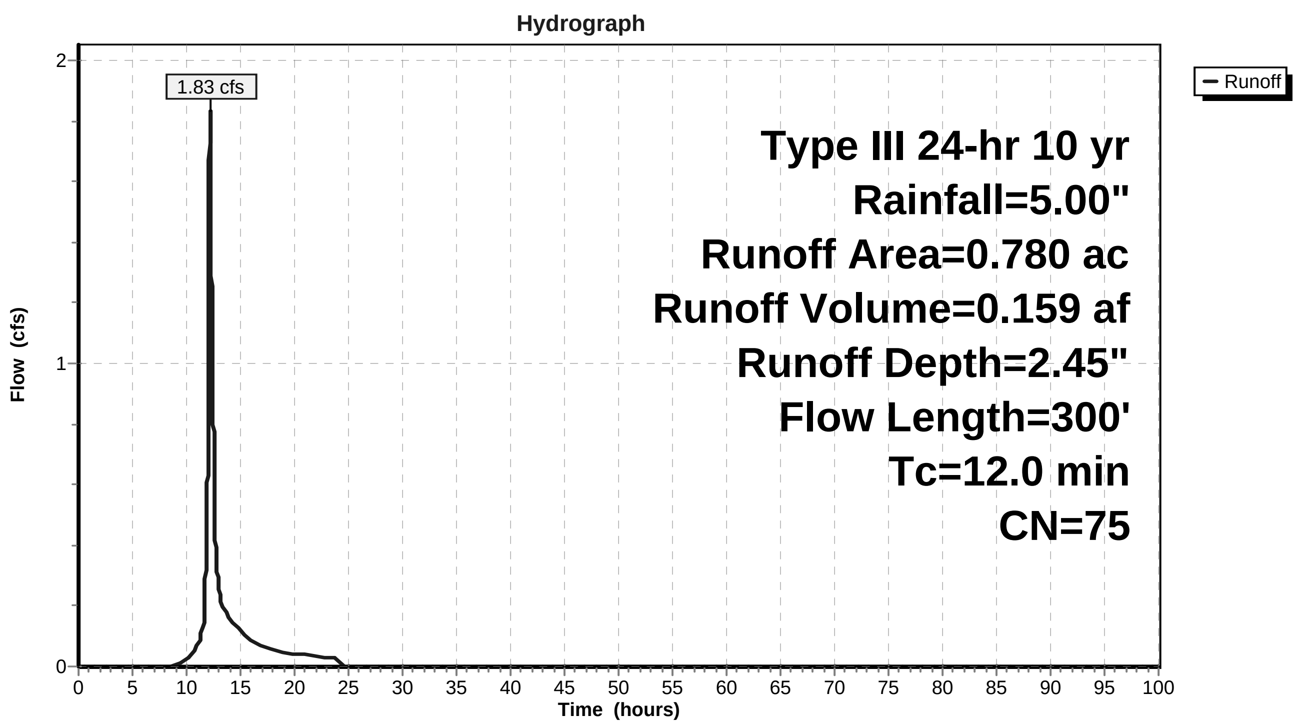
Runoff = 1.83 cfs @ 12.17 hrs, Volume= 0.159 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.090	73	Woods, Fair, HSG C
0.640	74	>75% Grass cover, Good, HSG C
0.780	75	Weighted Average
0.730		93.59% Pervious Area
0.050		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	50	0.1000	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.1	200	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.0	300	Total			

Subcatchment SW1A:



Summary for Subcatchment SW1B:

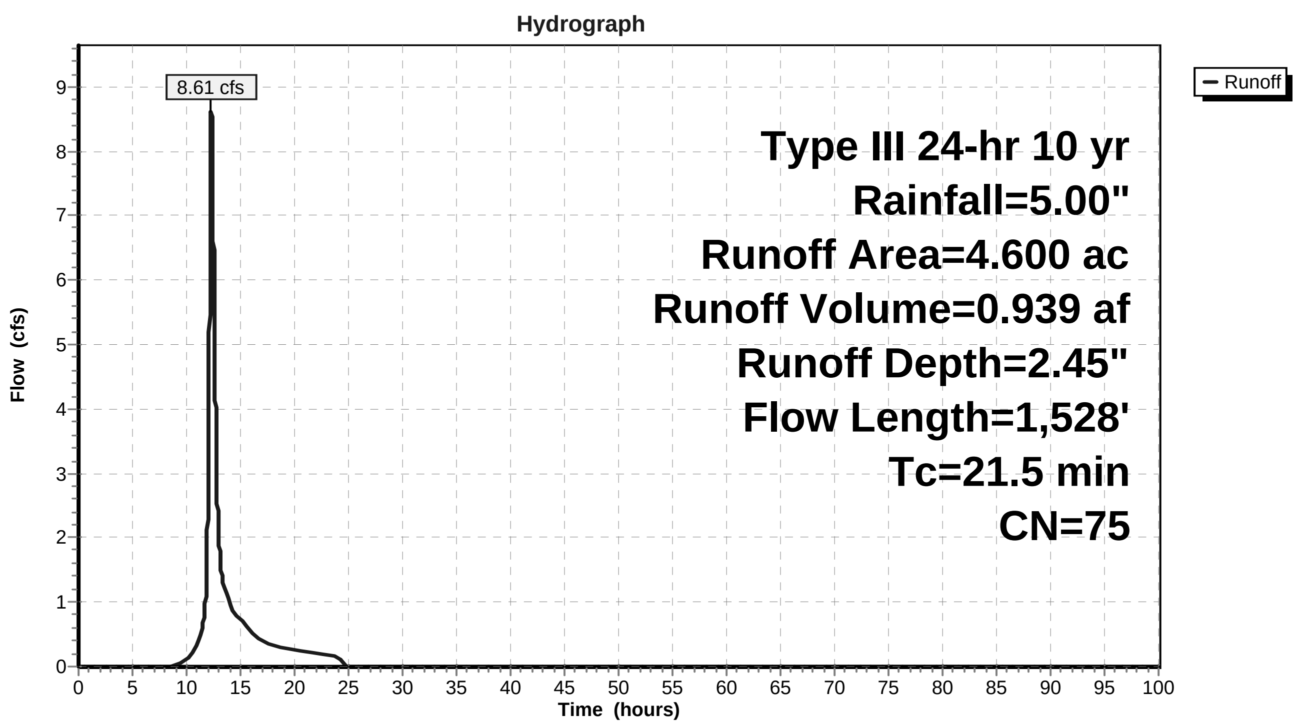
Runoff = 8.61 cfs @ 12.30 hrs, Volume= 0.939 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.290	98	Paved parking & roofs
1.890	73	Woods, Fair, HSG C
2.370	74	>75% Grass cover, Good, HSG C
0.050	70	Brush, Fair, HSG C
4.600	75	Weighted Average
4.310		93.70% Pervious Area
0.290		6.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0650	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.4	300	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,128	0.0180	2.59	12.31	**Trap/Vee/Rect Channel Flow,** Bot.W=2.25' D=1.00' Z= 2.0 & 3.0 '/' Top.W=7.25' n= 0.056
21.5	1,528	Total			

Subcatchment SW1B:



Summary for Subcatchment SW1C:

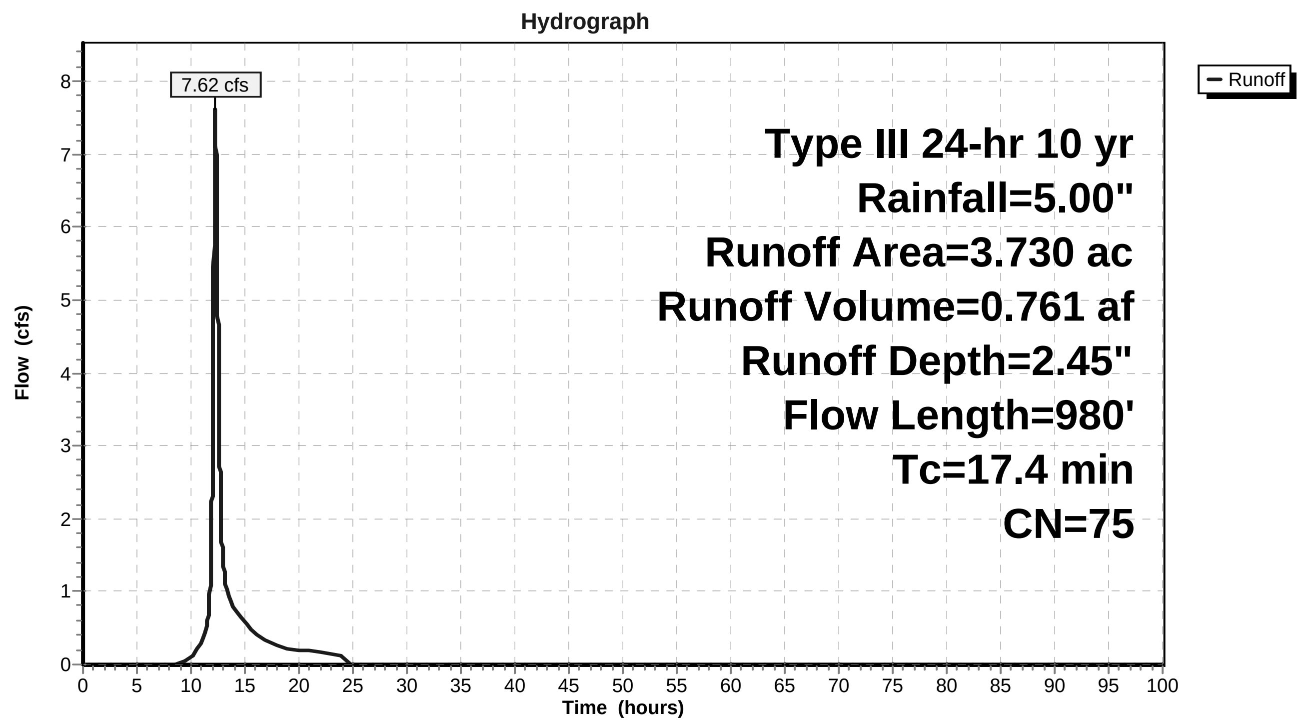
Runoff = 7.62 cfs @ 12.24 hrs, Volume= 0.761 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.230	98	Paved parking & roofs
1.590	73	Woods, Fair, HSG C
1.910	74	>75% Grass cover, Good, HSG C
3.730	75	Weighted Average
3.500		93.83% Pervious Area
0.230		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.4	600	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	280	0.0140	2.24	11.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
17.4	980	Total			

Subcatchment SW1C:



Summary for Subcatchment WQVP:

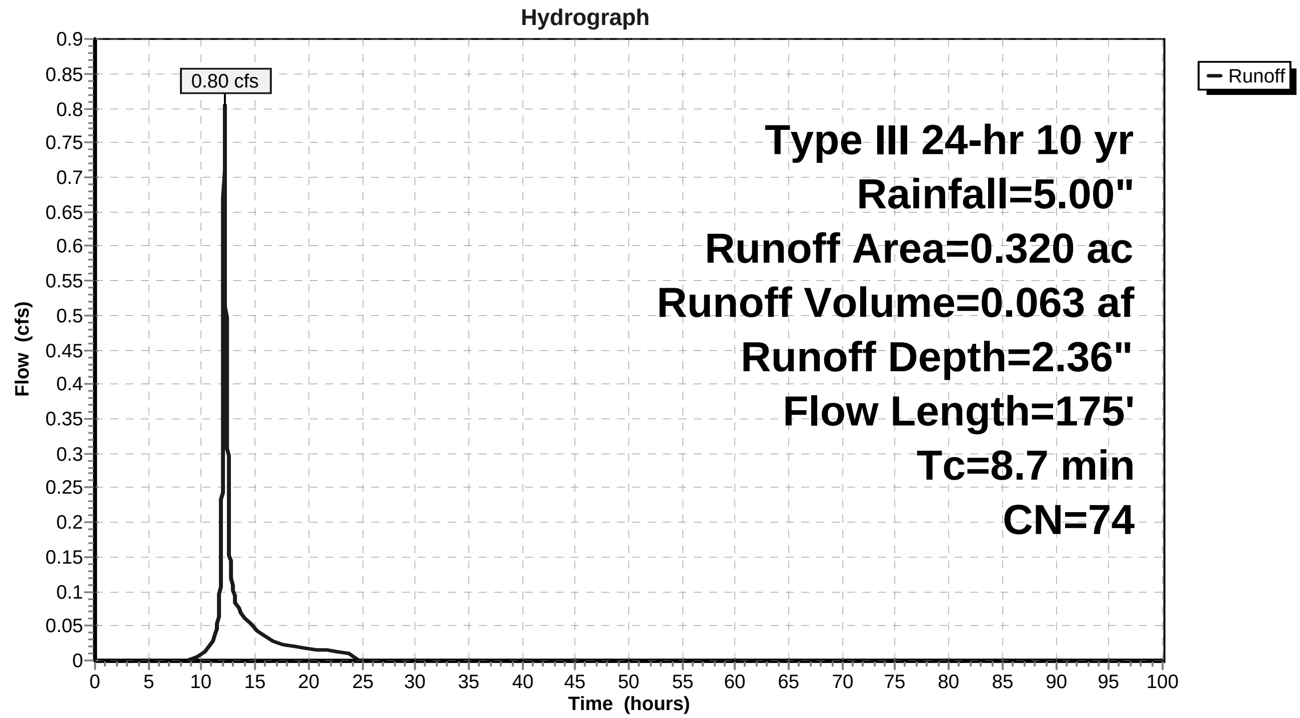
Runoff = 0.80 cfs @ 12.13 hrs, Volume= 0.063 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 yr Rainfall=5.00"

Area (ac)	CN	Description
0.060	73	Woods, Fair, HSG C
0.260	74	>75% Grass cover, Good, HSG C
0.320	74	Weighted Average
0.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	30	0.1800	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
6.4	70	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.3500	9.52		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	175	Total			

Subcatchment WQVP:

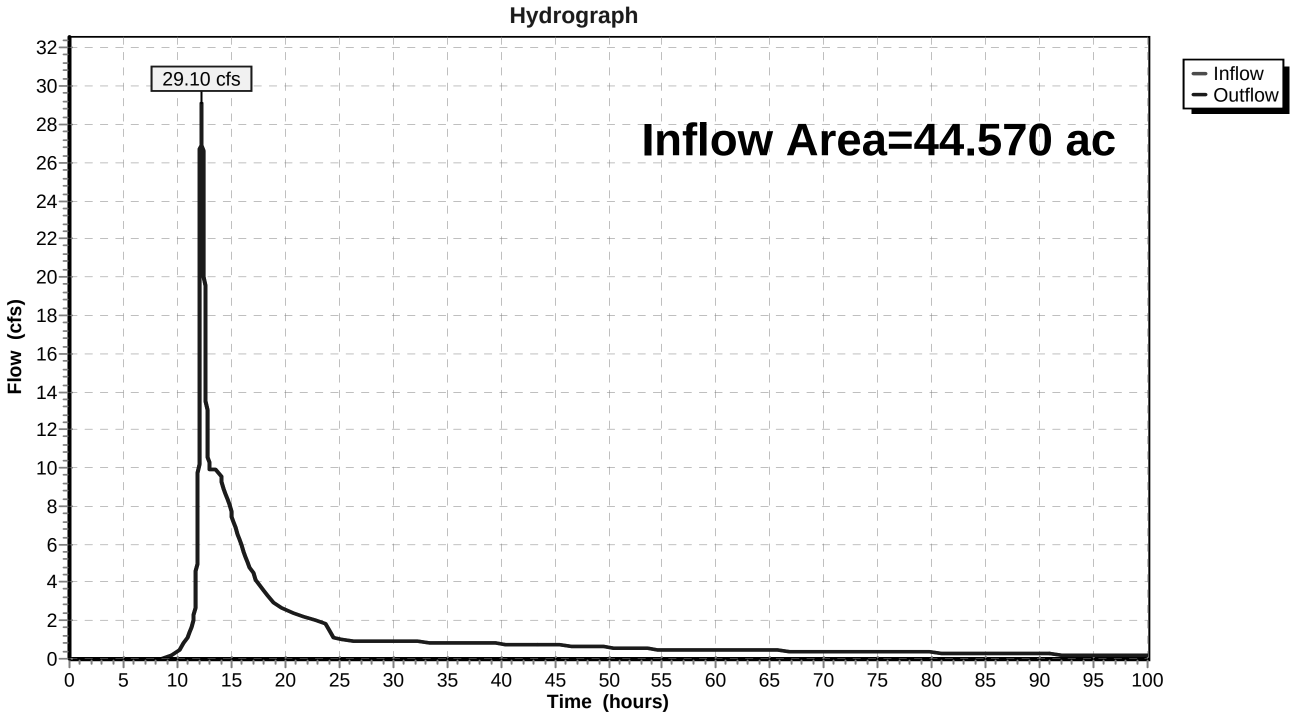


Summary for Reach dp1:

Inflow Area = 44.570 ac, 9.50% Impervious, Inflow Depth > 2.47" for 10 yr event
Inflow = 29.10 cfs @ 12.24 hrs, Volume= 9.164 af
Outflow = 29.10 cfs @ 12.24 hrs, Volume= 9.164 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

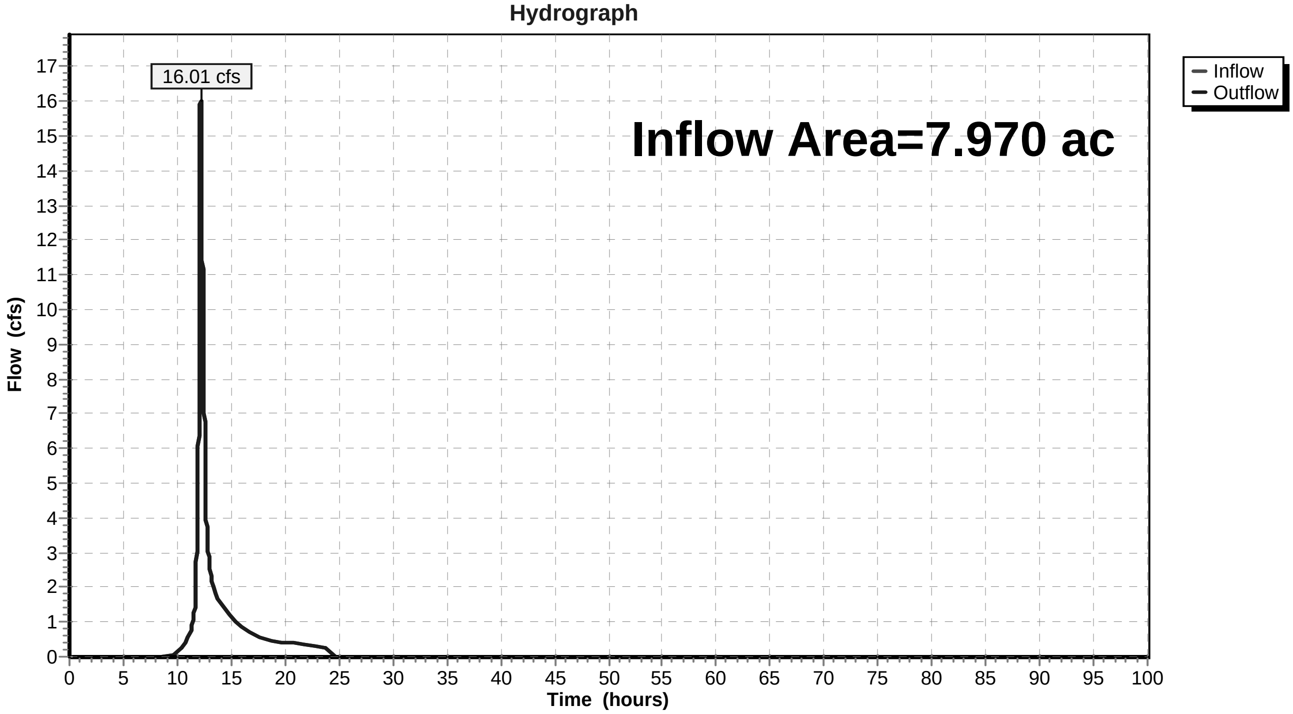


Summary for Reach dp2:

Inflow Area = 7.970 ac, 0.00% Impervious, Inflow Depth = 2.27" for 10 yr event
Inflow = 16.01 cfs @ 12.15 hrs, Volume= 1.504 af
Outflow = 16.01 cfs @ 12.15 hrs, Volume= 1.504 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



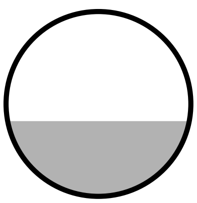
Summary for Reach IN14A:

Inflow Area = 1.510 ac, 10.60% Impervious, Inflow Depth = 2.54" for 10 yr event
Inflow = 3.63 cfs @ 12.18 hrs, Volume= 0.319 af
Outflow = 3.63 cfs @ 12.18 hrs, Volume= 0.319 af, Atten= 0%, Lag= 0.0 min

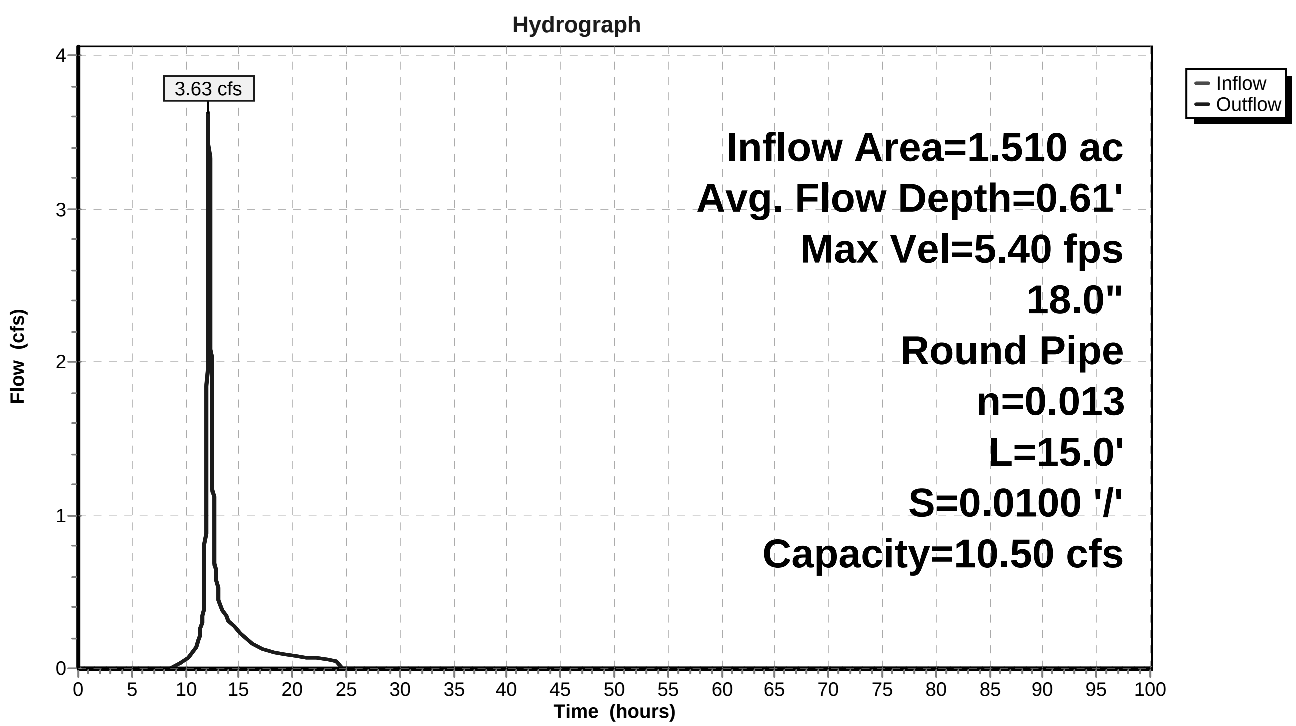
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.40 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.06 fps, Avg. Travel Time= 0.1 min

Peak Storage= 10 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.61'
Defined Flood Depth= 366.83', Capacity at Flood Depth= -10,724.81 cfs
Bank-Full Depth= 1.50', Capacity at Bank-Full= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 15.0' Slope= 0.0100 '/'
Inlet Invert= 362.00', Outlet Invert= 361.85'



Reach IN14A:



Summary for Reach SW:

Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 2.45" for 10 yr event
Inflow = 17.48 cfs @ 12.26 hrs, Volume= 1.859 af
Outflow = 17.33 cfs @ 12.29 hrs, Volume= 1.859 af, Atten= 1%, Lag= 1.6 min

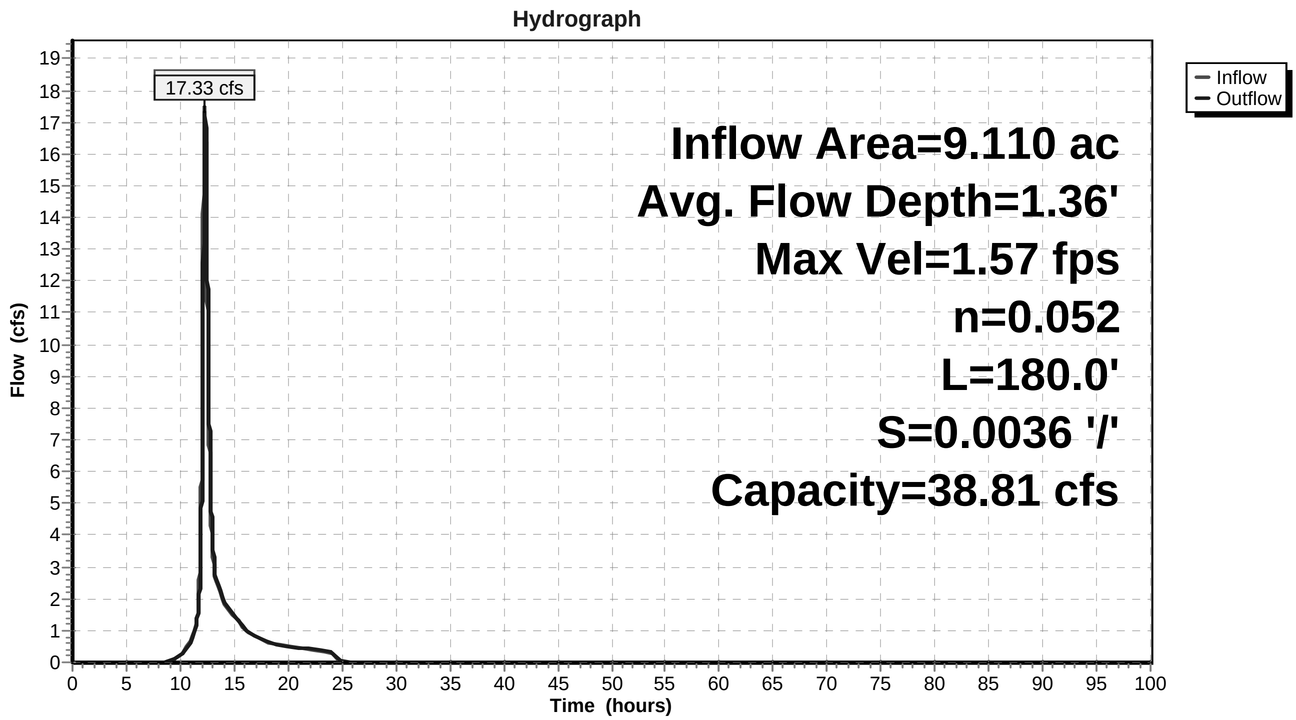
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.57 fps, Min. Travel Time= 1.9 min
Avg. Velocity = 0.55 fps, Avg. Travel Time= 5.5 min

Peak Storage= 1,987 cf @ 12.29 hrs
Average Depth at Peak Storage= 1.36'
Defined Flood Depth= 345.00', Capacity at Flood Depth= 14,324.68 cfs
Bank-Full Depth= 2.00', Capacity at Bank-Full= 38.81 cfs

4.00' x 2.00' deep channel, n= 0.052
Side Slope Z-value= 3.0 '/' Top Width= 16.00'
Length= 180.0' Slope= 0.0036 '/'
Inlet Invert= 341.45', Outlet Invert= 340.80'

‡

Reach SW:



Summary for Pond CB-10A:

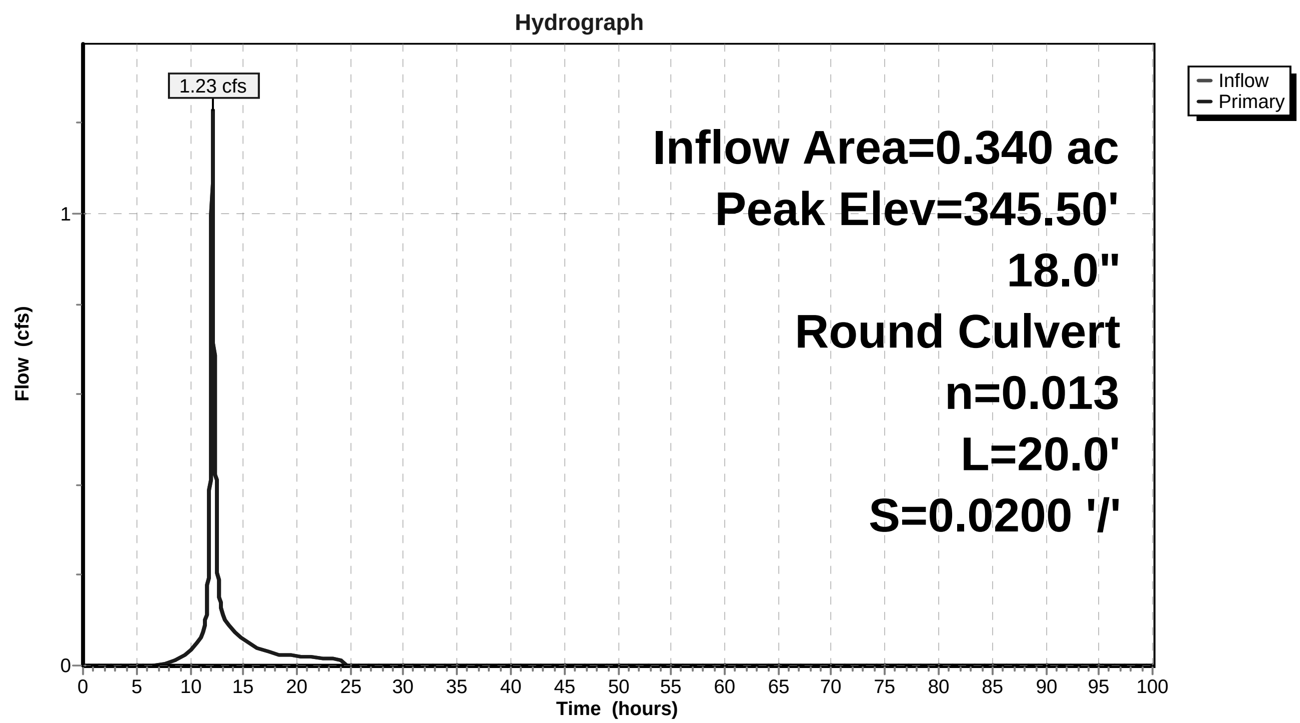
Inflow Area =	0.340 ac,	41.18% Impervious,	Inflow Depth = 3.27"	for 10 yr event
Inflow =	1.23 cfs @	12.11 hrs, Volume=	0.093 af	
Outflow =	1.23 cfs @	12.11 hrs, Volume=	0.093 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.23 cfs @	12.11 hrs, Volume=	0.093 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 345.50' @ 12.11 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.23 cfs @ 12.11 hrs HW=345.50' TW=344.90' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.23 cfs @ 2.40 fps)

Pond CB-10A:



Summary for Pond CB-10B:

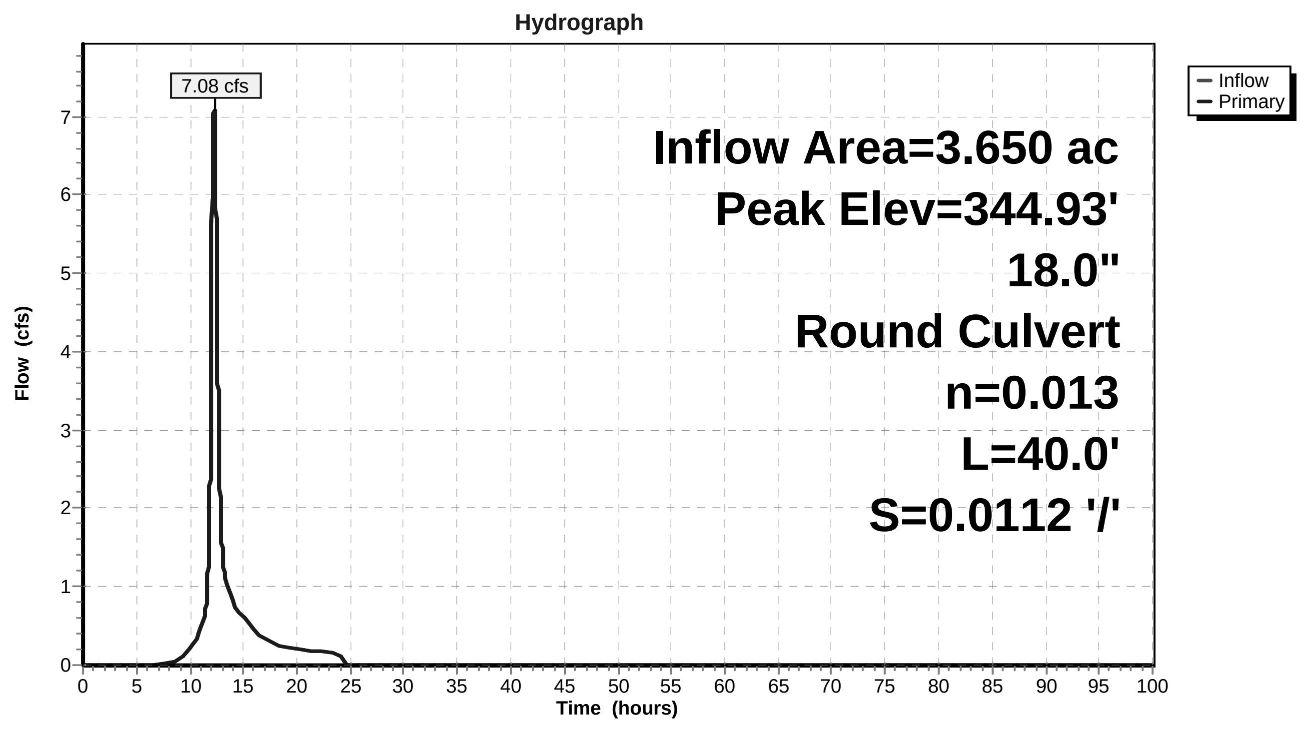
Inflow Area =	3.650 ac,	22.47% Impervious,	Inflow Depth = 2.82"	for 10 yr event
Inflow =	7.08 cfs @	12.26 hrs, Volume=	0.859 af	
Outflow =	7.08 cfs @	12.26 hrs, Volume=	0.859 af, Atten= 0%, Lag= 0.0 min	
Primary =	7.08 cfs @	12.26 hrs, Volume=	0.859 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 344.93' @ 12.26 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.45'	**18.0" Round Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.45' / 343.00' S= 0.0112 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.08 cfs @ 12.26 hrs HW=344.93' TW=335.89' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 7.08 cfs @ 5.05 fps)

Pond CB-10B:



Summary for Pond CB-11A:

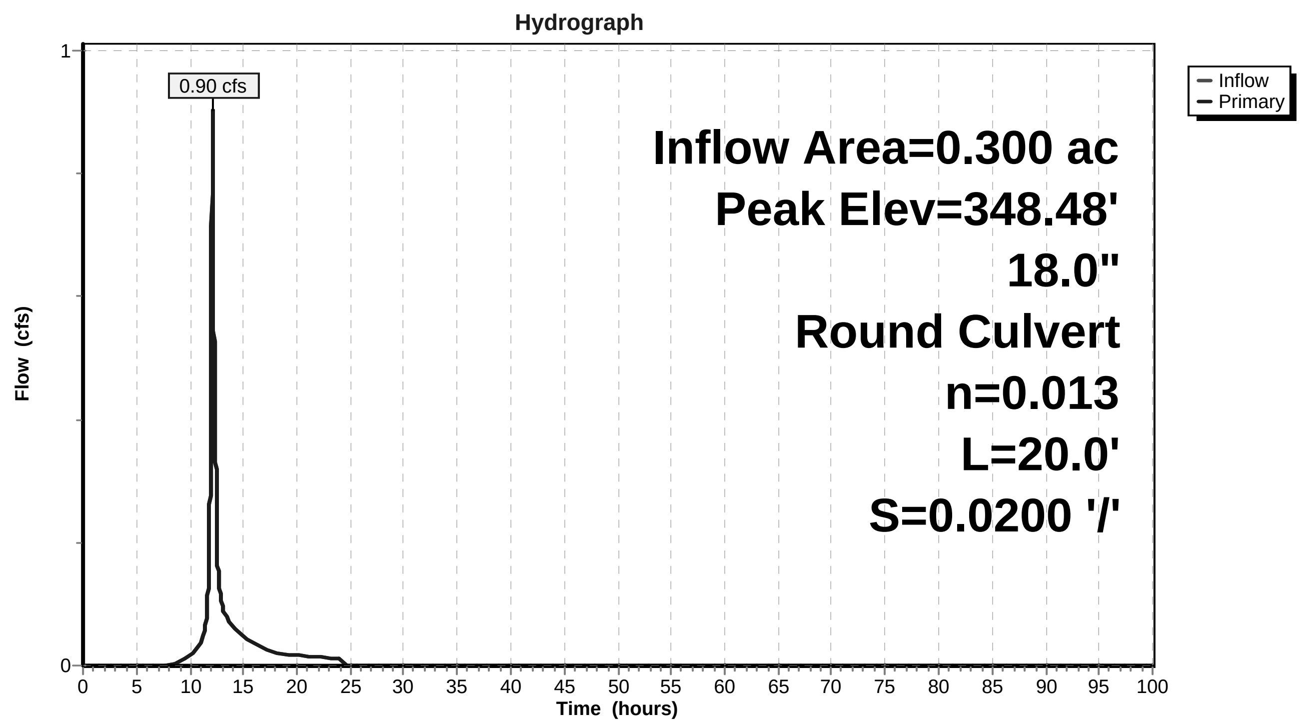
Inflow Area = 0.300 ac, 16.67% Impervious, Inflow Depth = 2.71" for 10 yr event
Inflow = 0.90 cfs @ 12.11 hrs, Volume= 0.068 af
Outflow = 0.90 cfs @ 12.11 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.11 hrs, Volume= 0.068 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.48' @ 12.27 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.81'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.81' / 347.41' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.90 cfs @ 12.11 hrs HW=348.42' TW=348.29' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.90 cfs @ 1.97 fps)

Pond CB-11A:



Summary for Pond CB-11B:

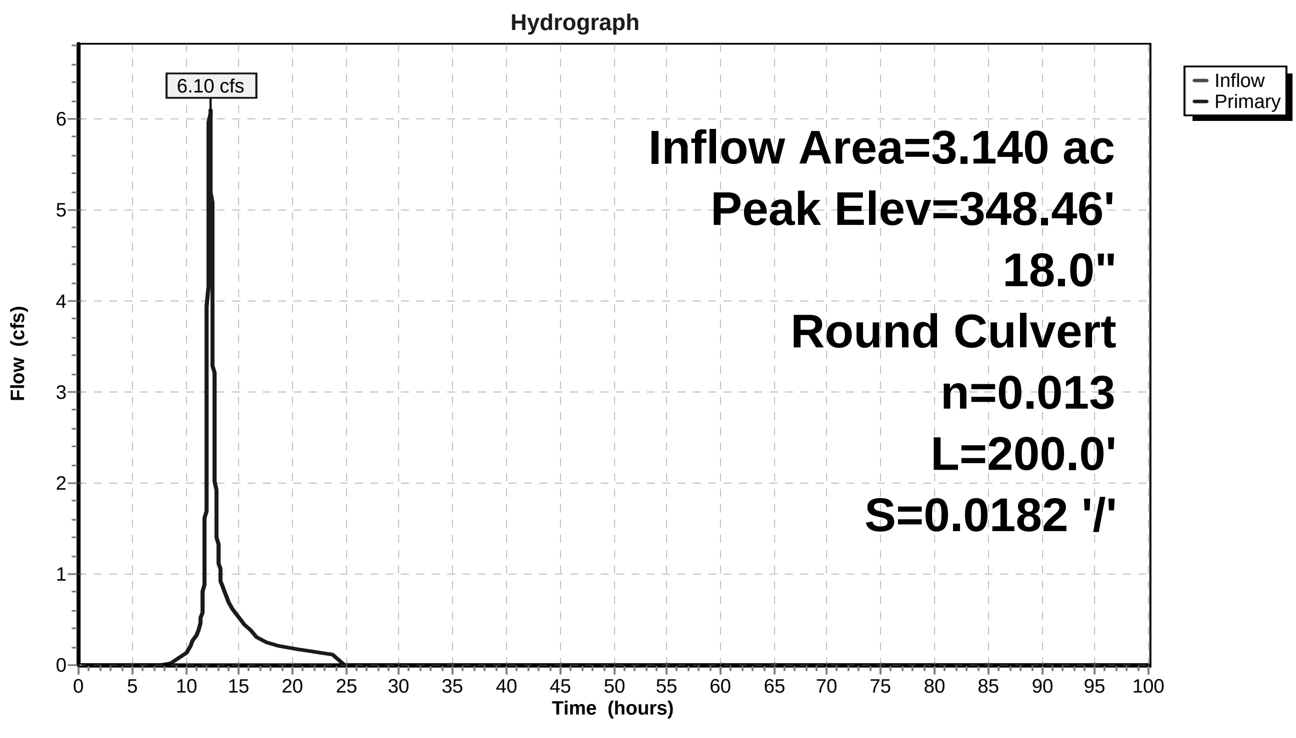
Inflow Area = 3.140 ac, 17.83% Impervious, Inflow Depth = 2.71" for 10 yr event
Inflow = 6.10 cfs @ 12.28 hrs, Volume= 0.710 af
Outflow = 6.10 cfs @ 12.28 hrs, Volume= 0.710 af, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 12.28 hrs, Volume= 0.710 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.46' @ 12.28 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.19'	**18.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.19' / 343.55' S= 0.0182 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.10 cfs @ 12.28 hrs HW=348.46' TW=344.92' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.10 cfs @ 3.83 fps)

Pond CB-11B:



Summary for Pond CB-12A:

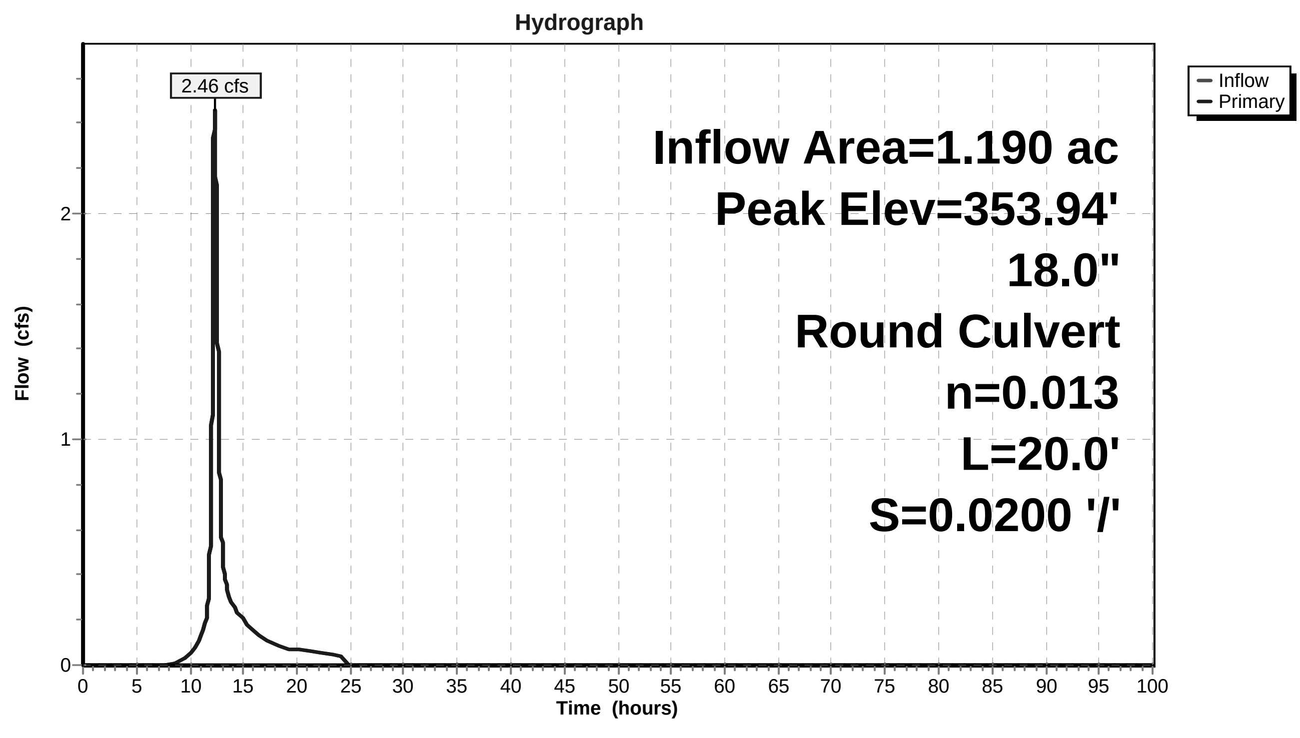
Inflow Area = 1.190 ac, 16.81% Impervious, Inflow Depth = 2.71" for 10 yr event
Inflow = 2.46 cfs @ 12.30 hrs, Volume= 0.269 af
Outflow = 2.46 cfs @ 12.30 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.30 hrs, Volume= 0.269 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.94' @ 12.30 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	353.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 353.00' / 352.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.46 cfs @ 12.30 hrs HW=353.94' TW=353.68' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 2.46 cfs @ 2.99 fps)

Pond CB-12A:



Summary for Pond CB-12B:

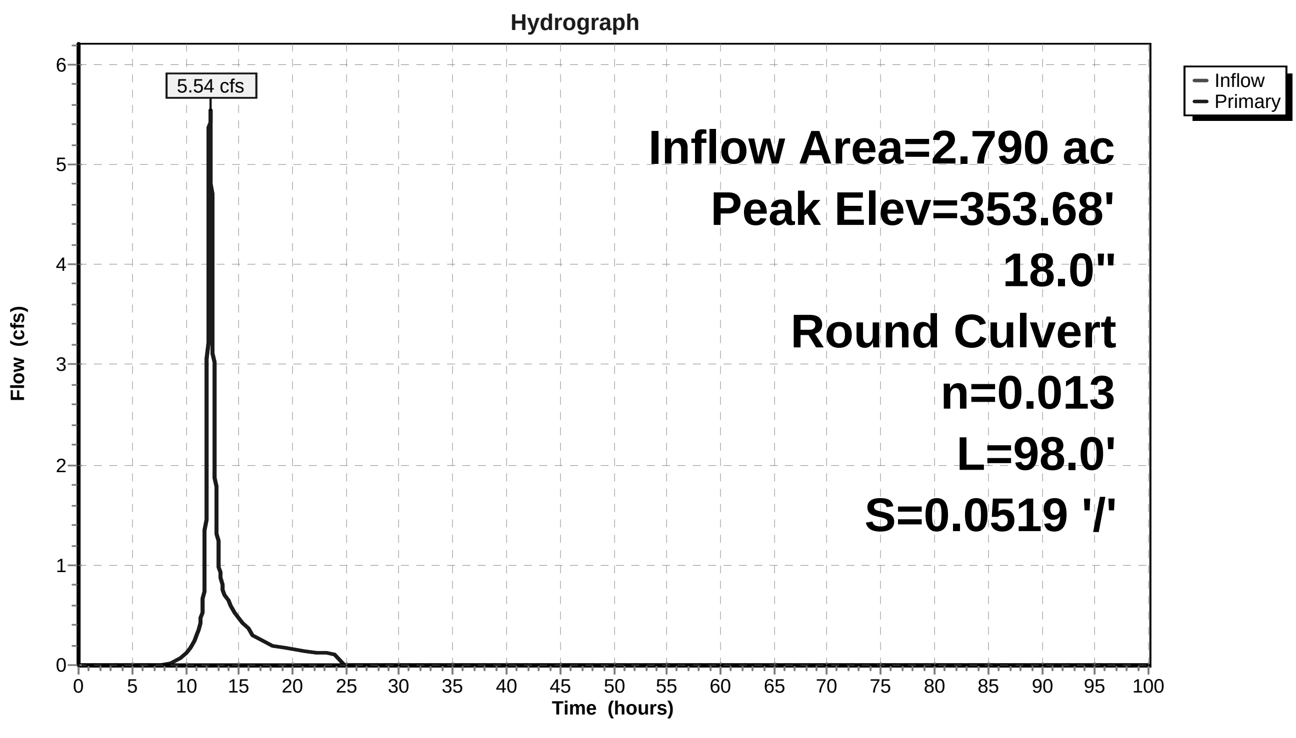
Inflow Area =	2.790 ac,	17.56% Impervious, Inflow Depth = 2.70"	for 10 yr event	
Inflow =	5.54 cfs @	12.29 hrs, Volume=	0.628 af	
Outflow =	5.54 cfs @	12.29 hrs, Volume=	0.628 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.54 cfs @	12.29 hrs, Volume=	0.628 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.68' @ 12.29 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	352.50'	**18.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 352.50' / 347.41' S= 0.0519 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.54 cfs @ 12.29 hrs HW=353.68' TW=348.45' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 5.54 cfs @ 3.70 fps)

Pond CB-12B:



Summary for Pond CB-13A:

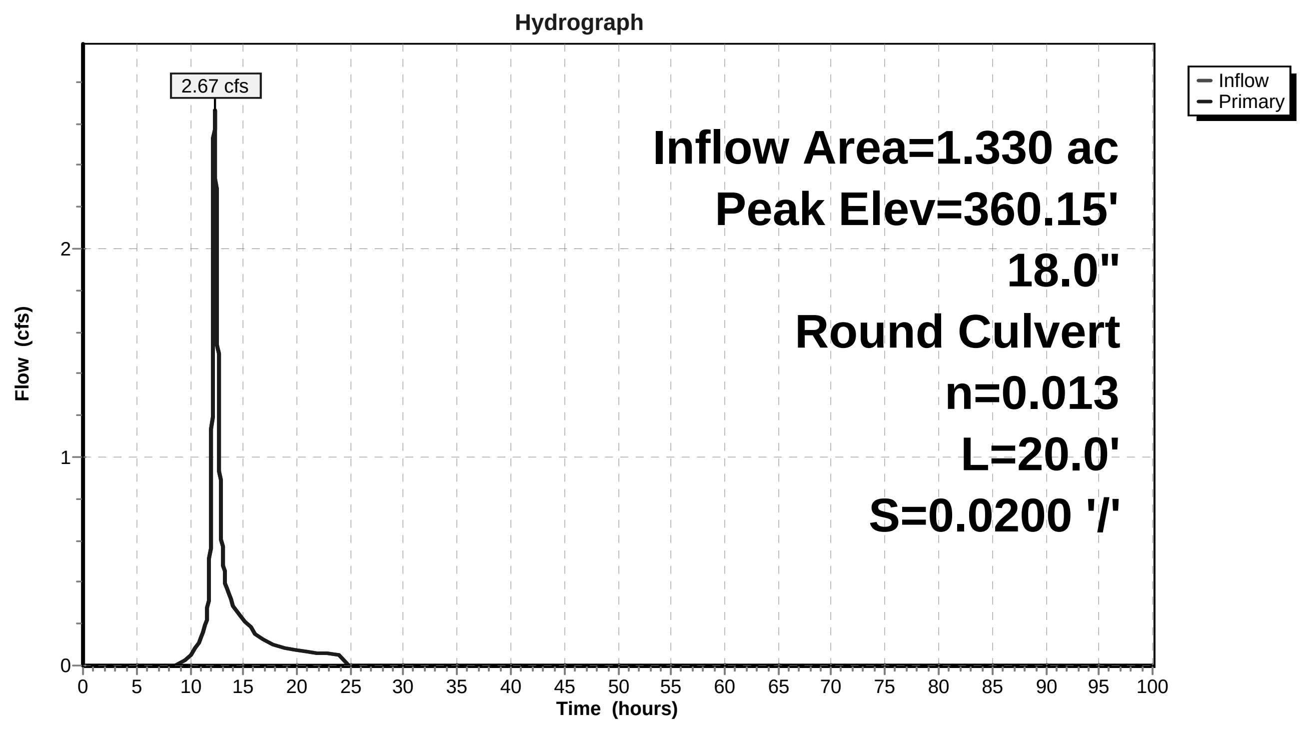
Inflow Area = 1.330 ac, 15.04% Impervious, Inflow Depth = 2.62" for 10 yr event
Inflow = 2.67 cfs @ 12.31 hrs, Volume= 0.291 af
Outflow = 2.67 cfs @ 12.31 hrs, Volume= 0.291 af, Atten= 0%, Lag= 0.0 min
Primary = 2.67 cfs @ 12.31 hrs, Volume= 0.291 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 360.15' @ 12.31 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	359.35'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 359.35' / 358.95' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.67 cfs @ 12.31 hrs HW=360.15' TW=359.66' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.67 cfs @ 4.04 fps)

Pond CB-13A:



Summary for Pond CB-13B:

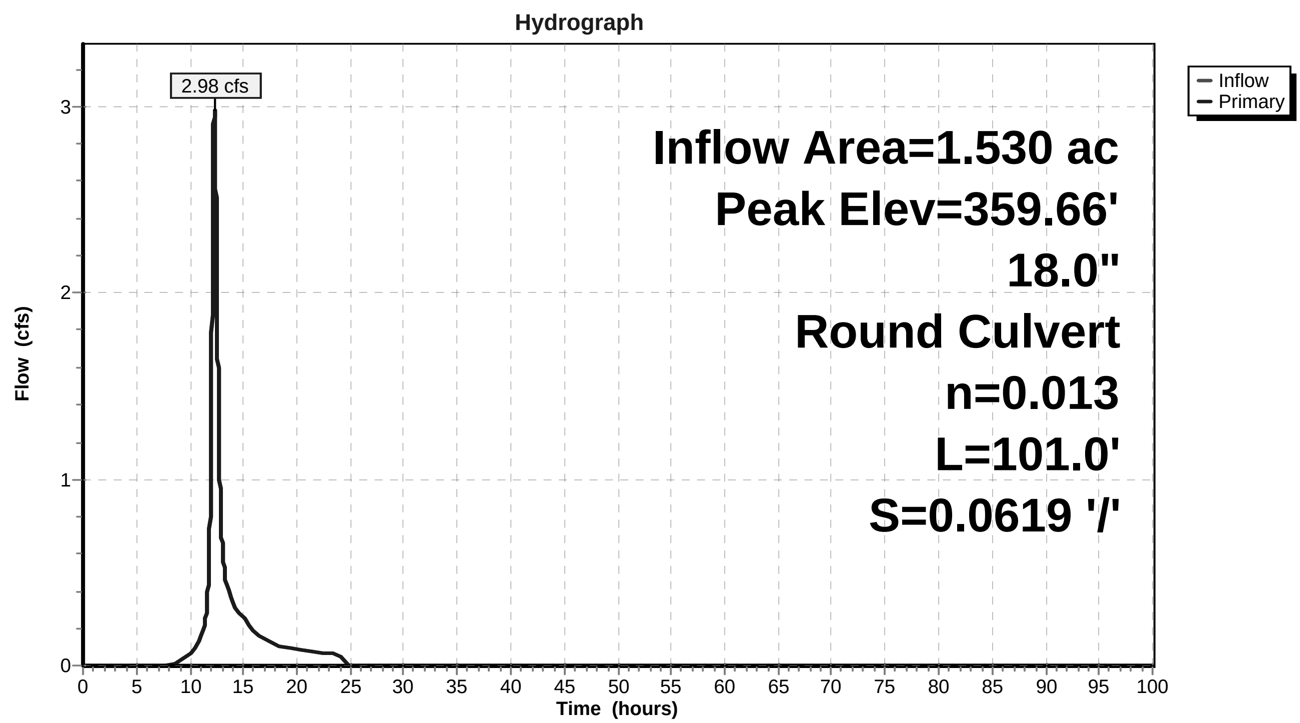
Inflow Area =	1.530 ac, 17.65% Impervious, Inflow Depth = 2.68" for 10 yr event			
Inflow =	2.98 cfs @	12.29 hrs, Volume=	0.342 af	
Outflow =	2.98 cfs @	12.29 hrs, Volume=	0.342 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.98 cfs @	12.29 hrs, Volume=	0.342 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 359.66' @ 12.29 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.85'	**18.0" Round Culvert** L= 101.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 358.85' / 352.60' S= 0.0619 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.98 cfs @ 12.29 hrs HW=359.66' TW=353.68' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.98 cfs @ 3.06 fps)

Pond CB-13B:



Summary for Pond CB-14A:

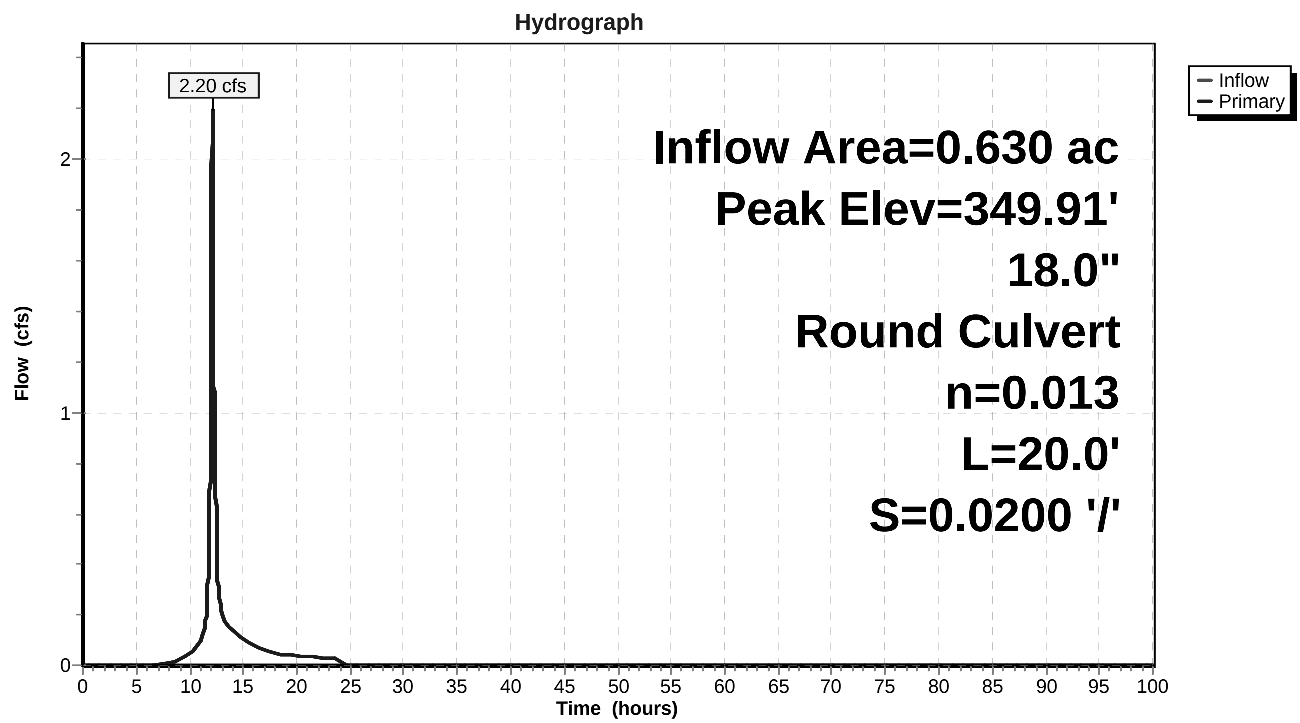
Inflow Area = 0.630 ac, 30.16% Impervious, Inflow Depth = 2.99" for 10 yr event
Inflow = 2.20 cfs @ 12.09 hrs, Volume= 0.157 af
Outflow = 2.20 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min
Primary = 2.20 cfs @ 12.09 hrs, Volume= 0.157 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.91' @ 12.09 hrs
Flood Elev= 364.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.08'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.08' / 348.68' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.19 cfs @ 12.09 hrs HW=349.91' TW=349.61' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.19 cfs @ 3.17 fps)

Pond CB-14A:



Summary for Pond CB-14B:

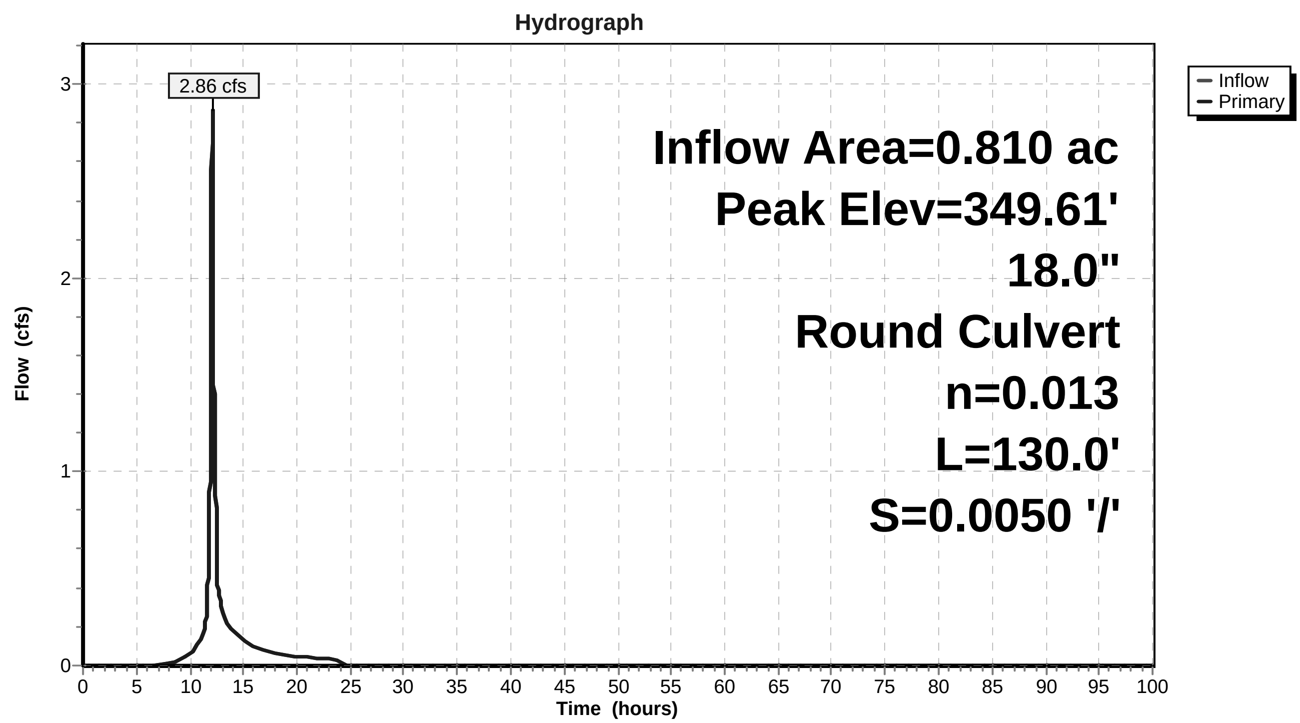
Inflow Area = 0.810 ac, 32.10% Impervious, Inflow Depth = 3.03" for 10 yr event
Inflow = 2.86 cfs @ 12.09 hrs, Volume= 0.205 af
Outflow = 2.86 cfs @ 12.09 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min
Primary = 2.86 cfs @ 12.09 hrs, Volume= 0.205 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.61' @ 12.10 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.58'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.58' / 347.93' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.86 cfs @ 12.09 hrs HW=349.61' TW=349.02' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.86 cfs @ 3.14 fps)

Pond CB-14B:



Summary for Pond CB-15A:

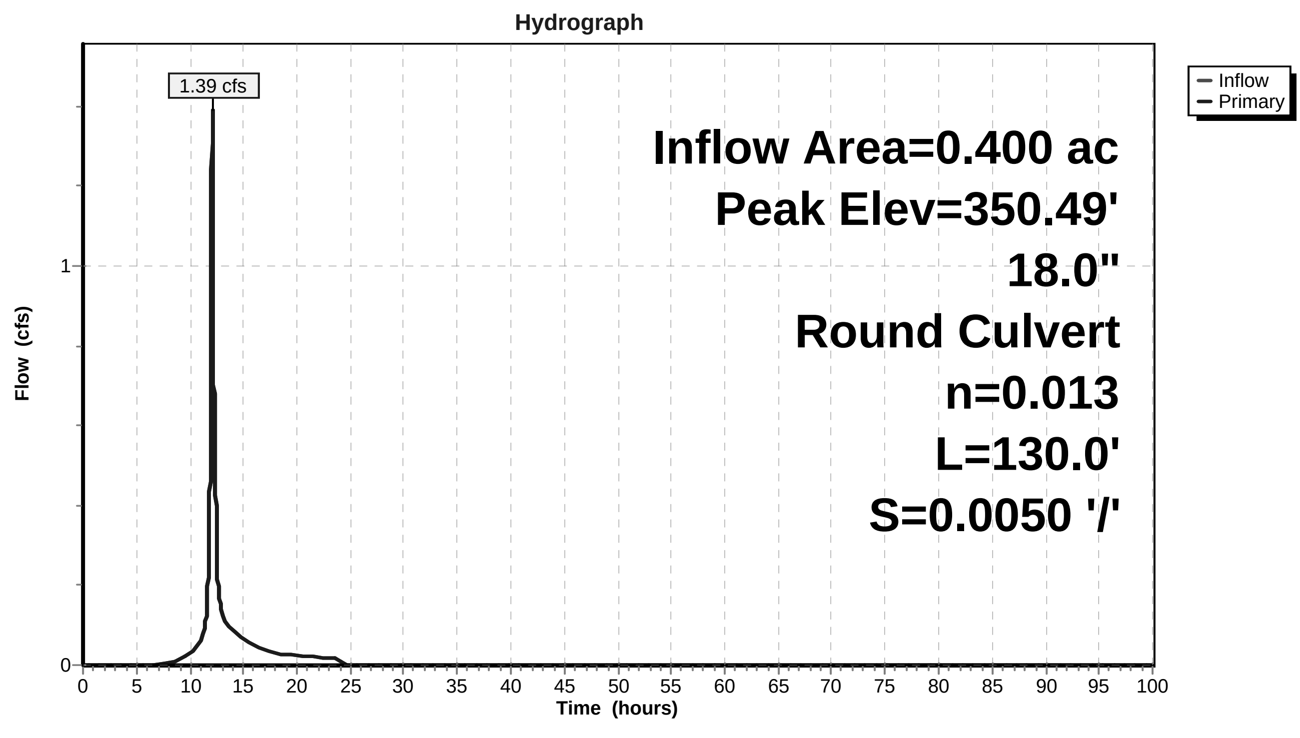
Inflow Area = 0.400 ac, 30.00% Impervious, Inflow Depth = 2.99" for 10 yr event
Inflow = 1.39 cfs @ 12.09 hrs, Volume= 0.100 af
Outflow = 1.39 cfs @ 12.09 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 12.09 hrs, Volume= 0.100 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.49' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.83'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.83' / 349.18' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.39 cfs @ 12.09 hrs HW=350.49' TW=349.91' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.39 cfs @ 2.72 fps)

Pond CB-15A:



Summary for Pond CB-15B:

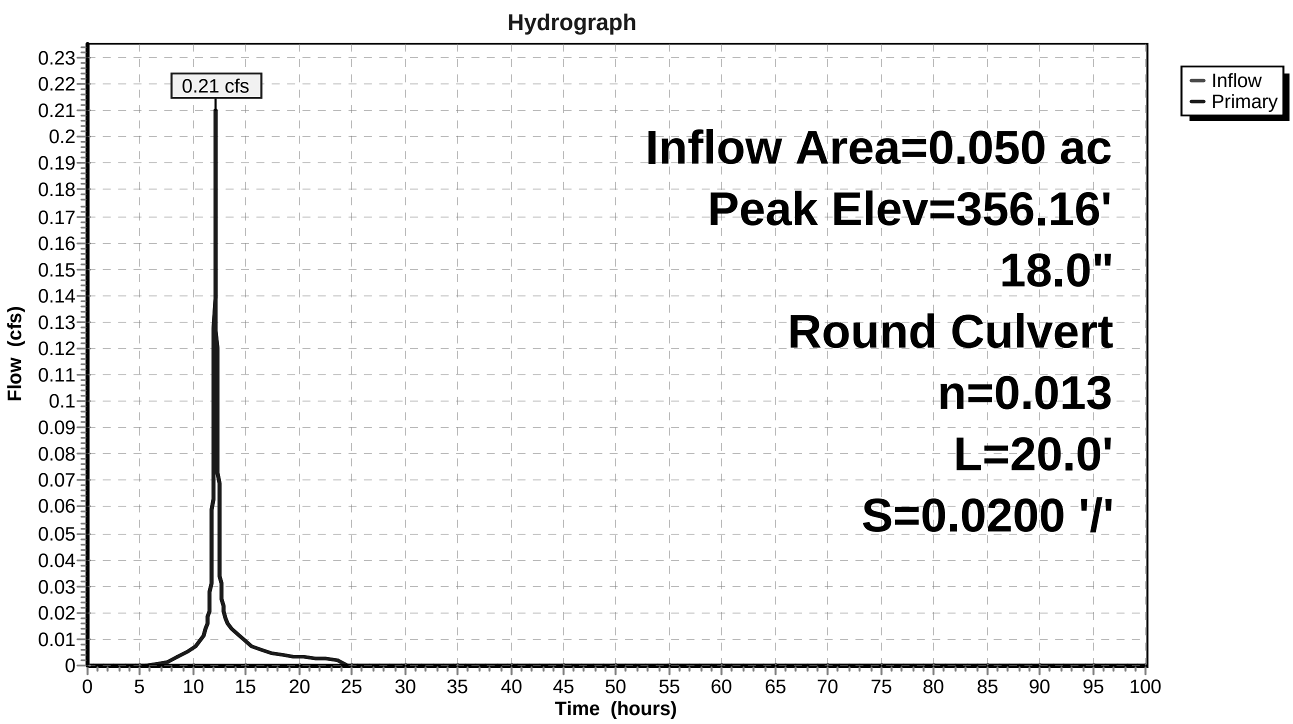
Inflow Area = 0.050 ac, 60.00% Impervious, Inflow Depth = 3.67" for 10 yr event
Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af
Outflow = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 12.09 hrs, Volume= 0.015 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 356.16' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	355.96'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 355.96' / 355.56' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.21 cfs @ 12.09 hrs HW=356.16' TW=350.49' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.21 cfs @ 1.52 fps)

Pond CB-15B:



Summary for Pond CB-16A:

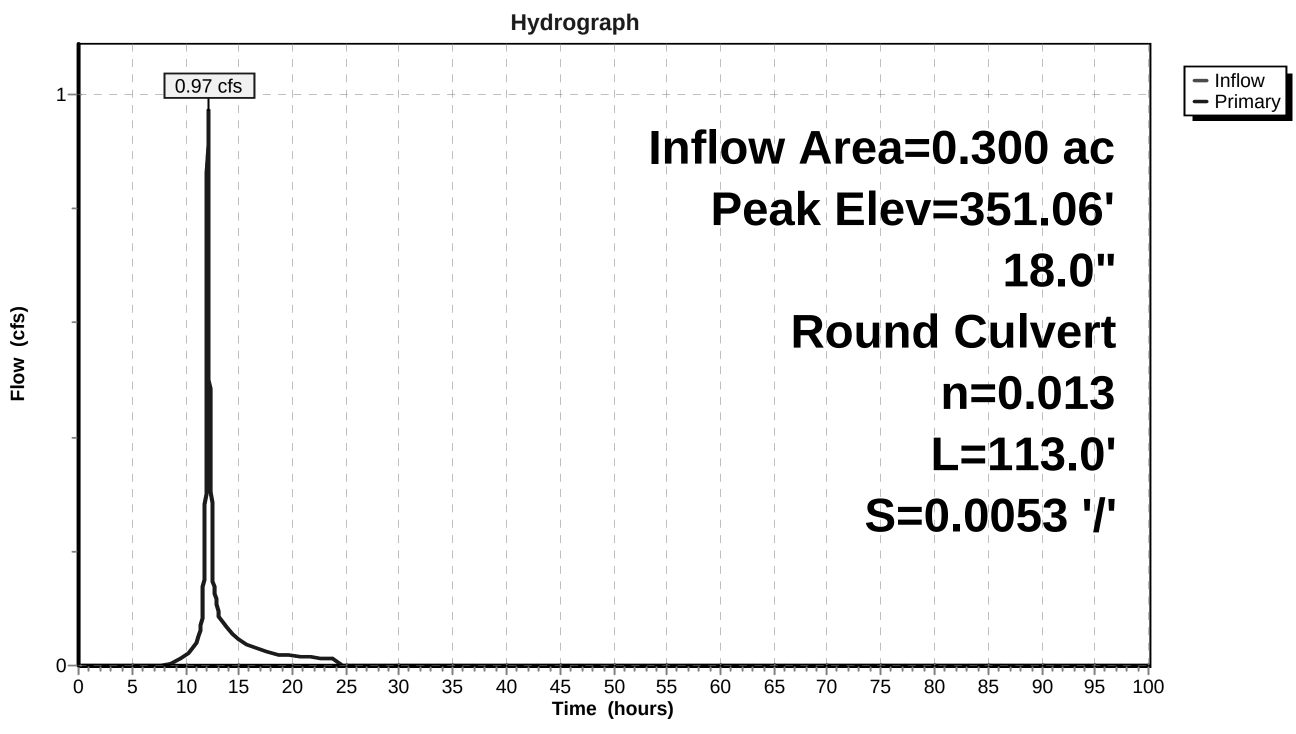
Inflow Area =	0.300 ac,	20.00% Impervious,	Inflow Depth = 2.77"	for 10 yr event
Inflow =	0.97 cfs @	12.09 hrs, Volume=	0.069 af	
Outflow =	0.97 cfs @	12.09 hrs, Volume=	0.069 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.97 cfs @	12.09 hrs, Volume=	0.069 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.06' @ 12.09 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	350.53'	**18.0" Round Culvert** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 350.53' / 349.93' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.97 cfs @ 12.09 hrs HW=351.06' TW=350.49' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.97 cfs @ 2.59 fps)

Pond CB-16A:



Summary for Pond CB-16B:

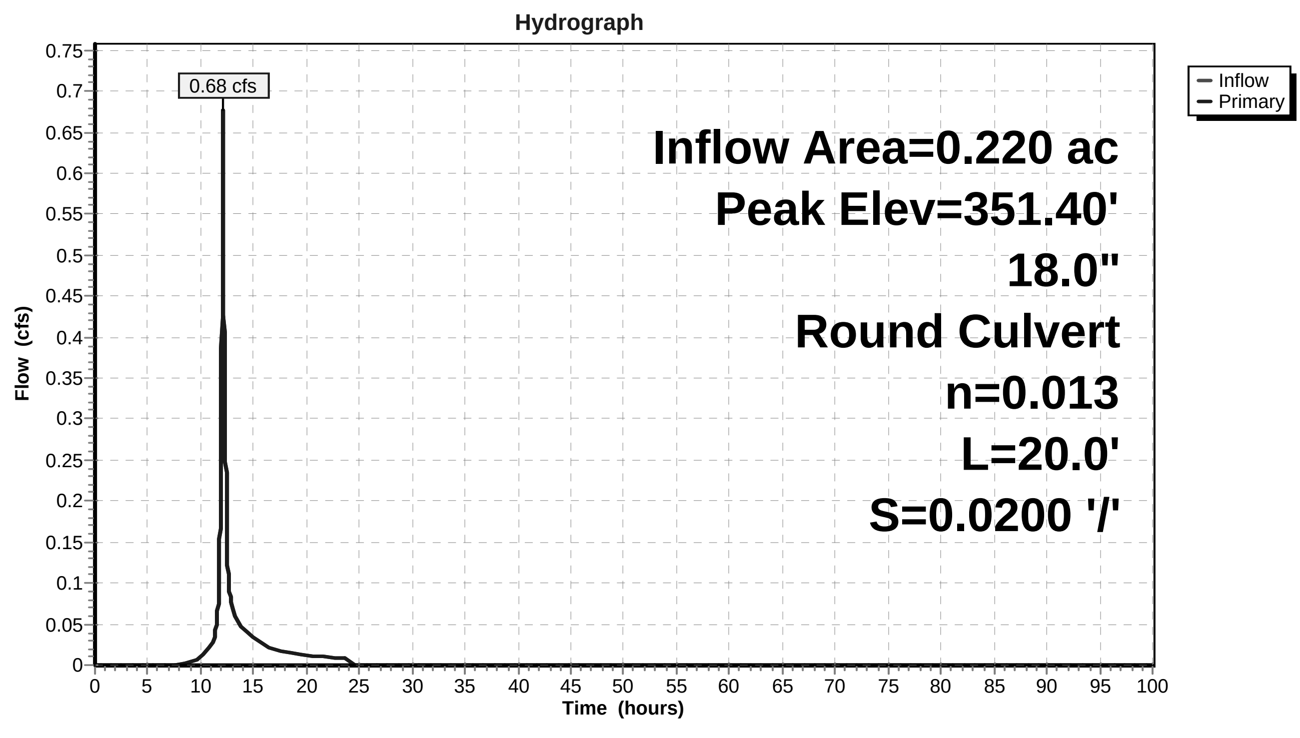
Inflow Area = 0.220 ac, 13.64% Impervious, Inflow Depth = 2.62" for 10 yr event
Inflow = 0.68 cfs @ 12.09 hrs, Volume= 0.048 af
Outflow = 0.68 cfs @ 12.09 hrs, Volume= 0.048 af, Atten= 0%, Lag= 0.0 min
Primary = 0.68 cfs @ 12.09 hrs, Volume= 0.048 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.40' @ 12.09 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	351.03'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 351.03' / 350.63' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.68 cfs @ 12.09 hrs HW=351.40' TW=351.06' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.68 cfs @ 2.95 fps)

Pond CB-16B:



Summary for Pond CB-17A:

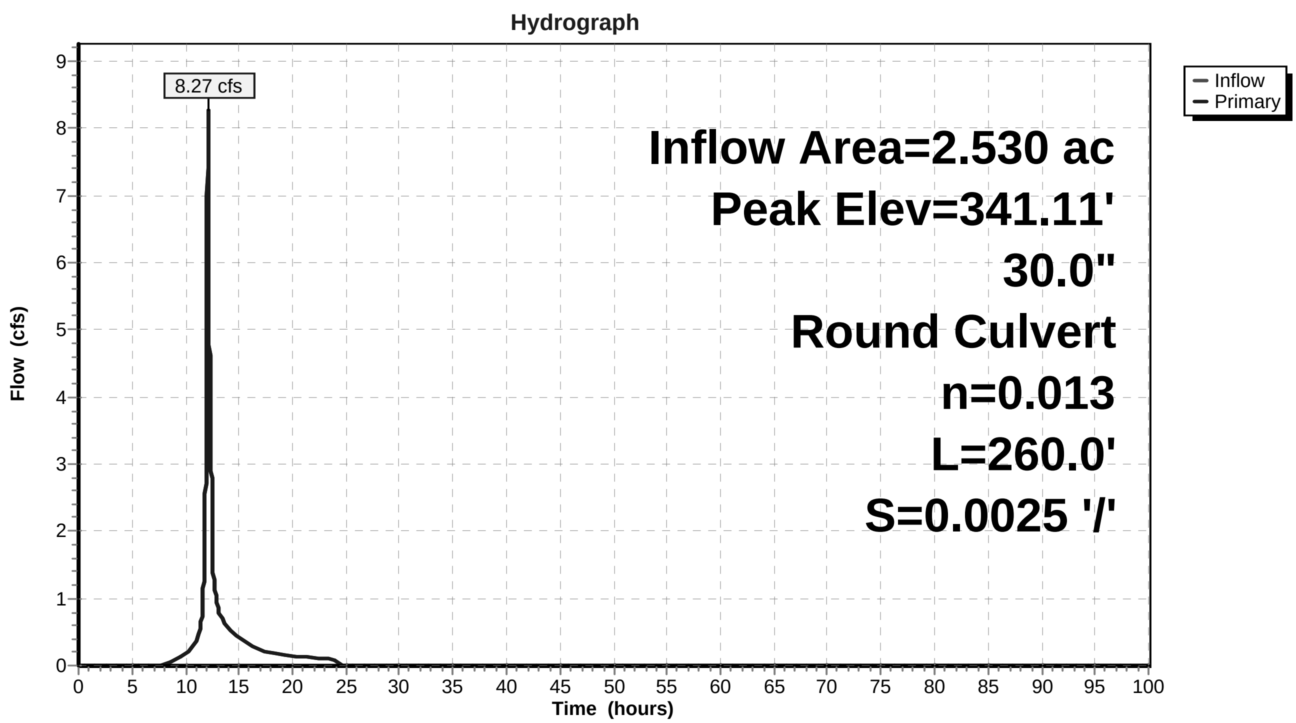
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 2.95" for 10 yr event
Inflow = 8.27 cfs @ 12.10 hrs, Volume= 0.622 af
Outflow = 8.27 cfs @ 12.10 hrs, Volume= 0.622 af, Atten= 0%, Lag= 0.0 min
Primary = 8.27 cfs @ 12.10 hrs, Volume= 0.622 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.11' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	339.57'	**30.0" Round Culvert** L= 260.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 339.57' / 338.92' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=8.27 cfs @ 12.10 hrs HW=341.11' TW=340.22' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 8.27 cfs @ 3.74 fps)

Pond CB-17A:



Summary for Pond CB-17B:

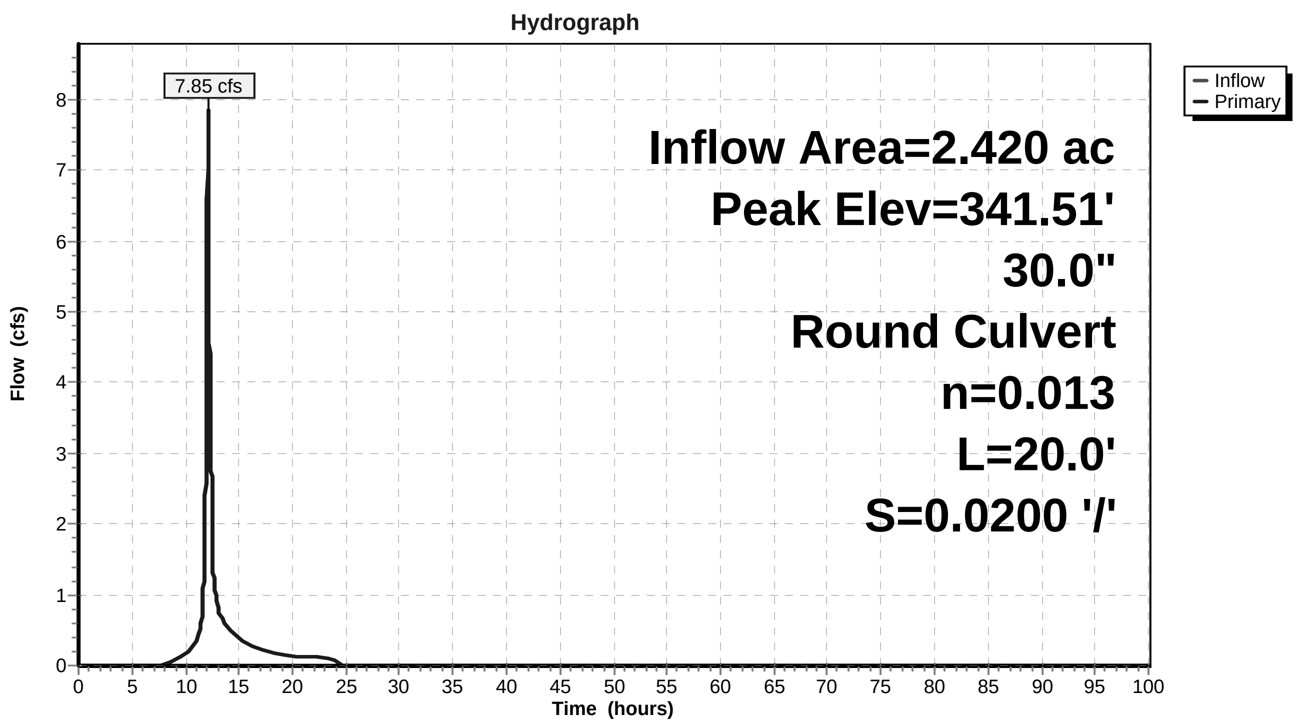
Inflow Area =	2.420 ac, 27.48% Impervious, Inflow Depth = 2.93" for 10 yr event		
Inflow =	7.85 cfs @ 12.10 hrs, Volume=	0.591 af	
Outflow =	7.85 cfs @ 12.10 hrs, Volume=	0.591 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.85 cfs @ 12.10 hrs, Volume=	0.591 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.51' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.07'	**30.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.07' / 339.67' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.84 cfs @ 12.10 hrs HW=341.51' TW=341.11' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 7.84 cfs @ 3.88 fps)

Pond CB-17B:



Summary for Pond CB-18B:

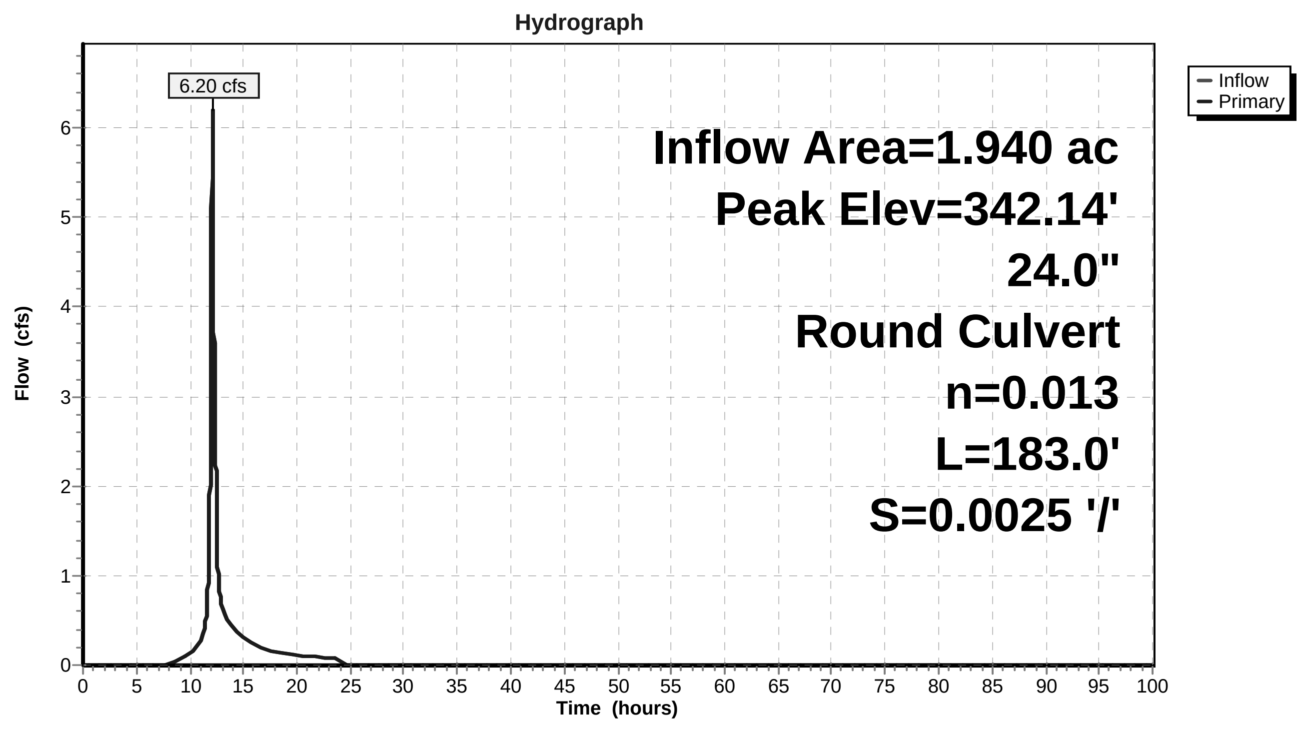
Inflow Area =	1.940 ac, 27.06% Impervious, Inflow Depth = 2.92" for 10 yr event			
Inflow =	6.20 cfs @	12.10 hrs, Volume=	0.471 af	
Outflow =	6.20 cfs @	12.10 hrs, Volume=	0.471 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.20 cfs @	12.10 hrs, Volume=	0.471 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.14' @ 12.10 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.63'	**24.0" Round Culvert** L= 183.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.63' / 340.17' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.19 cfs @ 12.10 hrs HW=342.14' TW=341.50' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 6.19 cfs @ 3.38 fps)

Pond CB-18B:



Summary for Pond CB-1A:

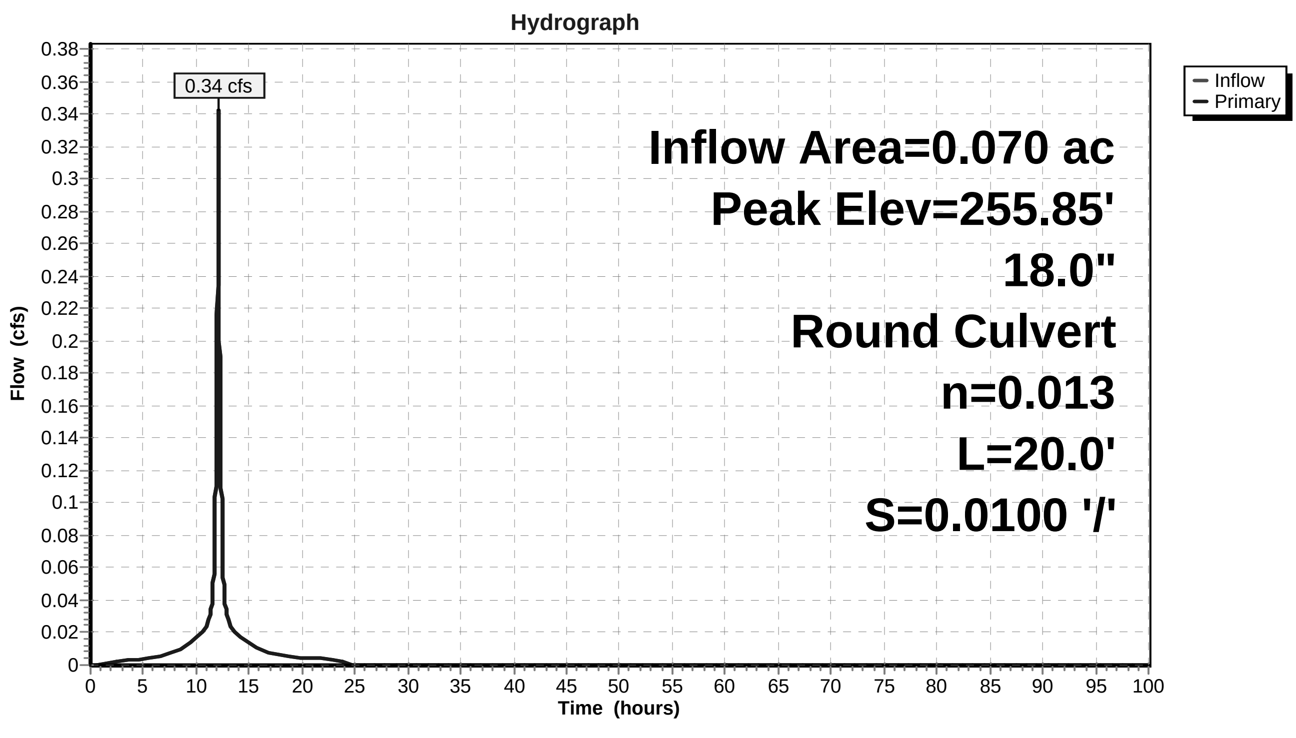
Inflow Area = 0.070 ac,100.00% Impervious, Inflow Depth = 4.76" for 10 yr event
Inflow = 0.34 cfs @ 12.08 hrs, Volume= 0.028 af
Outflow = 0.34 cfs @ 12.08 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.08 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.85' @ 12.27 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.50' / 255.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.34 cfs @ 12.08 hrs HW=255.77' TW=255.41' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.34 cfs @ 2.38 fps)

Pond CB-1A:



Summary for Pond CB-1B:

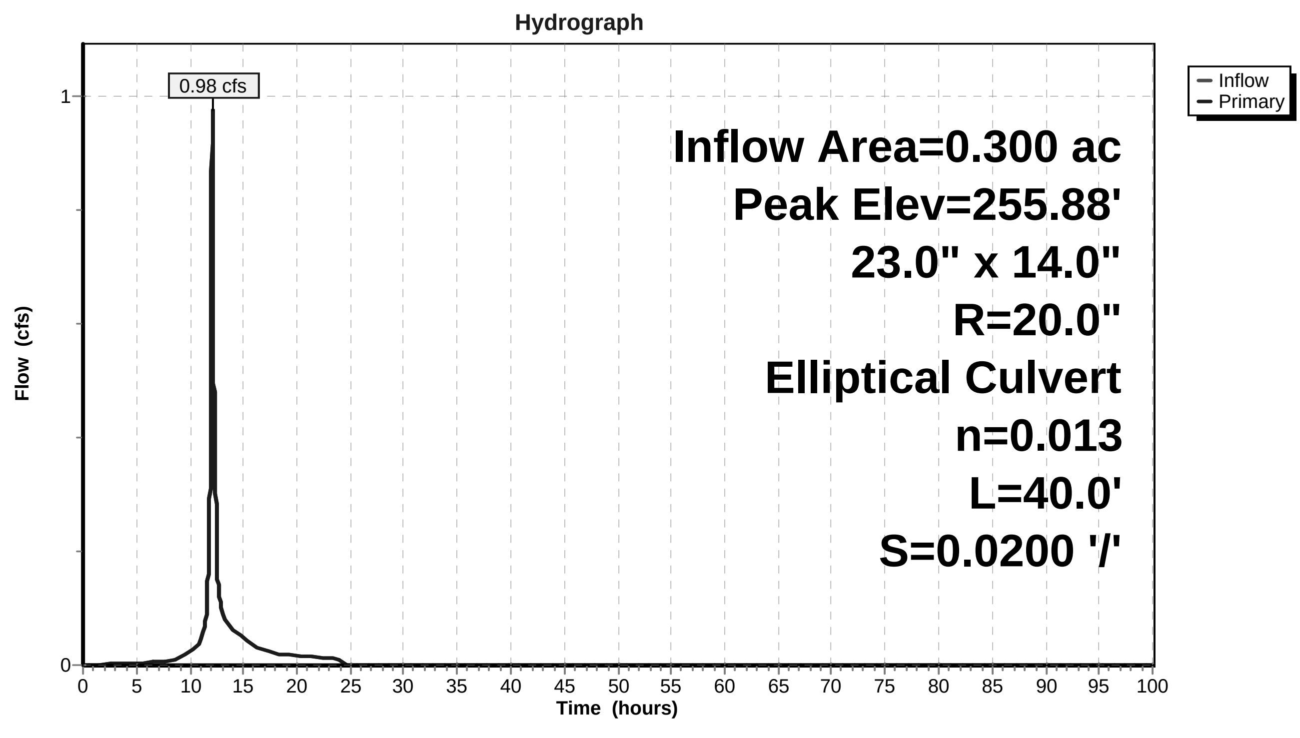
Inflow Area = 0.300 ac, 23.33% Impervious, Inflow Depth = 2.92" for 10 yr event
Inflow = 0.98 cfs @ 12.09 hrs, Volume= 0.073 af
Outflow = 0.98 cfs @ 12.09 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.09 hrs, Volume= 0.073 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.88' @ 12.25 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.42'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.42' / 254.62' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.98 cfs @ 12.09 hrs HW=255.81' TW=255.43' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.98 cfs @ 1.82 fps)

Pond CB-1B:



Summary for Pond CB-1C:

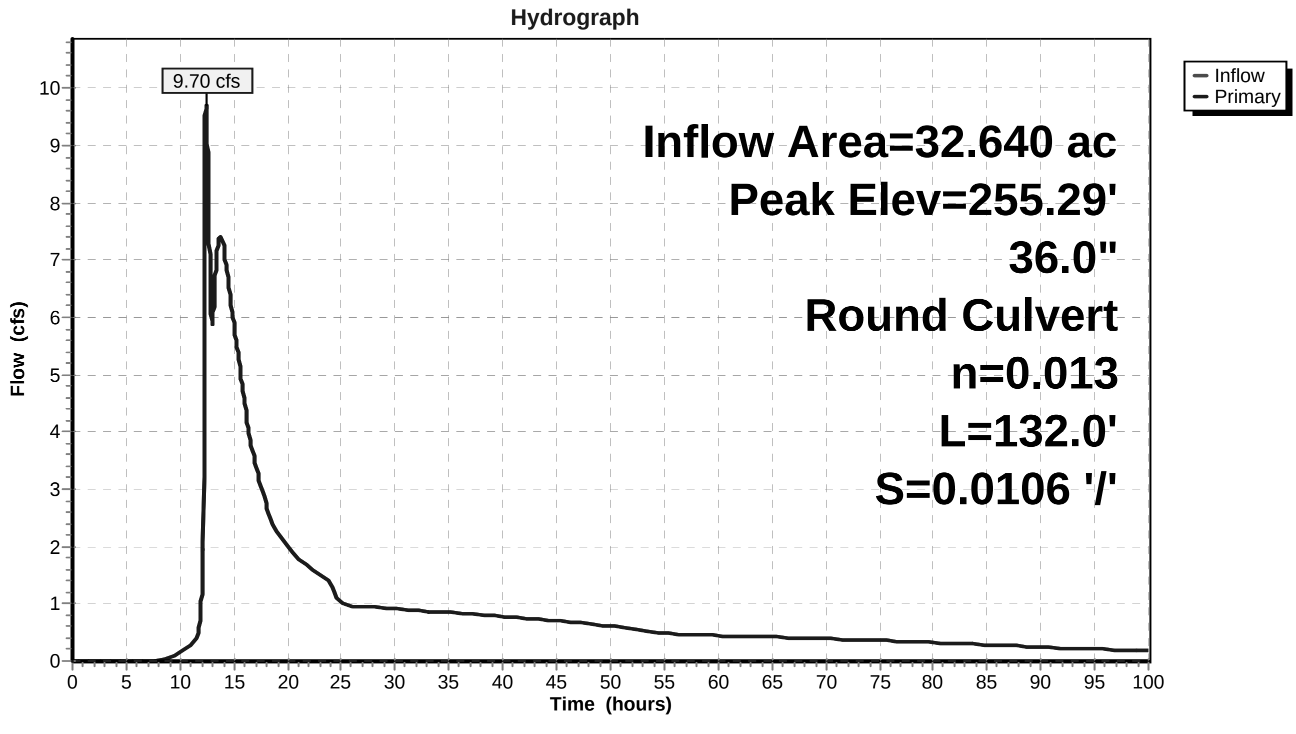
Inflow Area = 32.640 ac, 11.90% Impervious, Inflow Depth > 2.53" for 10 yr event
Inflow = 9.70 cfs @ 12.41 hrs, Volume= 6.885 af
Outflow = 9.70 cfs @ 12.41 hrs, Volume= 6.885 af, Atten= 0%, Lag= 0.0 min
Primary = 9.70 cfs @ 12.41 hrs, Volume= 6.885 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.29' @ 12.41 hrs
Flood Elev= 259.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	254.10'	**36.0" Round Culvert** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 254.10' / 252.70' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=9.70 cfs @ 12.41 hrs HW=255.29' TW=253.38' (Dynamic Tailwater)
1=Culvert (Inlet Controls 9.70 cfs @ 3.71 fps)

Pond CB-1C:



Summary for Pond CB-1D:

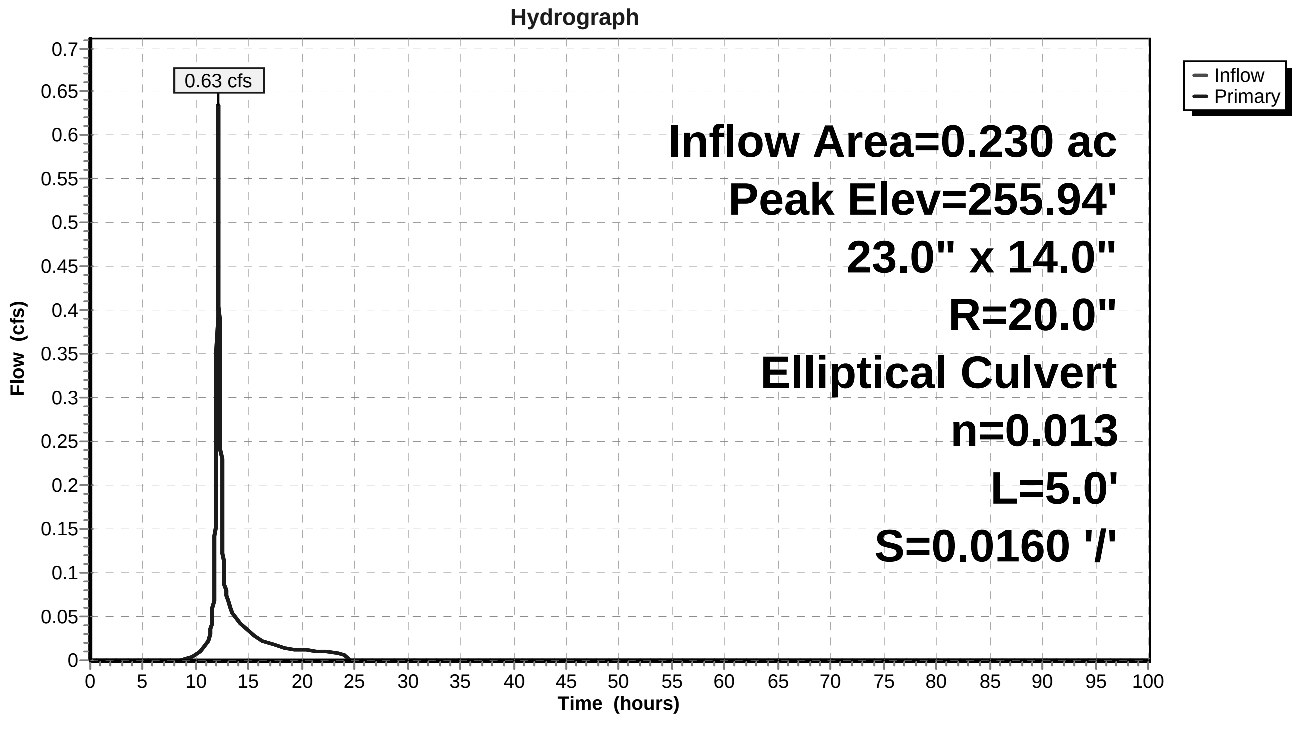
Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth = 2.36" for 10 yr event
Inflow = 0.63 cfs @ 12.09 hrs, Volume= 0.045 af
Outflow = 0.63 cfs @ 12.09 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min
Primary = 0.63 cfs @ 12.09 hrs, Volume= 0.045 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.94' @ 12.12 hrs
Flood Elev= 257.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.60'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 5.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.60' / 255.52' S= 0.0160 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.63 cfs @ 12.09 hrs HW=255.94' TW=255.81' (Dynamic Tailwater)
└**1=Culvert** (Inlet Controls 0.63 cfs @ 1.43 fps)

Pond CB-1D:



Summary for Pond CB-2A:

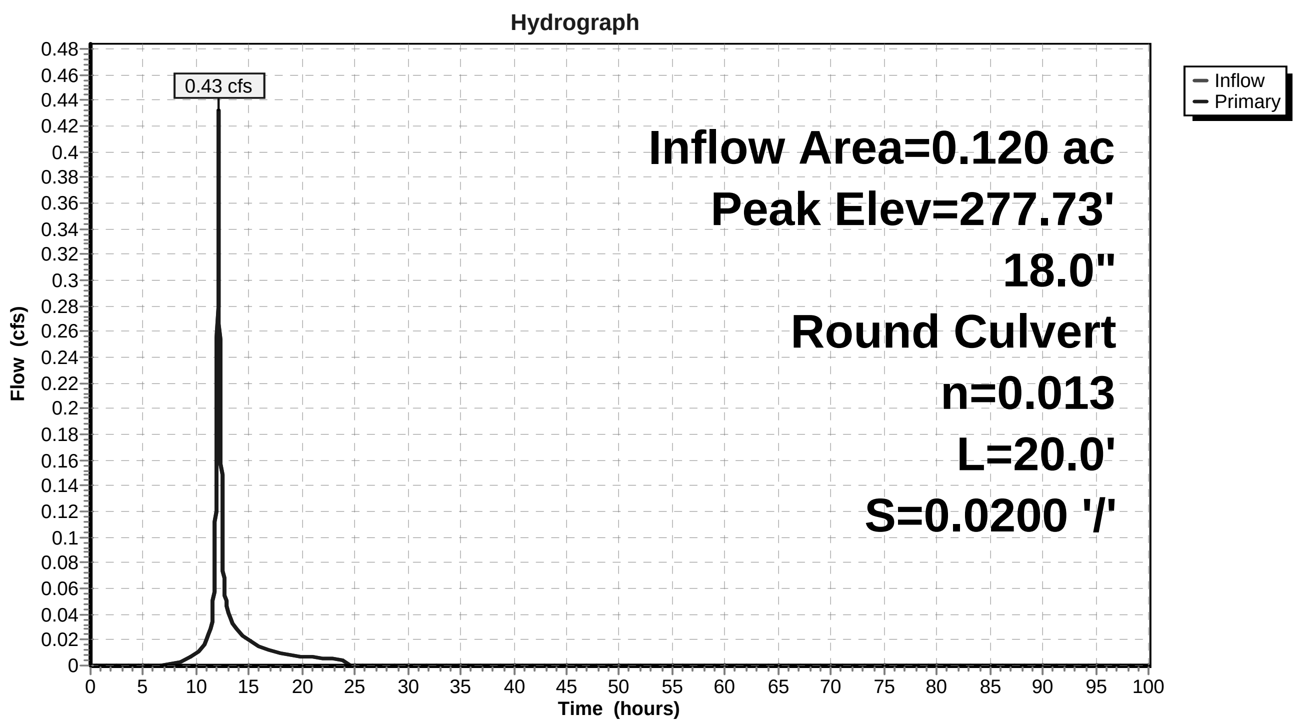
Inflow Area = 0.120 ac, 33.33% Impervious, Inflow Depth = 3.08" for 10 yr event
Inflow = 0.43 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.43 cfs @ 12.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.09 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 277.73' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.04' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.43 cfs @ 12.09 hrs HW=277.73' TW=273.17' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.43 cfs @ 1.82 fps)

Pond CB-2A:



Summary for Pond CB-2B:

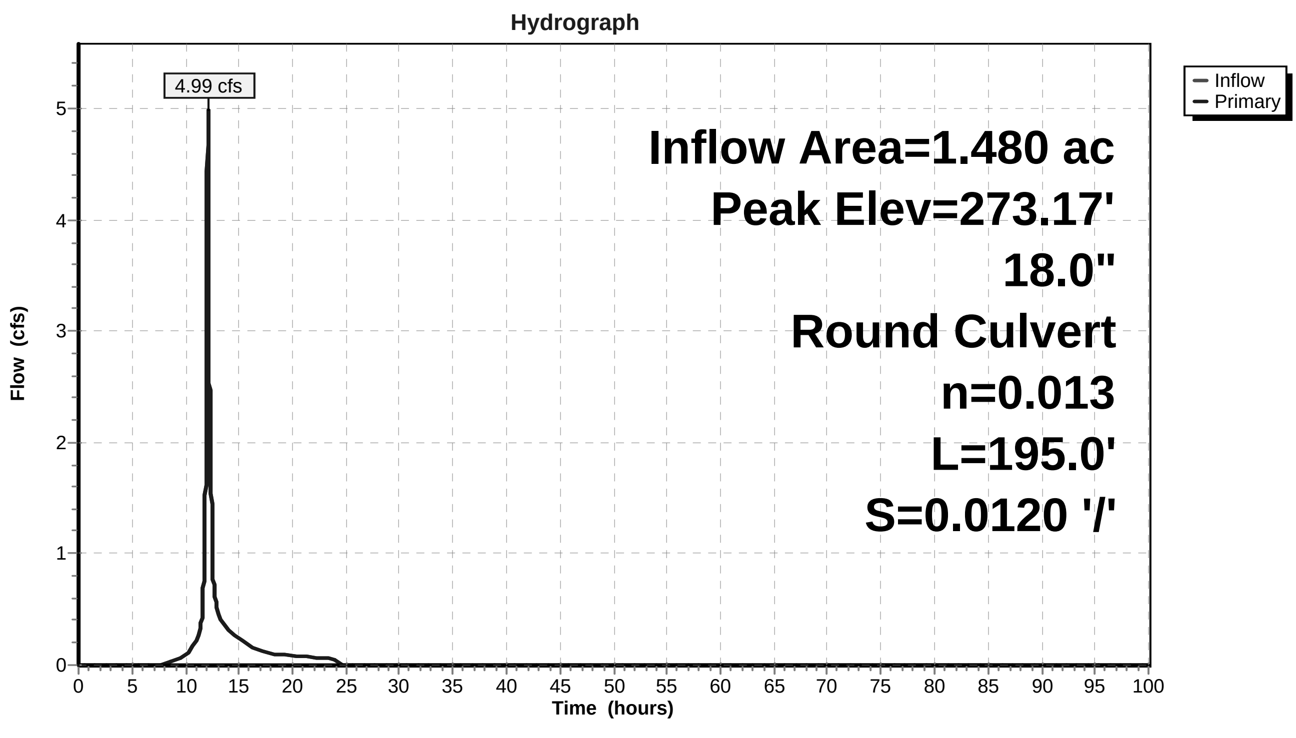
Inflow Area = 1.480 ac, 24.32% Impervious, Inflow Depth = 2.88" for 10 yr event
Inflow = 4.99 cfs @ 12.09 hrs, Volume= 0.355 af
Outflow = 4.99 cfs @ 12.09 hrs, Volume= 0.355 af, Atten= 0%, Lag= 0.0 min
Primary = 4.99 cfs @ 12.09 hrs, Volume= 0.355 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 273.17' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.07'	**18.0" Round Culvert** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 272.07' / 269.73' S= 0.0120 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.99 cfs @ 12.09 hrs HW=273.17' TW=270.68' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.99 cfs @ 3.58 fps)

Pond CB-2B:



Summary for Pond CB-3A:

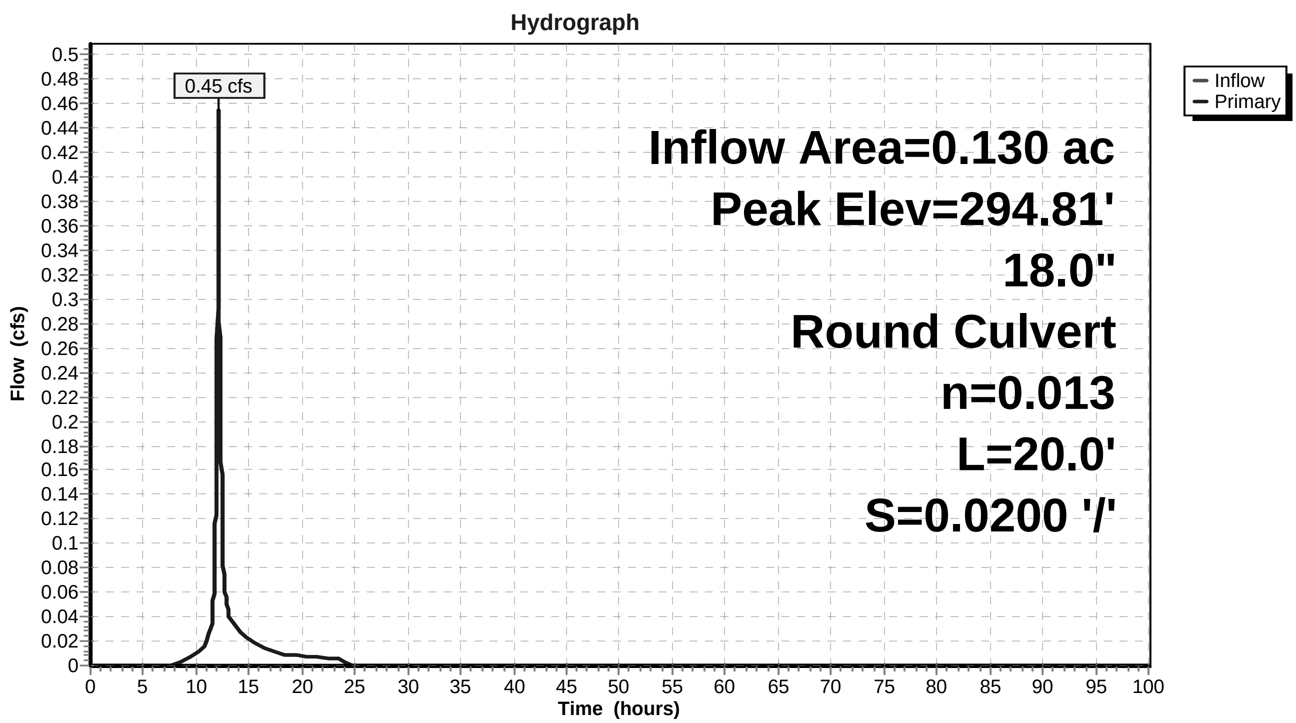
Inflow Area = 0.130 ac, 30.77% Impervious, Inflow Depth = 2.99" for 10 yr event
Inflow = 0.45 cfs @ 12.09 hrs, Volume= 0.032 af
Outflow = 0.45 cfs @ 12.09 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.45 cfs @ 12.09 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.81' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 294.50' / 294.10' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.45 cfs @ 12.09 hrs HW=294.81' TW=294.52' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.45 cfs @ 2.59 fps)

Pond CB-3A:



Summary for Pond CB-3B:

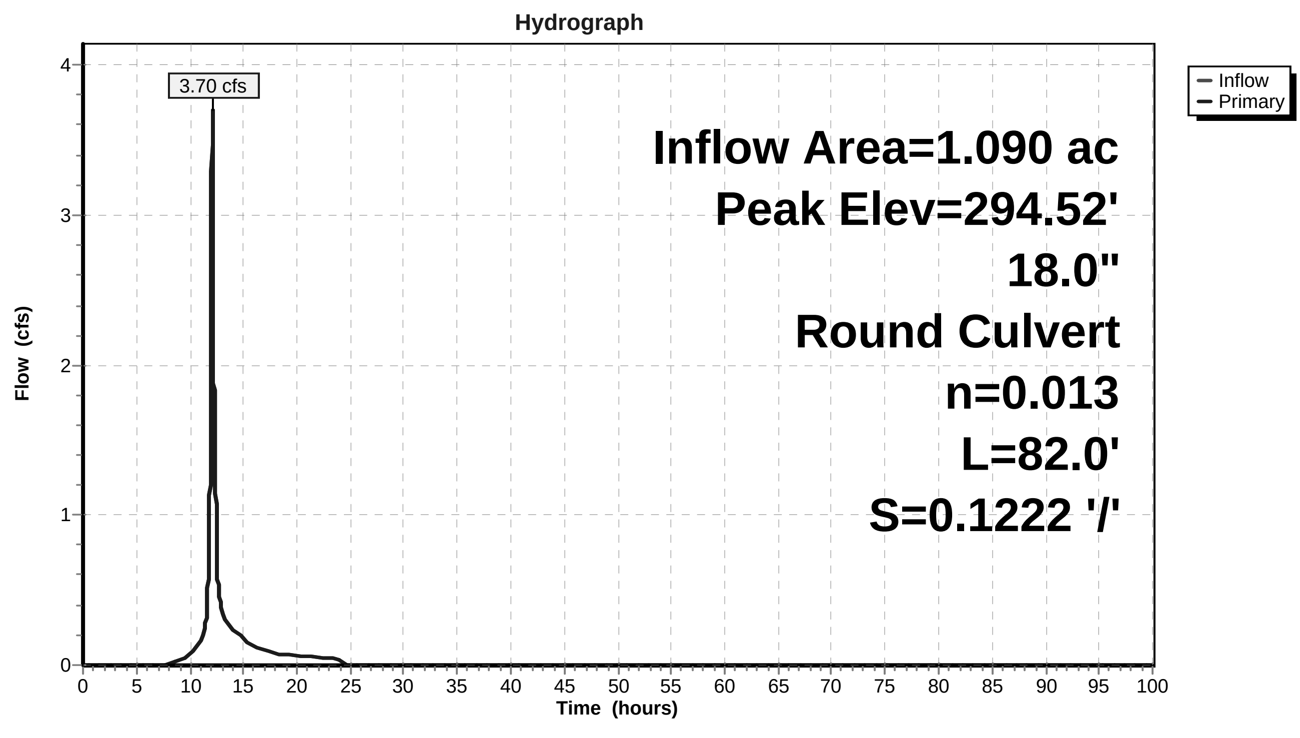
Inflow Area =	1.090 ac,	25.69% Impervious,	Inflow Depth = 2.90"	for 10 yr event	
Inflow =	3.70 cfs @	12.09 hrs,	Volume=	0.263 af	
Outflow =	3.70 cfs @	12.09 hrs,	Volume=	0.263 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.70 cfs @	12.09 hrs,	Volume=	0.263 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.52' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	293.60'	**18.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 293.60' / 283.58' S= 0.1222 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.70 cfs @ 12.09 hrs HW=294.52' TW=284.11' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.70 cfs @ 3.26 fps)

Pond CB-3B:



Summary for Pond CB-4A:

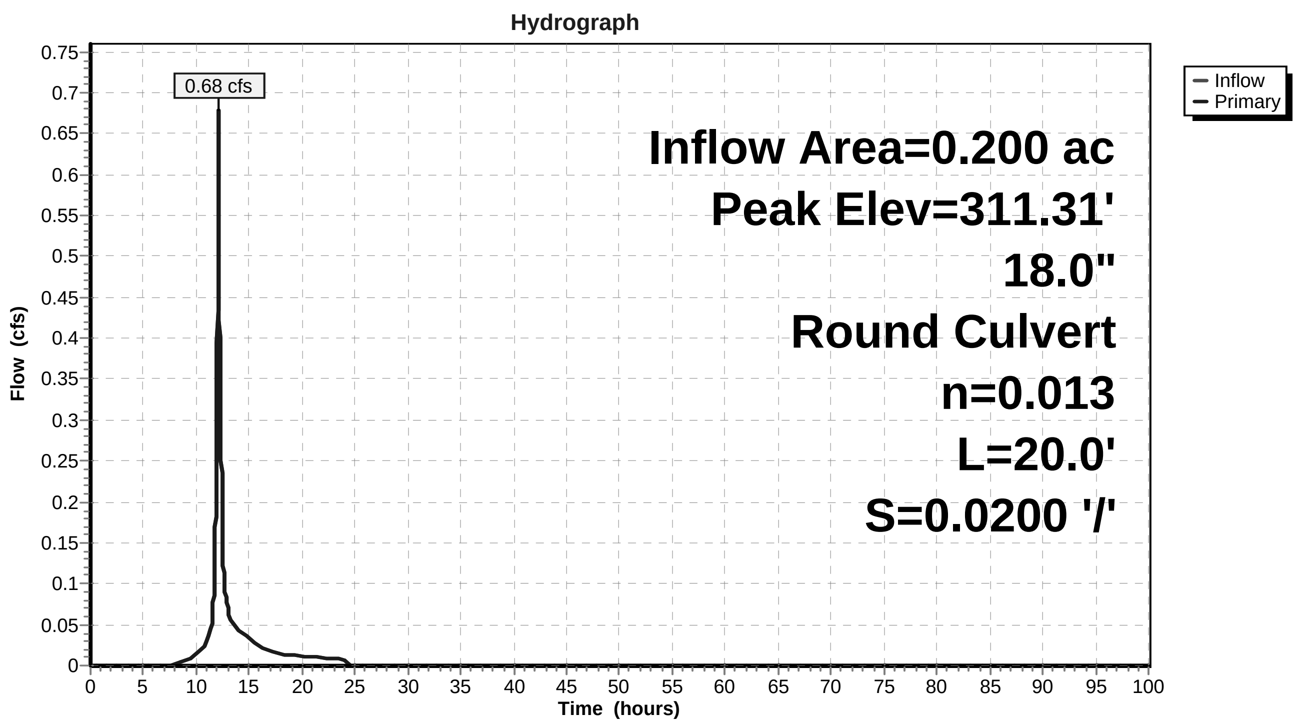
Inflow Area =	0.200 ac, 25.00% Impervious, Inflow Depth = 2.89" for 10 yr event			
Inflow =	0.68 cfs @	12.09 hrs, Volume=	0.048 af	
Outflow =	0.68 cfs @	12.09 hrs, Volume=	0.048 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.68 cfs @	12.09 hrs, Volume=	0.048 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.31' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.95' / 310.55' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.68 cfs @ 12.09 hrs HW=311.31' TW=310.89' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.68 cfs @ 2.05 fps)

Pond CB-4A:



Summary for Pond CB-4B:

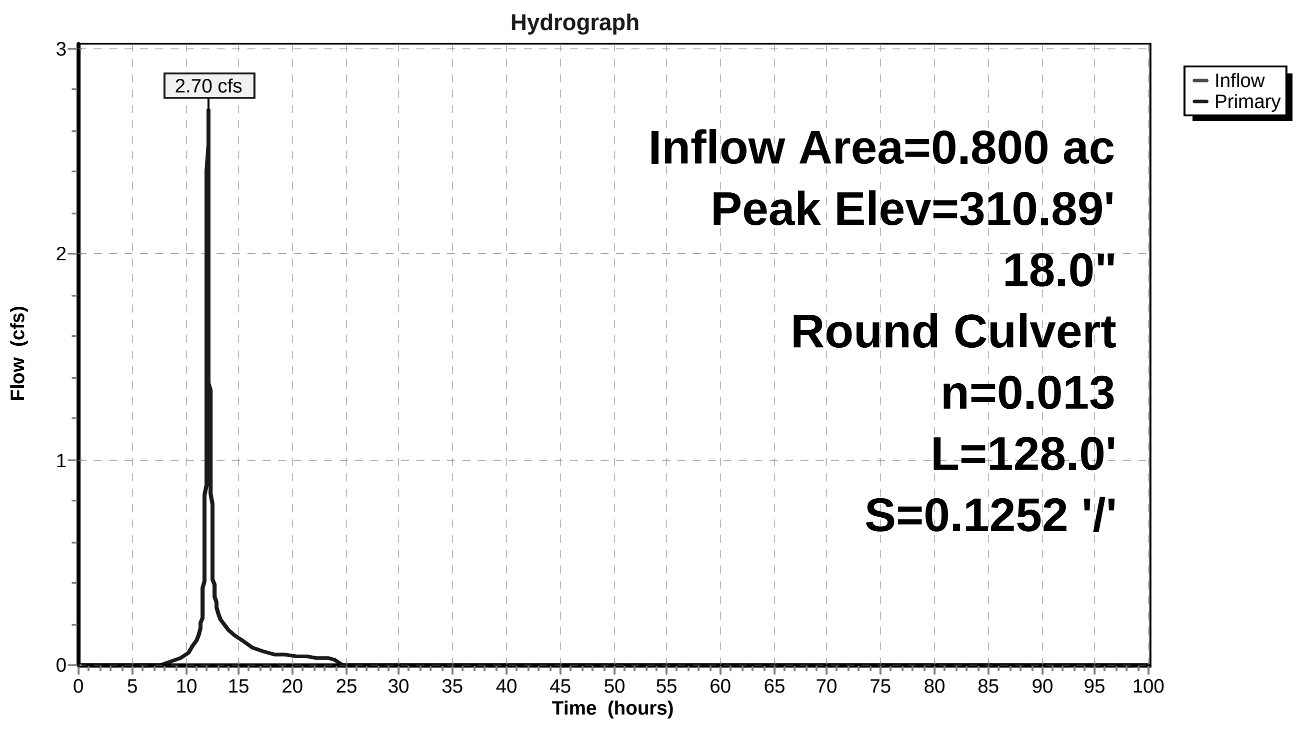
Inflow Area = 0.800 ac, 25.00% Impervious, Inflow Depth = 2.88" for 10 yr event
Inflow = 2.70 cfs @ 12.09 hrs, Volume= 0.192 af
Outflow = 2.70 cfs @ 12.09 hrs, Volume= 0.192 af, Atten= 0%, Lag= 0.0 min
Primary = 2.70 cfs @ 12.09 hrs, Volume= 0.192 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 310.89' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.12'	**18.0" Round Culvert** L= 128.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.12' / 294.10' S= 0.1252 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.70 cfs @ 12.09 hrs HW=310.89' TW=294.52' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.70 cfs @ 2.98 fps)

Pond CB-4B:



Summary for Pond CB-5A:

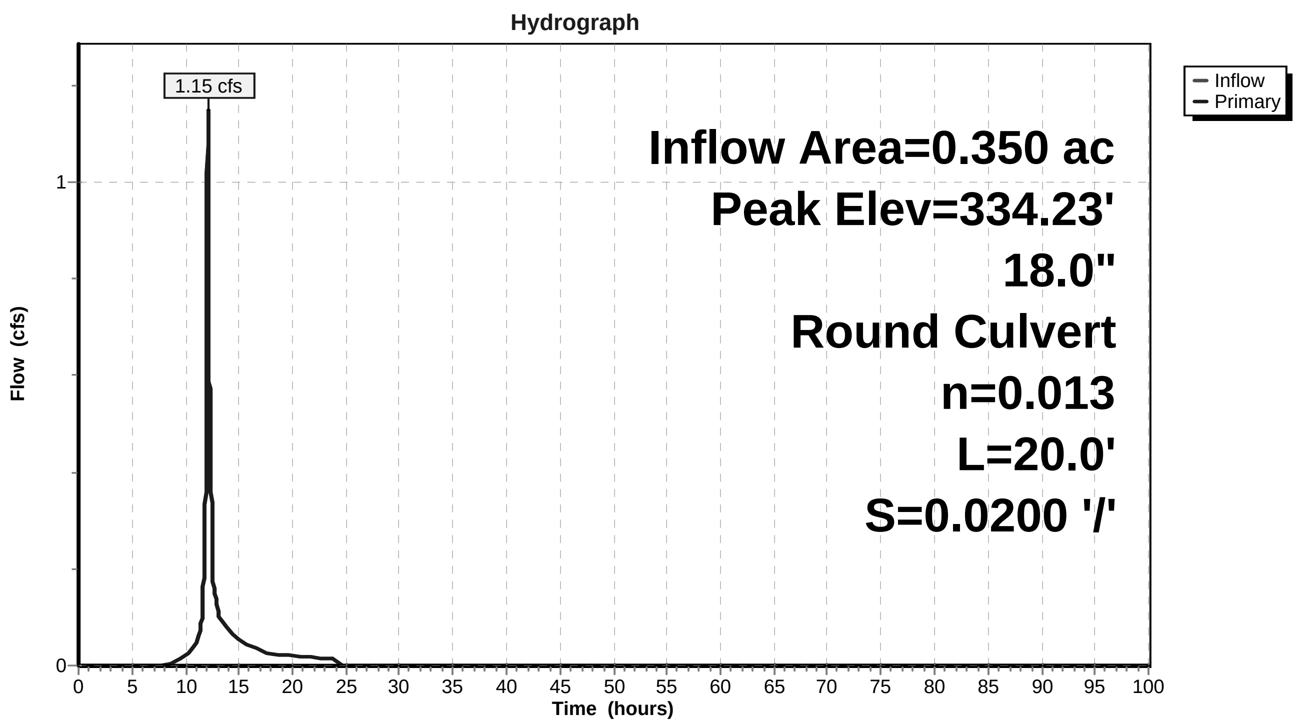
Inflow Area = 0.350 ac, 22.86% Impervious, Inflow Depth = 2.80" for 10 yr event
Inflow = 1.15 cfs @ 12.09 hrs, Volume= 0.082 af
Outflow = 1.15 cfs @ 12.09 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15 cfs @ 12.09 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.23' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.75' / 333.35' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.15 cfs @ 12.09 hrs HW=334.23' TW=333.78' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.15 cfs @ 2.36 fps)

Pond CB-5A:



Summary for Pond CB-5B:

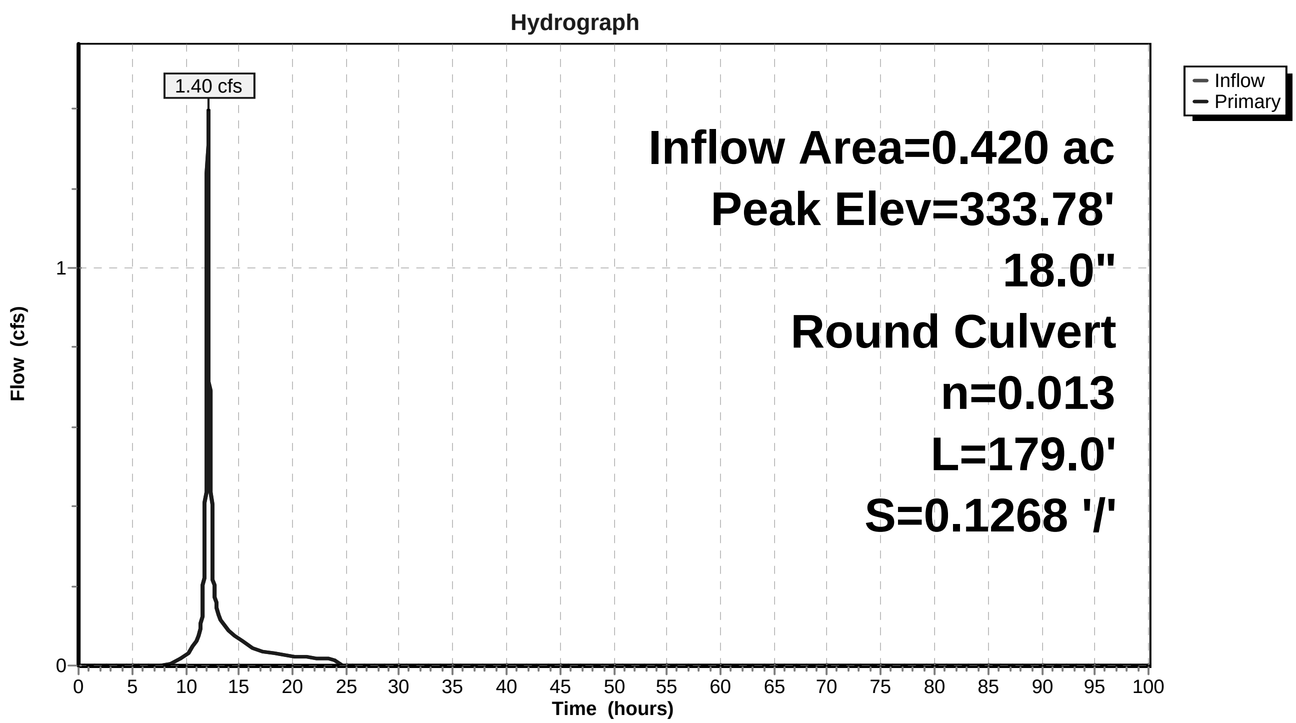
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 2.83" for 10 yr event
Inflow = 1.40 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.40 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.40 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.78' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.25'	**18.0" Round Culvert** L= 179.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.25' / 310.55' S= 0.1268 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.39 cfs @ 12.09 hrs HW=333.78' TW=322.57' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.39 cfs @ 2.48 fps)

Pond CB-5B:



Summary for Pond CB-6A:

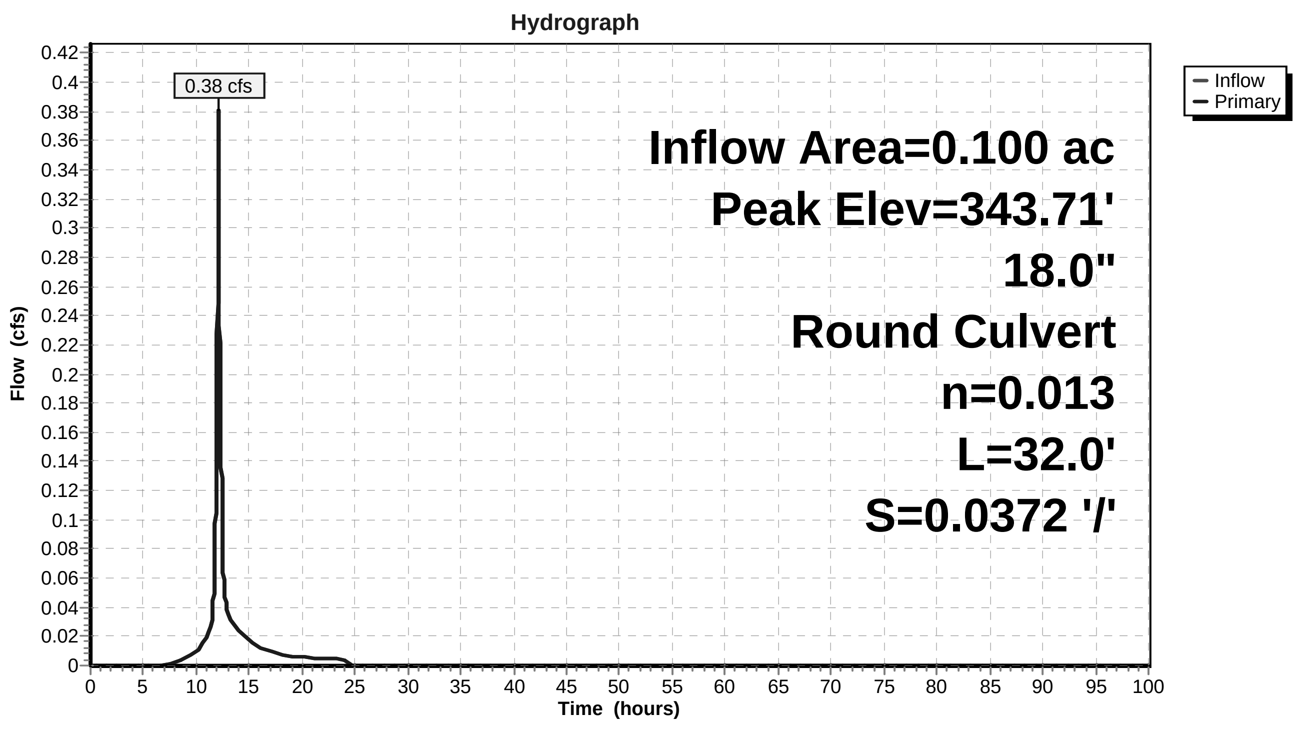
Inflow Area =	0.100 ac, 40.00% Impervious, Inflow Depth = 3.27" for 10 yr event			
Inflow =	0.38 cfs @	12.09 hrs, Volume=	0.027 af	
Outflow =	0.38 cfs @	12.09 hrs, Volume=	0.027 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.38 cfs @	12.09 hrs, Volume=	0.027 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.71' @ 12.09 hrs
Flood Elev= 346.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.44'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.44' / 342.25' S= 0.0372 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.38 cfs @ 12.09 hrs HW=343.71' TW=342.52' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.38 cfs @ 1.77 fps)

Pond CB-6A:



Summary for Pond CB-6B:

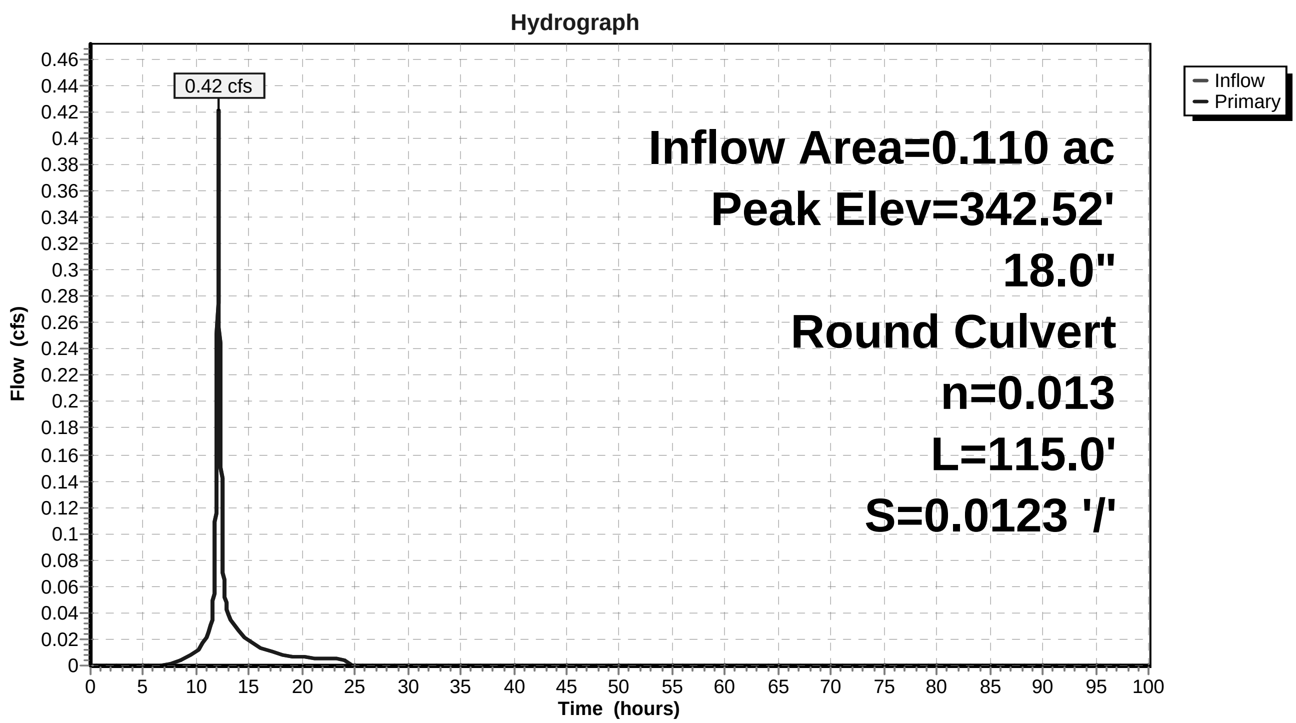
Inflow Area = 0.110 ac, 40.91% Impervious, Inflow Depth = 3.29" for 10 yr event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 0.030 af
Outflow = 0.42 cfs @ 12.09 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.09 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.52' @ 12.10 hrs
Flood Elev= 345.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	342.15'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 342.15' / 340.73' S= 0.0123 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.42 cfs @ 12.09 hrs HW=342.52' TW=342.12' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.42 cfs @ 1.85 fps)

Pond CB-6B:



Summary for Pond CB-7A:

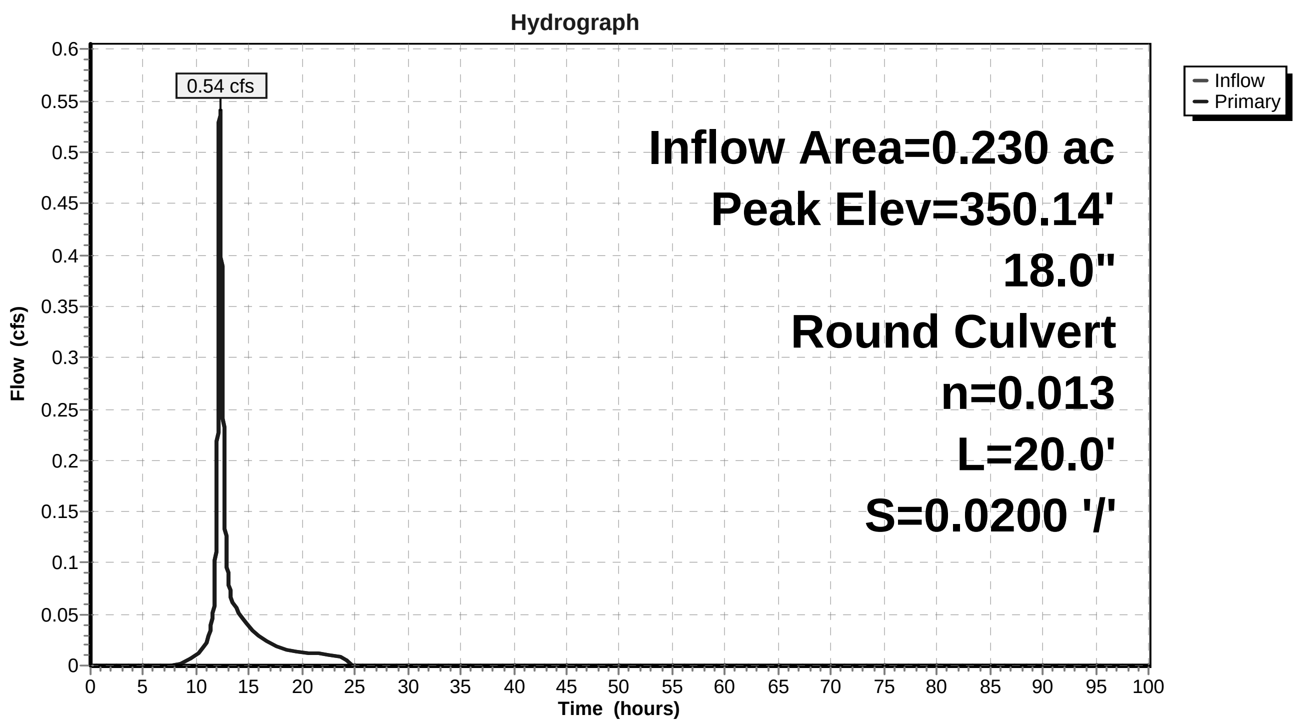
Inflow Area = 0.230 ac, 17.39% Impervious, Inflow Depth = 2.71" for 10 yr event
Inflow = 0.54 cfs @ 12.21 hrs, Volume= 0.052 af
Outflow = 0.54 cfs @ 12.21 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.21 hrs, Volume= 0.052 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.14' @ 12.21 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.82'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.82' / 349.42' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.54 cfs @ 12.21 hrs HW=350.14' TW=349.70' (Dynamic Tailwater)
1=Culvert (Inlet Controls 0.54 cfs @ 1.93 fps)

Pond CB-7A:



Summary for Pond CB-7B:

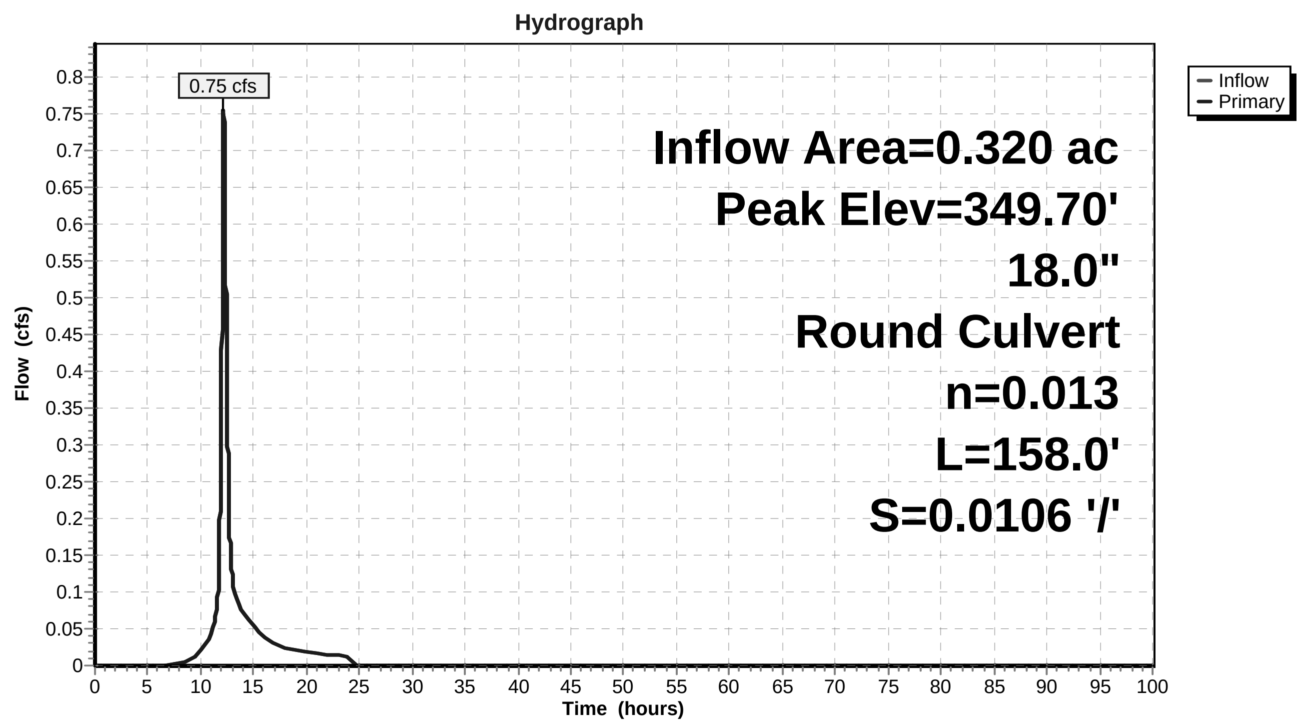
Inflow Area =	0.320 ac,	25.00% Impervious,	Inflow Depth = 2.90"	for 10 yr event	
Inflow =	0.75 cfs @	12.14 hrs,	Volume=	0.077 af	
Outflow =	0.75 cfs @	12.14 hrs,	Volume=	0.077 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.75 cfs @	12.14 hrs,	Volume=	0.077 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.70' @ 12.14 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.32'	**18.0" Round Culvert** L= 158.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.32' / 347.65' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.75 cfs @ 12.14 hrs HW=349.70' TW=348.07' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.75 cfs @ 2.11 fps)

Pond CB-7B:



Summary for Pond CB-8A:

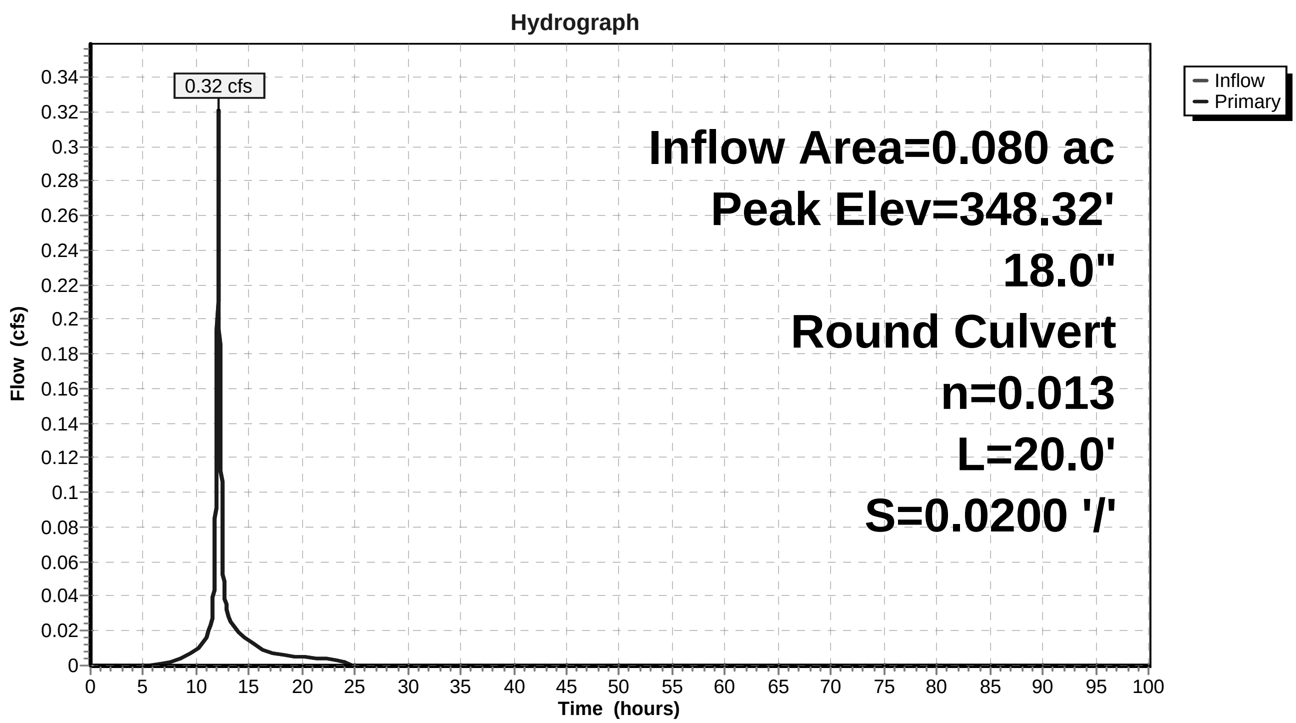
Inflow Area = 0.080 ac, 50.00% Impervious, Inflow Depth = 3.47" for 10 yr event
Inflow = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af
Outflow = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min
Primary = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.32' @ 12.09 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.05'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.05' / 347.65' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.32 cfs @ 12.09 hrs HW=348.32' TW=348.10' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.32 cfs @ 2.20 fps)

Pond CB-8A:



Summary for Pond CB-8B:

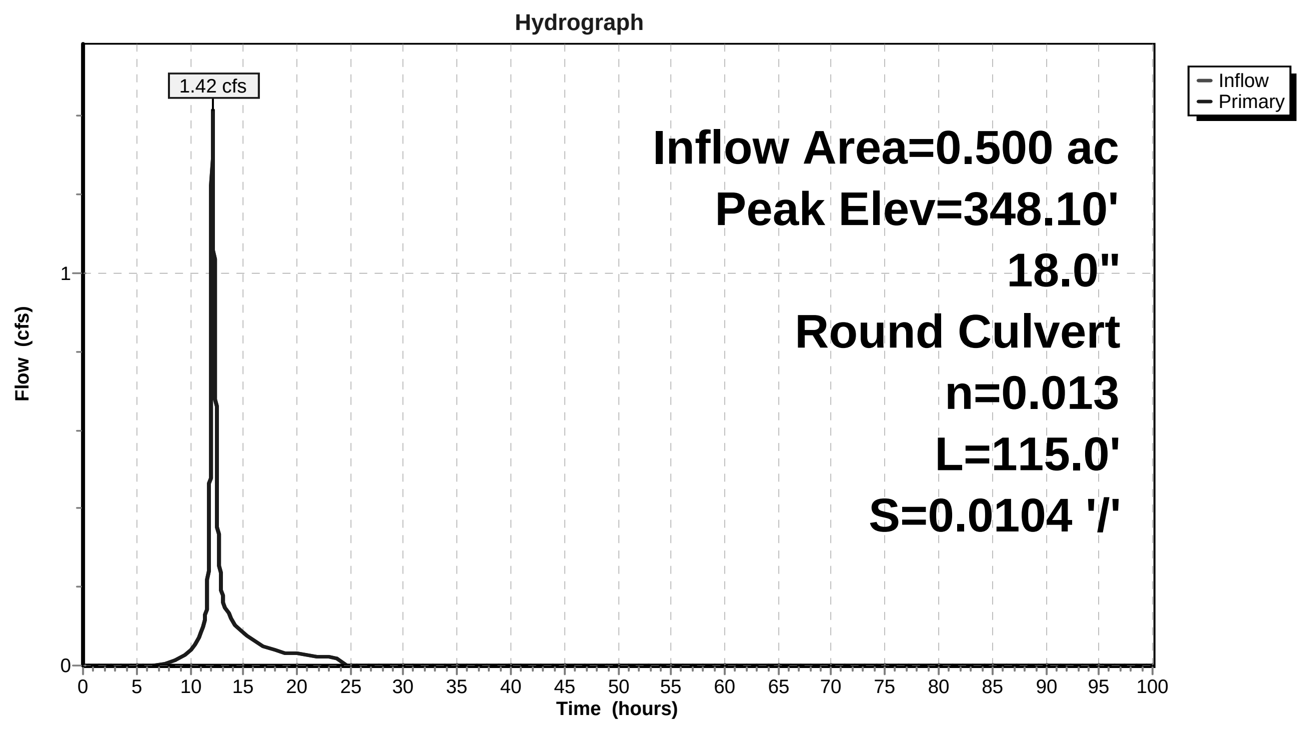
Inflow Area = 0.500 ac, 32.00% Impervious, Inflow Depth = 3.06" for 10 yr event
Inflow = 1.42 cfs @ 12.10 hrs, Volume= 0.128 af
Outflow = 1.42 cfs @ 12.10 hrs, Volume= 0.128 af, Atten= 0%, Lag= 0.0 min
Primary = 1.42 cfs @ 12.10 hrs, Volume= 0.128 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.10' @ 12.10 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.55'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.55' / 346.35' S= 0.0104 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.42 cfs @ 12.10 hrs HW=348.10' TW=347.02' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.42 cfs @ 3.60 fps)

Pond CB-8B:



Summary for Pond CB-9A:

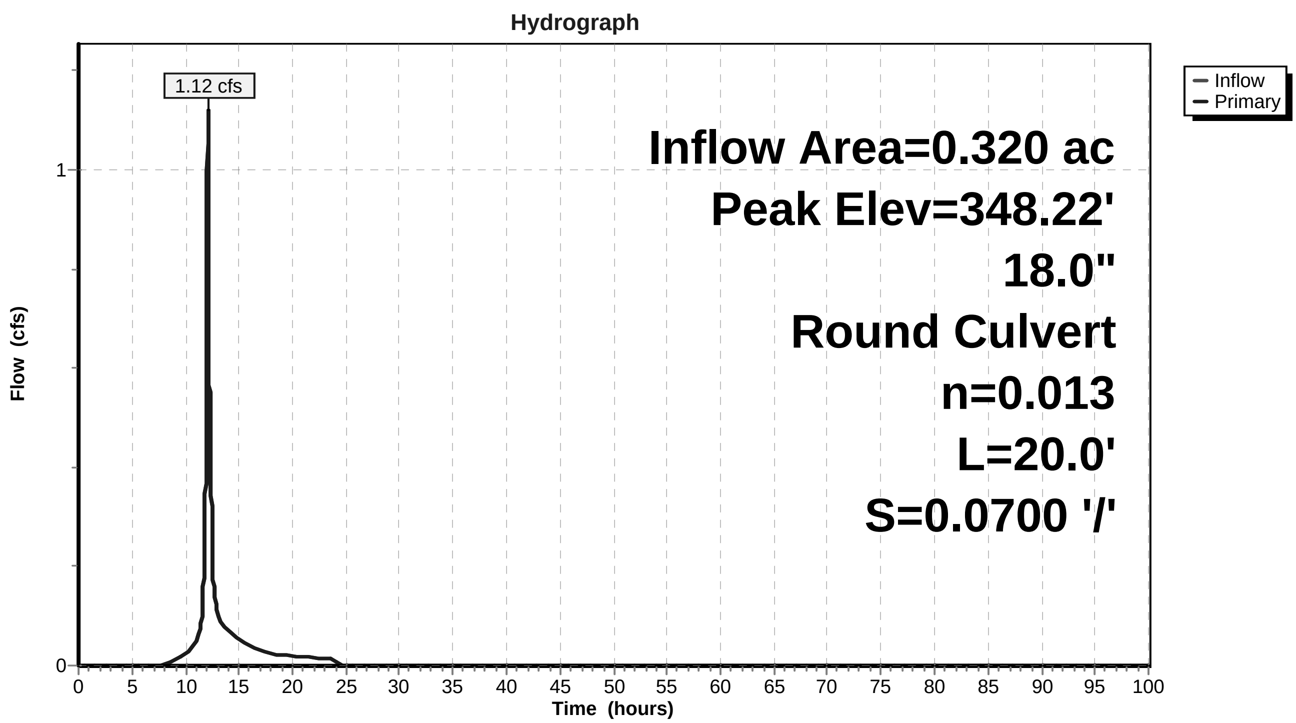
Inflow Area = 0.320 ac, 31.25% Impervious, Inflow Depth = 2.99" for 10 yr event
Inflow = 1.12 cfs @ 12.09 hrs, Volume= 0.080 af
Outflow = 1.12 cfs @ 12.09 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.09 hrs, Volume= 0.080 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.22' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.75' / 346.35' S= 0.0700 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.12 cfs @ 12.09 hrs HW=348.22' TW=347.02' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 1.12 cfs @ 2.34 fps)

Pond CB-9A:



Summary for Pond CB-9B:

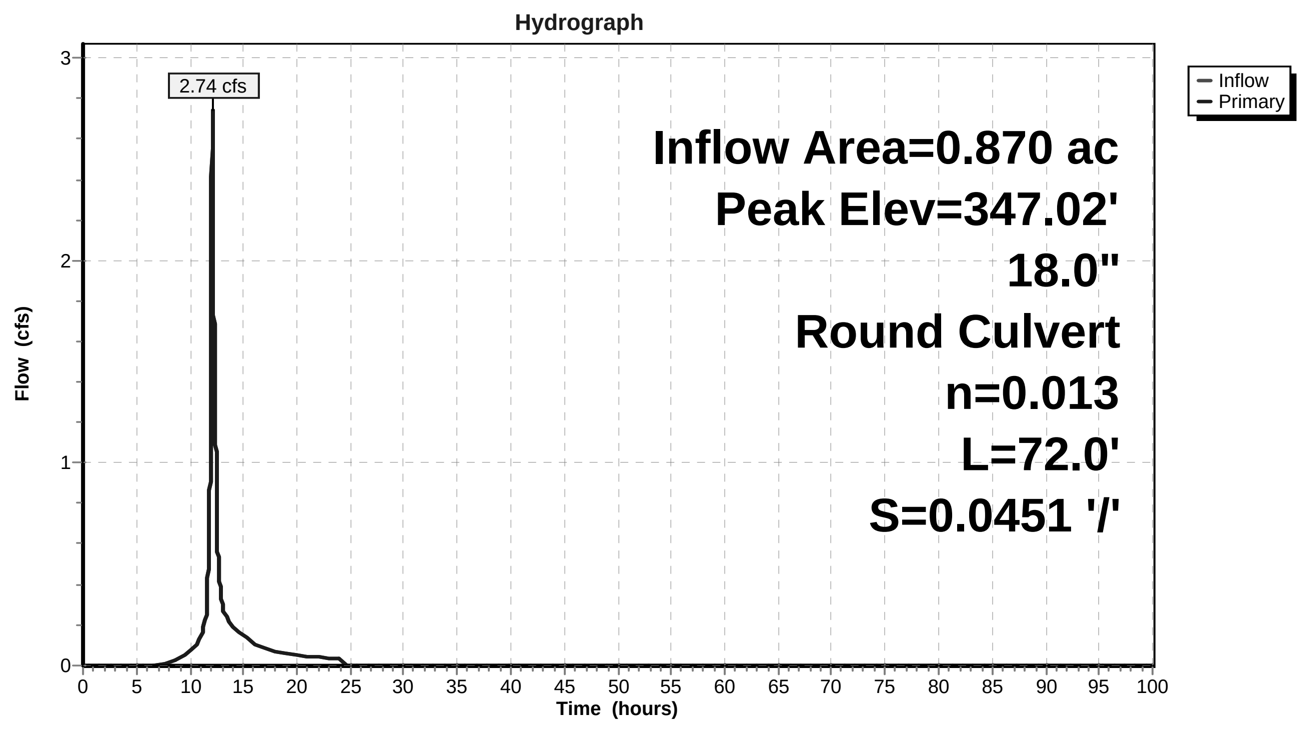
Inflow Area =	0.870 ac,	33.33% Impervious,	Inflow Depth = 3.07"	for 10 yr event
Inflow =	2.74 cfs @	12.09 hrs, Volume=	0.222 af	
Outflow =	2.74 cfs @	12.09 hrs, Volume=	0.222 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.74 cfs @	12.09 hrs, Volume=	0.222 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 347.02' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	346.25'	**18.0" Round Culvert** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 346.25' / 343.00' S= 0.0451 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.73 cfs @ 12.09 hrs HW=347.02' TW=335.02' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.73 cfs @ 2.99 fps)

Pond CB-9B:



Summary for Pond CB18-A:

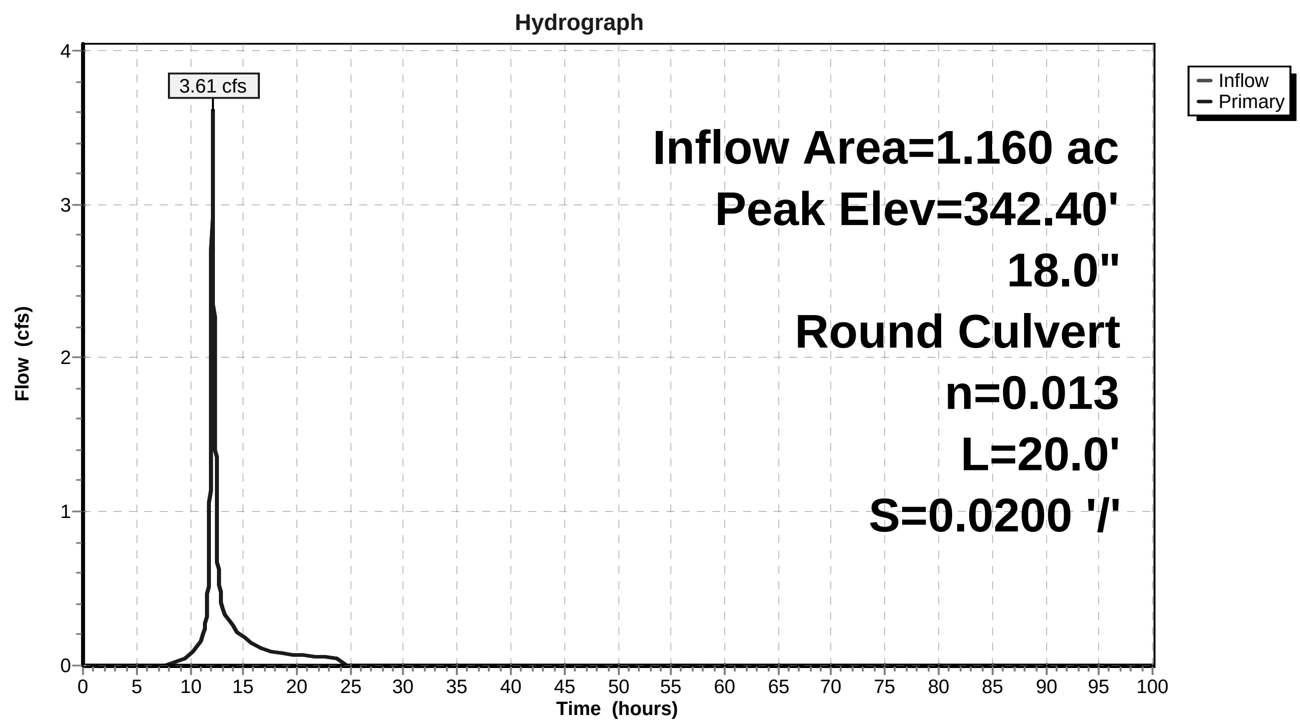
Inflow Area = 1.160 ac, 26.72% Impervious, Inflow Depth = 2.89" for 10 yr event
Inflow = 3.61 cfs @ 12.12 hrs, Volume= 0.280 af
Outflow = 3.61 cfs @ 12.12 hrs, Volume= 0.280 af, Atten= 0%, Lag= 0.0 min
Primary = 3.61 cfs @ 12.12 hrs, Volume= 0.280 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.40' @ 12.11 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	341.13'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 341.13' / 340.73' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.63 cfs @ 12.12 hrs HW=342.39' TW=342.12' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.63 cfs @ 3.10 fps)

Pond CB18-A:



Summary for Pond DMH#1:

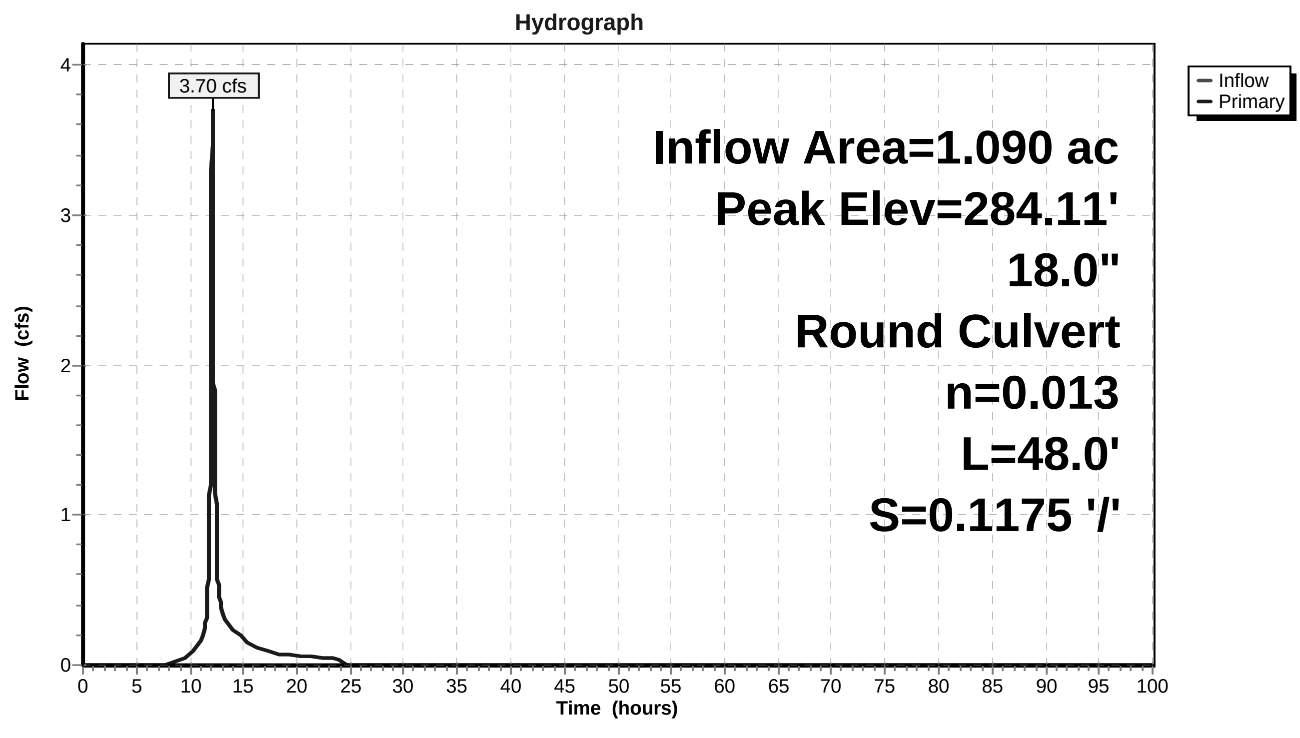
Inflow Area = 1.090 ac, 25.69% Impervious, Inflow Depth = 2.90" for 10 yr event
Inflow = 3.70 cfs @ 12.09 hrs, Volume= 0.263 af
Outflow = 3.70 cfs @ 12.09 hrs, Volume= 0.263 af, Atten= 0%, Lag= 0.0 min
Primary = 3.70 cfs @ 12.09 hrs, Volume= 0.263 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 284.11' @ 12.09 hrs
Flood Elev= 288.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	283.19'	**18.0" Round Culvert** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 283.19' / 277.55' S= 0.1175 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=3.70 cfs @ 12.09 hrs HW=284.11' TW=273.17' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.70 cfs @ 3.26 fps)

Pond DMH#1:



Summary for Pond DMH#2:

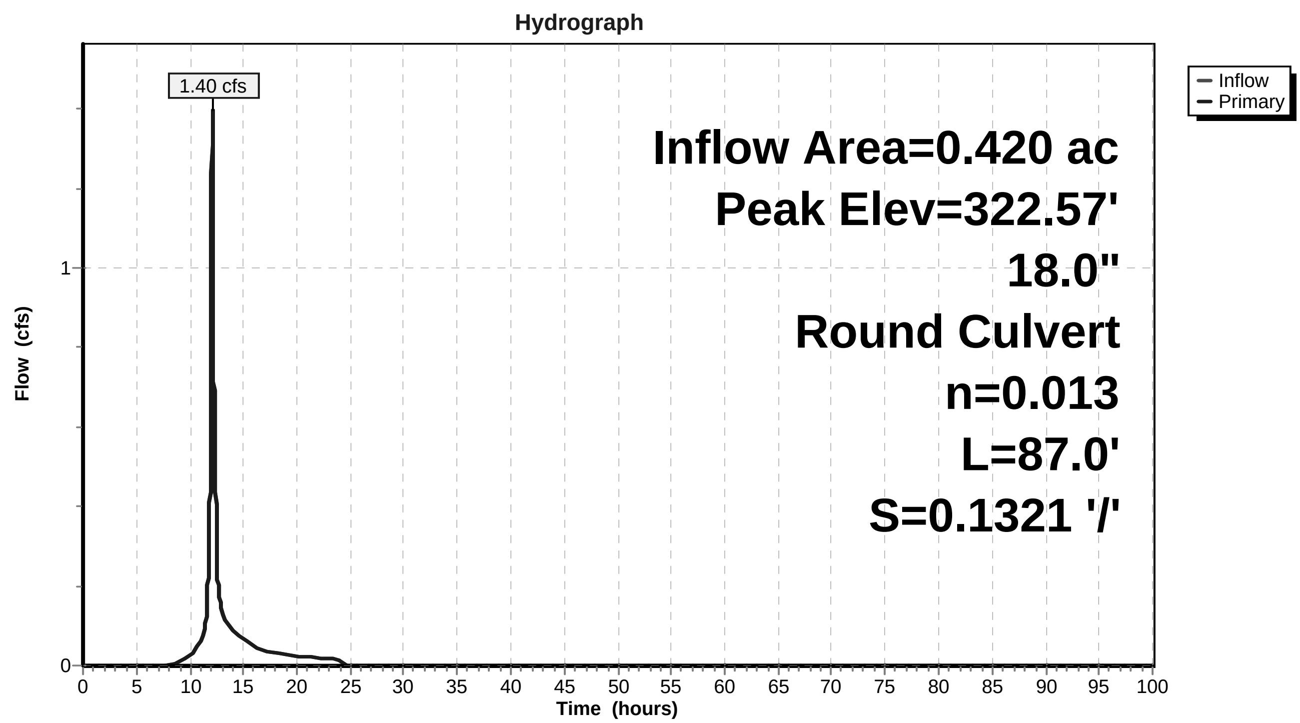
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 2.83" for 10 yr event
Inflow = 1.40 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.40 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.40 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 322.57' @ 12.09 hrs
Flood Elev= 326.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	322.04'	**18.0" Round Culvert** L= 87.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 322.04' / 310.55' S= 0.1321 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.39 cfs @ 12.09 hrs HW=322.57' TW=310.89' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.39 cfs @ 2.48 fps)

Pond DMH#2:



Summary for Pond DMHA:

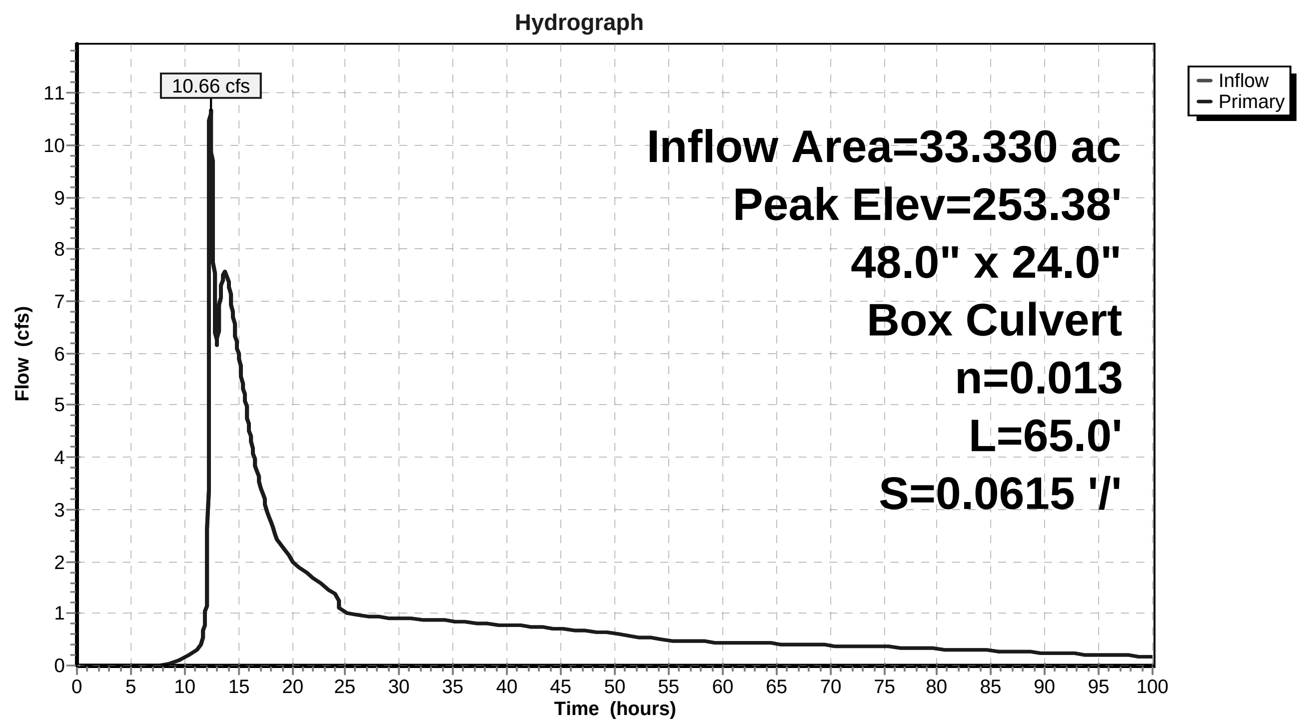
Inflow Area = 33.330 ac, 12.08% Impervious, Inflow Depth > 2.52" for 10 yr event
Inflow = 10.66 cfs @ 12.40 hrs, Volume= 7.003 af
Outflow = 10.66 cfs @ 12.40 hrs, Volume= 7.003 af, Atten= 0%, Lag= 0.0 min
Primary = 10.66 cfs @ 12.40 hrs, Volume= 7.003 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 253.38' @ 12.40 hrs
Flood Elev= 256.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.50'	**48.0" W x 24.0" H Box Culvert** L= 65.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 252.50' / 248.50' S= 0.0615 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=10.66 cfs @ 12.40 hrs HW=253.38' TW=0.00' (Dynamic Tailwater)
1=Culvert (Inlet Controls 10.66 cfs @ 3.02 fps)

Pond DMHA:



Summary for Pond P:

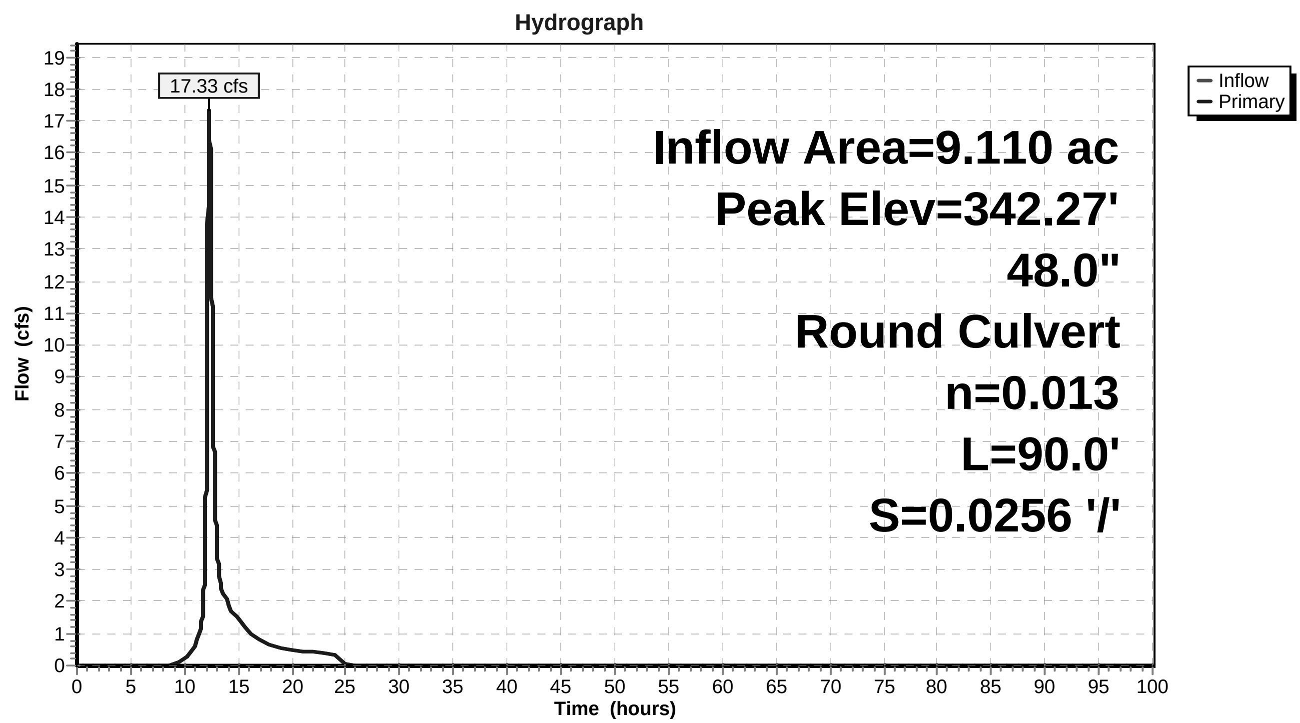
Inflow Area =	9.110 ac,	6.26% Impervious, Inflow Depth = 2.45"	for 10 yr event	
Inflow =	17.33 cfs @	12.29 hrs, Volume=	1.859 af	
Outflow =	17.33 cfs @	12.29 hrs, Volume=	1.859 af,	Atten= 0%, Lag= 0.0 min
Primary =	17.33 cfs @	12.29 hrs, Volume=	1.859 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.27' @ 12.29 hrs
Flood Elev= 345.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.80'	**48.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 340.80' / 338.50' S= 0.0256 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=17.33 cfs @ 12.29 hrs HW=342.27' TW=336.04' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 17.33 cfs @ 4.13 fps)

Pond P:



Summary for Pond P-1:

Inflow Area = 5.780 ac, 9.52% Impervious, Inflow Depth = 2.56" for 10 yr event
Inflow = 12.18 cfs @ 12.17 hrs, Volume= 1.232 af
Outflow = 4.67 cfs @ 12.59 hrs, Volume= 1.231 af, Atten= 62%, Lag= 24.8 min
Primary = 4.67 cfs @ 12.59 hrs, Volume= 1.231 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 268.55' Surf.Area= 1,982 sf Storage= 2,439 cf
Peak Elev= 272.21' @ 12.59 hrs Surf.Area= 8,681 sf Storage= 24,965 cf (22,526 cf above start)

Plug-Flow detention time= 738.9 min calculated for 1.175 af (95% of inflow)
Center-of-Mass det. time= 675.9 min (1,513.3 - 837.5)

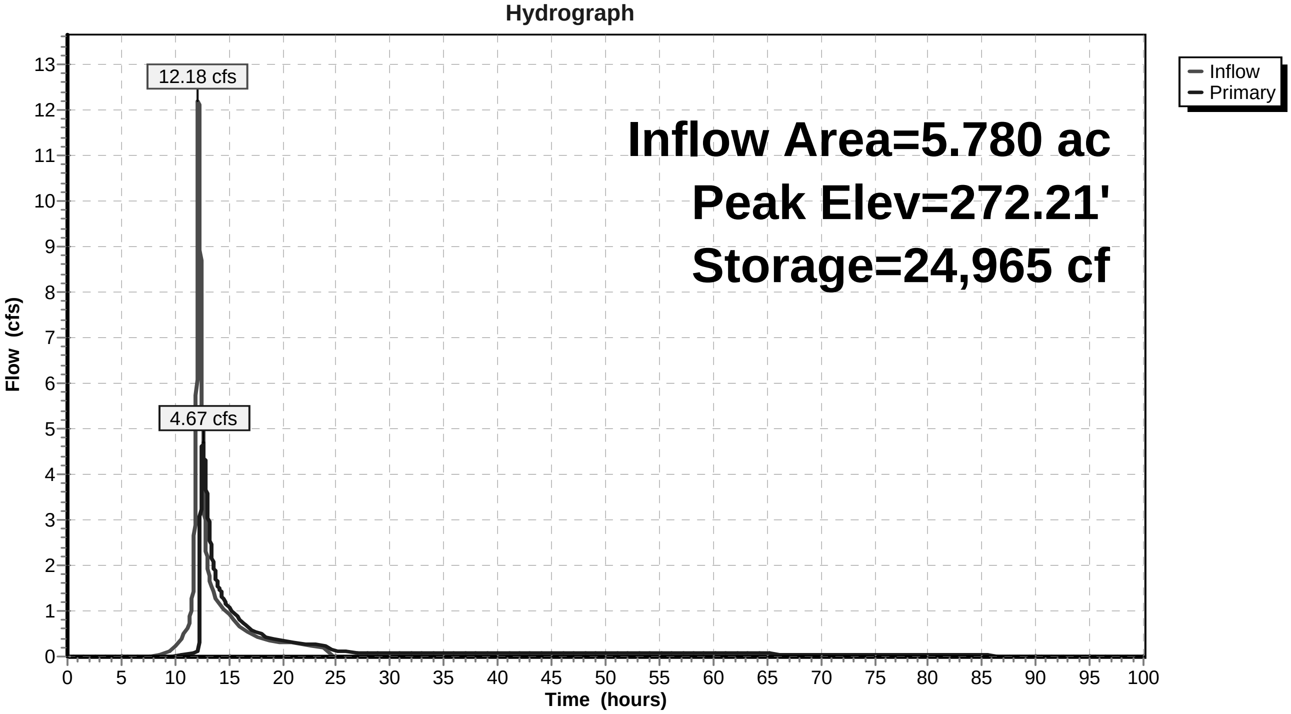
Volume	Invert	Avail.Storage	Storage Description
#1	264.55'	54,362 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
264.55	130	50.0	0	0	130
266.00	385	90.0	357	357	587
268.00	950	115.0	1,293	1,650	1,044
270.00	6,500	200.0	6,623	8,274	3,197
272.00	8,400	400.0	14,859	23,133	12,765
274.00	11,200	435.0	19,533	42,666	15,236
275.00	12,200	405.0	11,696	54,362	17,285

Device	Routing	Invert	Outlet Devices
#1	Primary	264.45'	**18.0" Round Culvert** L= 138.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 264.45' / 262.69' S= 0.0128 '/' Cc= 0.900 n= 0.013
#2	Device 1	268.55'	**1.5" Vert. Orifice** C= 0.600
#3	Device 1	271.25'	**18.0" W x 12.0" H Vert. Grate** C= 0.600
#4	Primary	274.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.67 cfs @ 12.59 hrs HW=272.21' TW=257.02' (Dynamic Tailwater)
1=Culvert (Passes 4.67 cfs of 20.03 cfs potential flow)
2=Orifice (Orifice Controls 0.11 cfs @ 9.14 fps)
3=Grate (Orifice Controls 4.56 cfs @ 3.15 fps)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P-1:


Hydrograph
12.18 cfs
4.67 cfs
Inflow
Primary
Inflow Area=5.780 ac
Peak Elev=272.21'
Storage=24,965 cf
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2:

Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth = 2.59" for 10 yr event
Inflow = 44.66 cfs @ 12.23 hrs, Volume= 4.936 af
Outflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af, Atten= 89%, Lag= 107.4 min
Primary = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 333.05' Surf.Area= 3,307 sf Storage= 6,206 cf
Peak Elev= 337.77' @ 14.02 hrs Surf.Area= 40,534 sf Storage= 136,228 cf (130,021 cf above start)
Flood Elev= 344.75' Surf.Area= 52,000 sf Storage= 259,185 cf (252,979 cf above start)

Plug-Flow detention time= 1,392.5 min calculated for 4.635 af (94% of inflow)
Center-of-Mass det. time= 1,316.9 min (2,157.0 - 840.1)

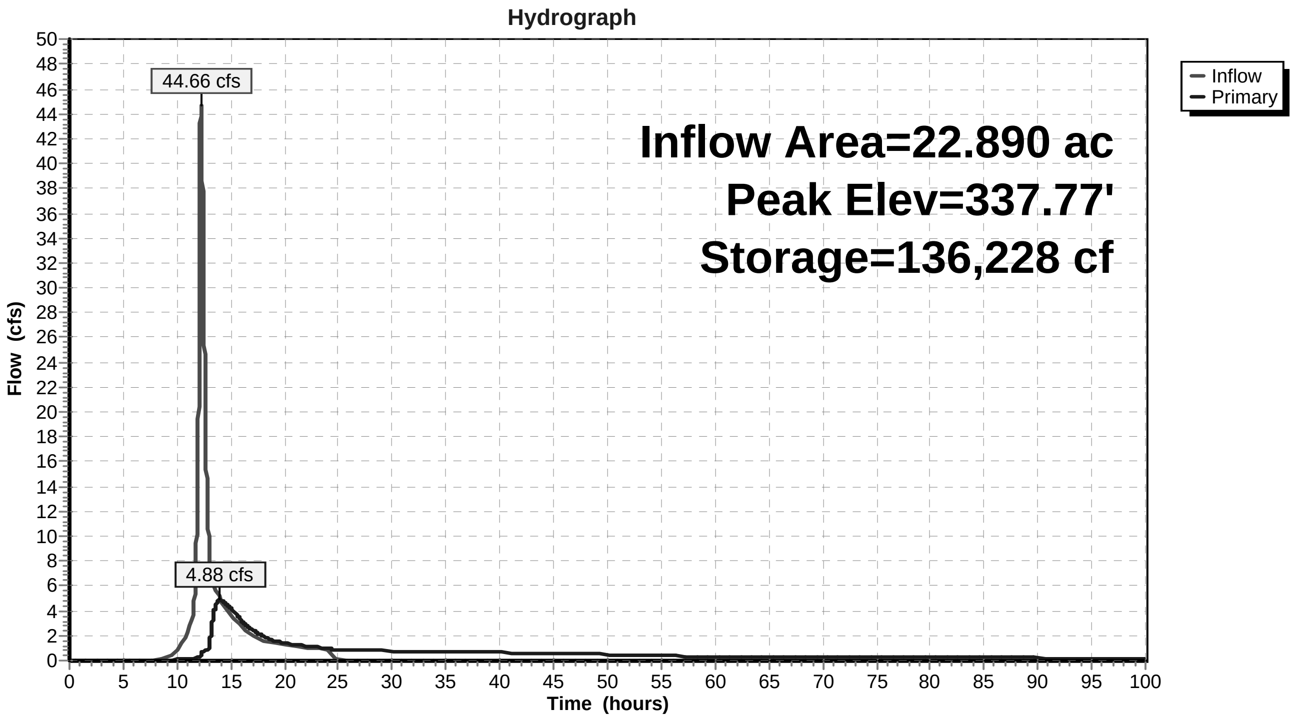
Volume	Invert	Avail.Storage	Storage Description
#1	329.05'	259,185 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
329.05	600	100.0	0	0	600
329.50	1,050	140.0	367	367	1,366
331.50	1,650	165.0	2,677	3,044	2,045
333.00	2,400	190.0	3,020	6,064	2,800
333.50	18,000	625.0	4,495	10,559	31,013
335.50	28,871	750.0	46,445	57,004	44,759
337.50	39,800	860.0	68,379	125,384	58,944
339.50	45,400	900.0	85,139	210,522	64,816
340.50	52,000	925.0	48,663	259,185	68,560

Device	Routing	Invert	Outlet Devices
#1	Primary	333.00'	**36.0" Round Culvert** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.00' / 332.87' S= 0.0050 '/' Cc= 0.900 n= 0.013
#2	Device 1	333.05'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	335.40'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	337.50'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=4.88 cfs @ 14.02 hrs HW=337.77' TW=333.69' (Dynamic Tailwater)
└─**1=Culvert** (Passes 4.88 cfs of 60.17 cfs potential flow)
 ├─**2=Orifice/Grate** (Orifice Controls 0.48 cfs @ 9.72 fps)
 ├─**3=Orifice/Grate** (Orifice Controls 0.35 cfs @ 7.21 fps)
 └─**4=Orifice/Grate** (Orifice Controls 4.05 cfs @ 1.67 fps)

Pond P2:


Hydrograph
44.66 cfs
4.88 cfs
Inflow
Primary
Inflow Area=22.890 ac
Peak Elev=337.77'
Storage=136,228 cf
Flow (cfs)
Time (hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2-DMH1:

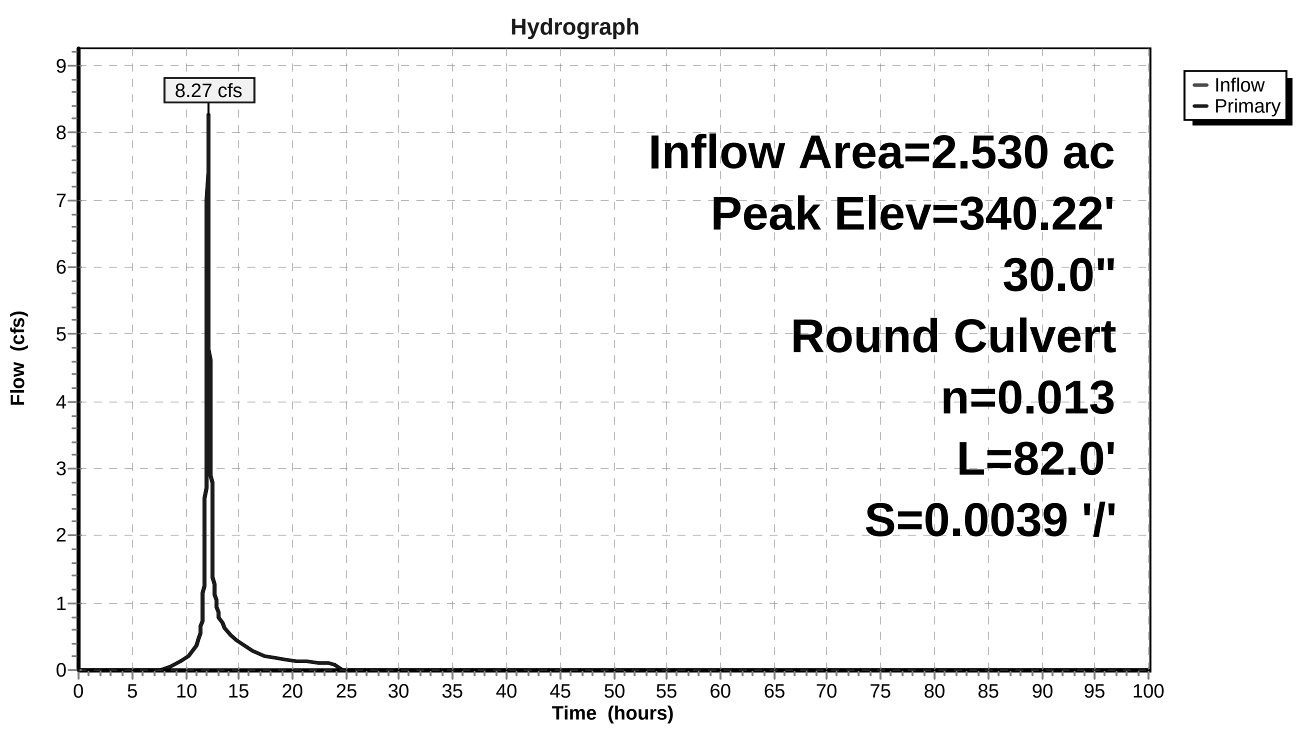
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 2.95" for 10 yr event
Inflow = 8.27 cfs @ 12.10 hrs, Volume= 0.622 af
Outflow = 8.27 cfs @ 12.10 hrs, Volume= 0.622 af, Atten= 0%, Lag= 0.0 min
Primary = 8.27 cfs @ 12.10 hrs, Volume= 0.622 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.22' @ 12.10 hrs
Flood Elev= 345.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	338.82'	**30.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 338.82' / 338.50' S= 0.0039 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=8.27 cfs @ 12.10 hrs HW=340.22' TW=335.06' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 8.27 cfs @ 4.24 fps)

Pond P2-DMH1:



Summary for Pond P2-DMH2:

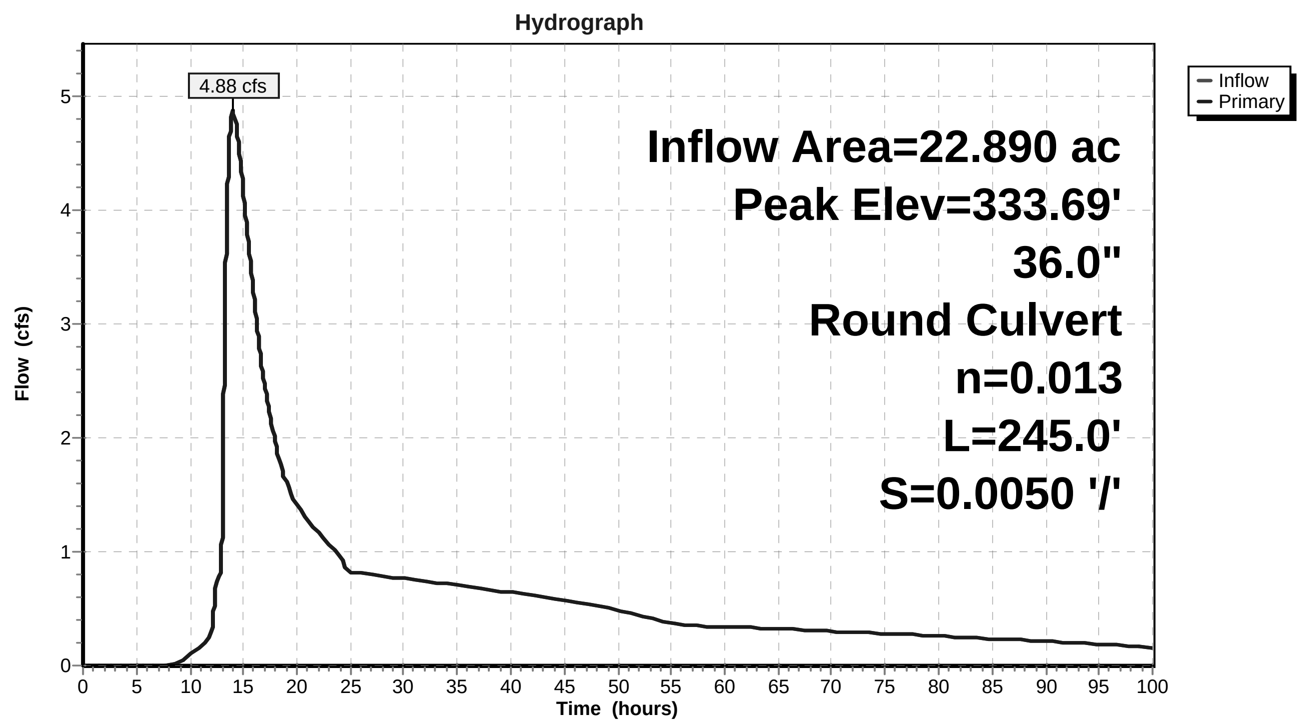
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 2.50" for 10 yr event
Inflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af
Outflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.69' @ 14.02 hrs
Flood Elev= 345.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	332.77'	**36.0" Round Culvert** L= 245.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 332.77' / 331.54' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.88 cfs @ 14.02 hrs HW=333.69' TW=332.37' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 4.88 cfs @ 3.95 fps)

Pond P2-DMH2:



Summary for Pond P2-DMH3:

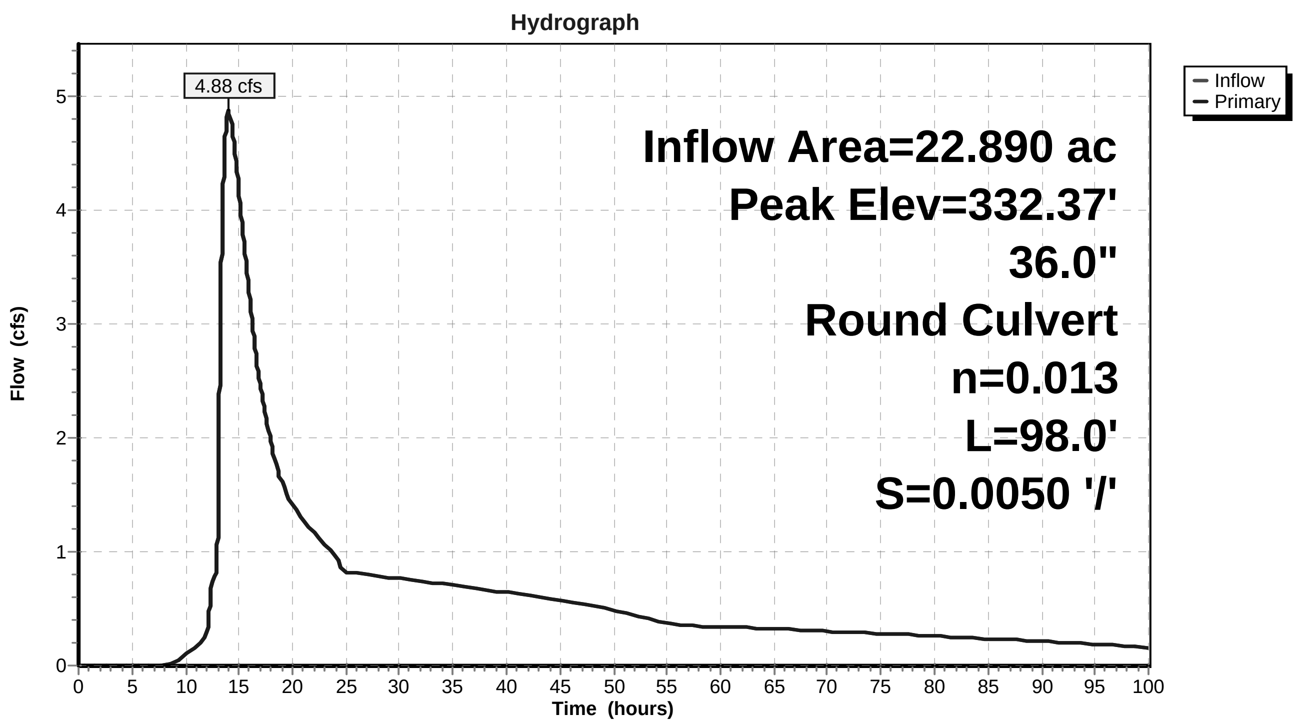
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 2.50" for 10 yr event
Inflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af
Outflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 332.37' @ 14.02 hrs
Flood Elev= 348.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	331.44'	**36.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 331.44' / 330.95' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.88 cfs @ 14.02 hrs HW=332.37' TW=330.67' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 4.88 cfs @ 3.90 fps)

Pond P2-DMH3:



Summary for Pond P2-DMH4:

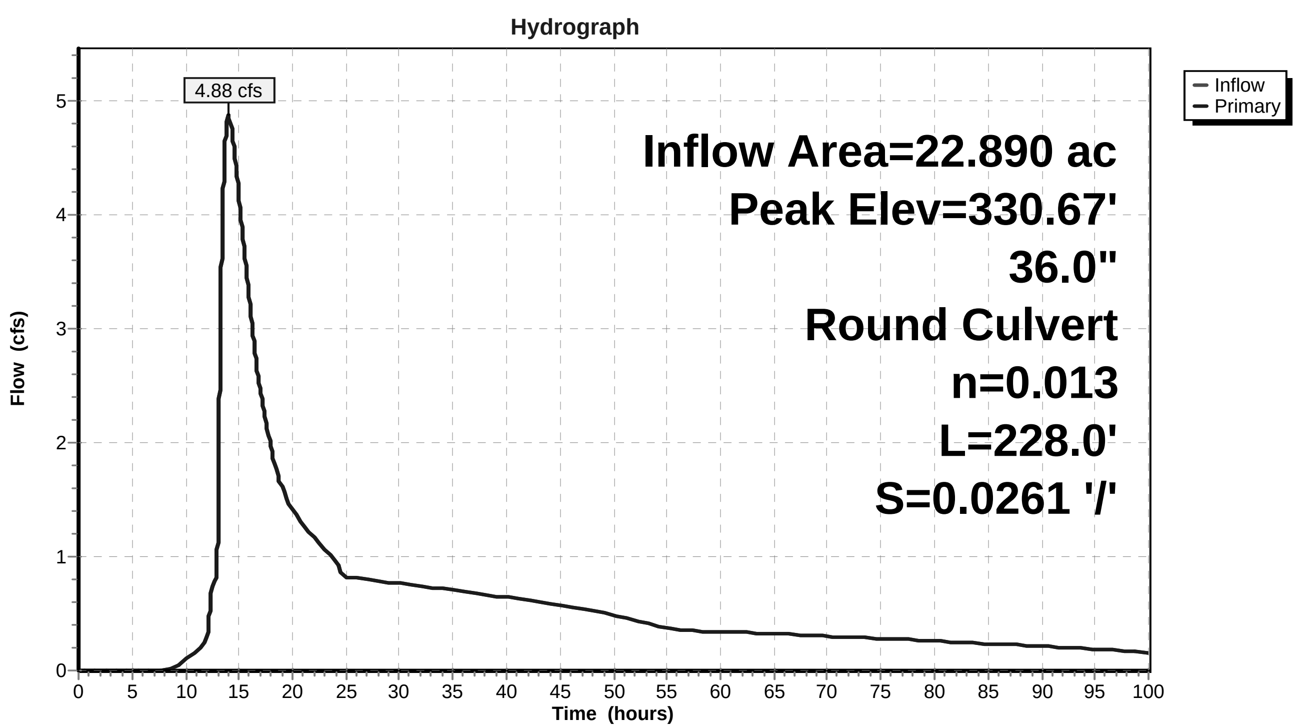
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 2.50" for 10 yr event
Inflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af
Outflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 330.67' @ 14.02 hrs
Flood Elev= 350.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	329.85'	**36.0" Round Culvert** L= 228.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 329.85' / 323.91' S= 0.0261 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.88 cfs @ 14.02 hrs HW=330.67' TW=314.63' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.88 cfs @ 3.09 fps)

Pond P2-DMH4:



Summary for Pond P2-DMH5:

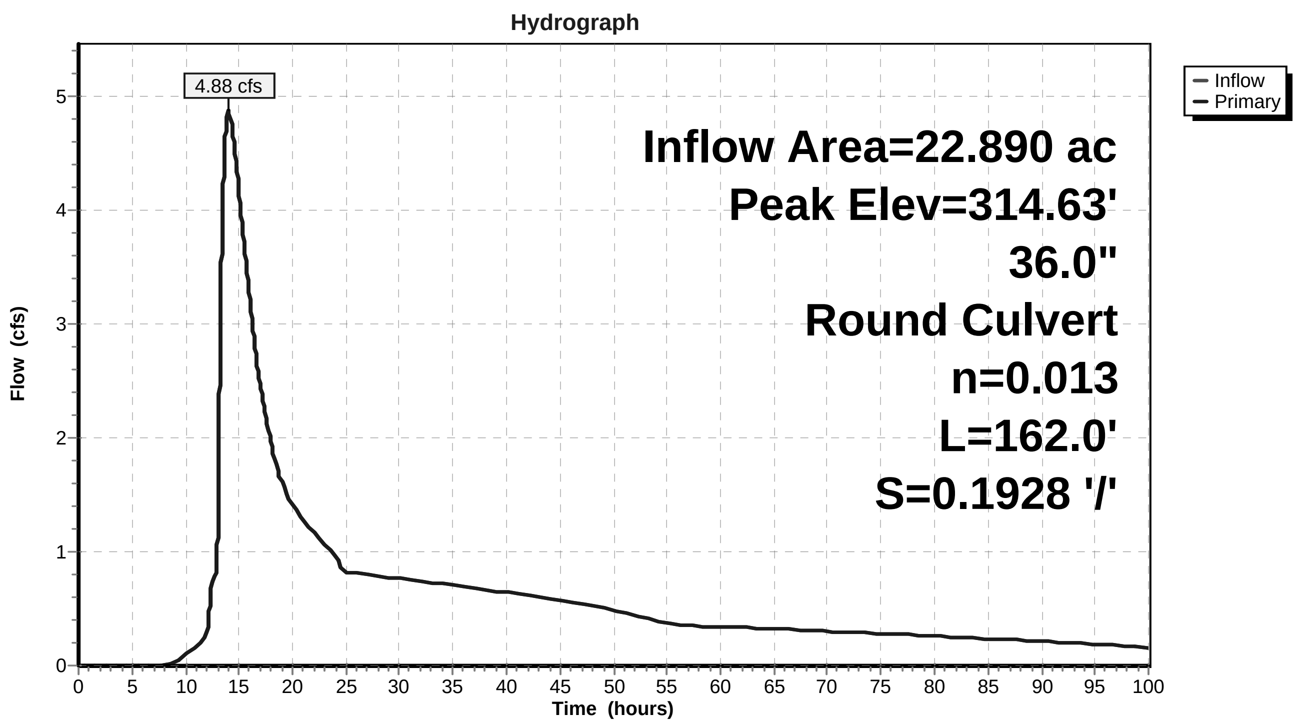
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 2.50" for 10 yr event
Inflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af
Outflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 314.63' @ 14.02 hrs
Flood Elev= 332.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	313.81'	**36.0" Round Culvert** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 313.81' / 282.58' S= 0.1928 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.88 cfs @ 14.02 hrs HW=314.63' TW=279.14' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.88 cfs @ 3.09 fps)

Pond P2-DMH5:



Summary for Pond P2-DMH6:

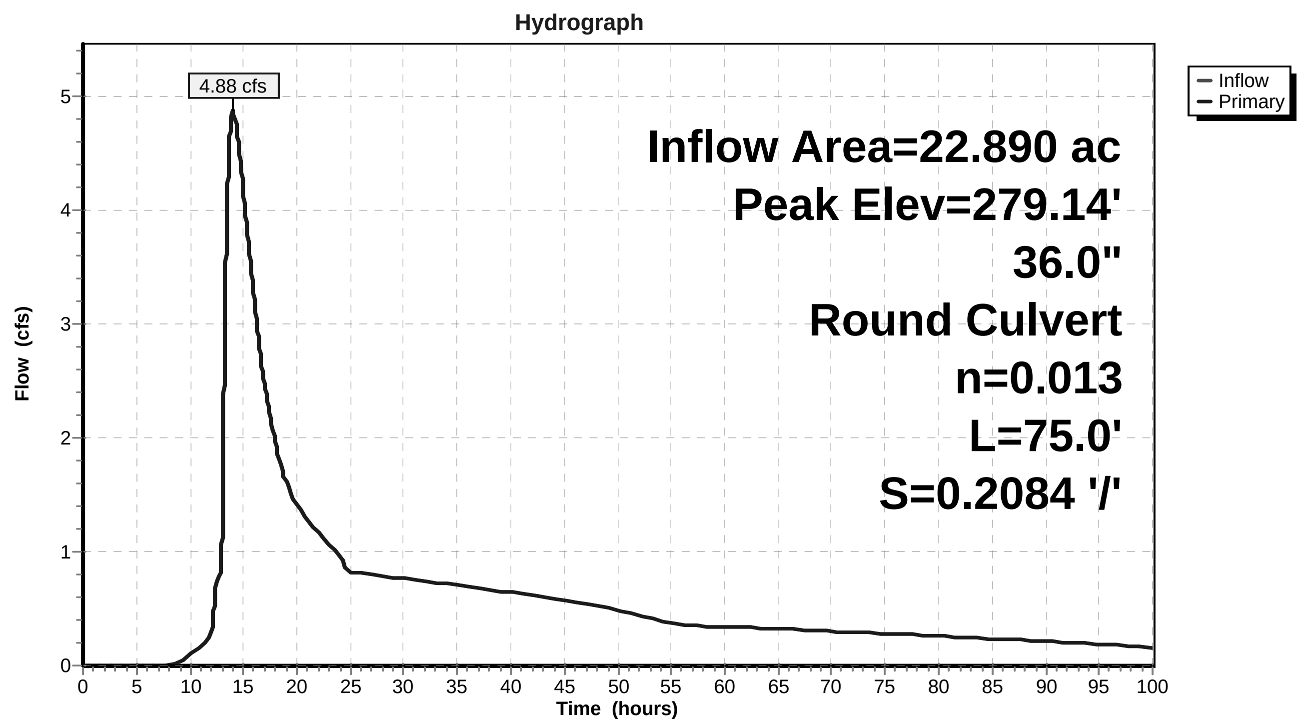
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 2.50" for 10 yr event
Inflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af
Outflow = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 14.02 hrs, Volume= 4.778 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 279.14' @ 14.02 hrs
Flood Elev= 287.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.32'	**36.0" Round Culvert** L= 75.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 278.32' / 262.69' S= 0.2084 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.88 cfs @ 14.02 hrs HW=279.14' TW=257.11' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.88 cfs @ 3.09 fps)

Pond P2-DMH6:



Summary for Pond P2-DMH7:

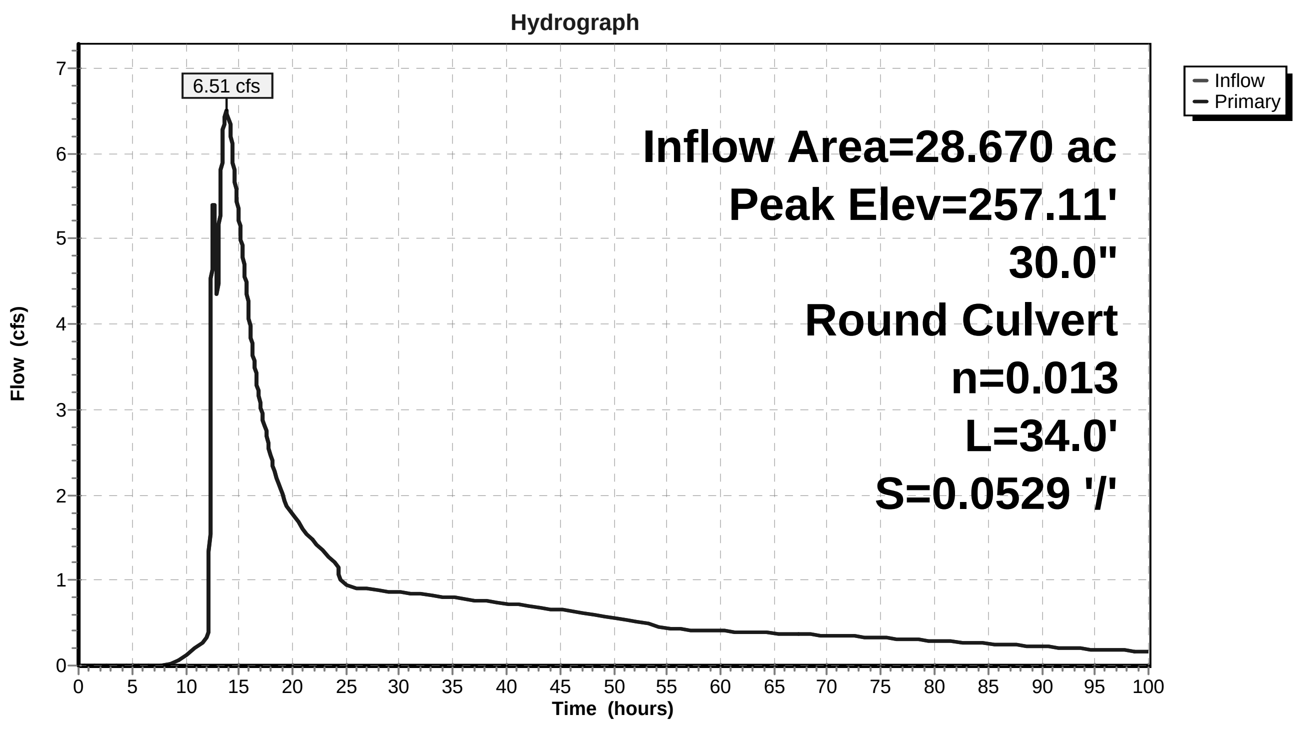
Inflow Area = 28.670 ac, 11.42% Impervious, Inflow Depth > 2.52" for 10 yr event
Inflow = 6.51 cfs @ 13.83 hrs, Volume= 6.009 af
Outflow = 6.51 cfs @ 13.83 hrs, Volume= 6.009 af, Atten= 0%, Lag= 0.0 min
Primary = 6.51 cfs @ 13.83 hrs, Volume= 6.009 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 257.11' @ 13.83 hrs
Flood Elev= 272.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	256.09'	**30.0" Round Culvert** L= 34.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 256.09' / 254.29' S= 0.0529 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.51 cfs @ 13.83 hrs HW=257.11' TW=255.13' (Dynamic Tailwater)
1=Culvert (Inlet Controls 6.51 cfs @ 3.44 fps)

Pond P2-DMH7:



Summary for Pond P3:

Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth = 2.65" for 10 yr event
Inflow = 9.15 cfs @ 12.11 hrs, Volume= 0.767 af
Outflow = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af, Atten= 40%, Lag= 11.4 min
Primary = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 298.76' Surf.Area= 1,250 sf Storage= 1,395 cf
Peak Elev= 302.33' @ 12.30 hrs Surf.Area= 4,796 sf Storage= 13,359 cf (11,964 cf above start)

Plug-Flow detention time= 870.5 min calculated for 0.731 af (95% of inflow)
Center-of-Mass det. time= 804.8 min (1,635.7 - 830.9)

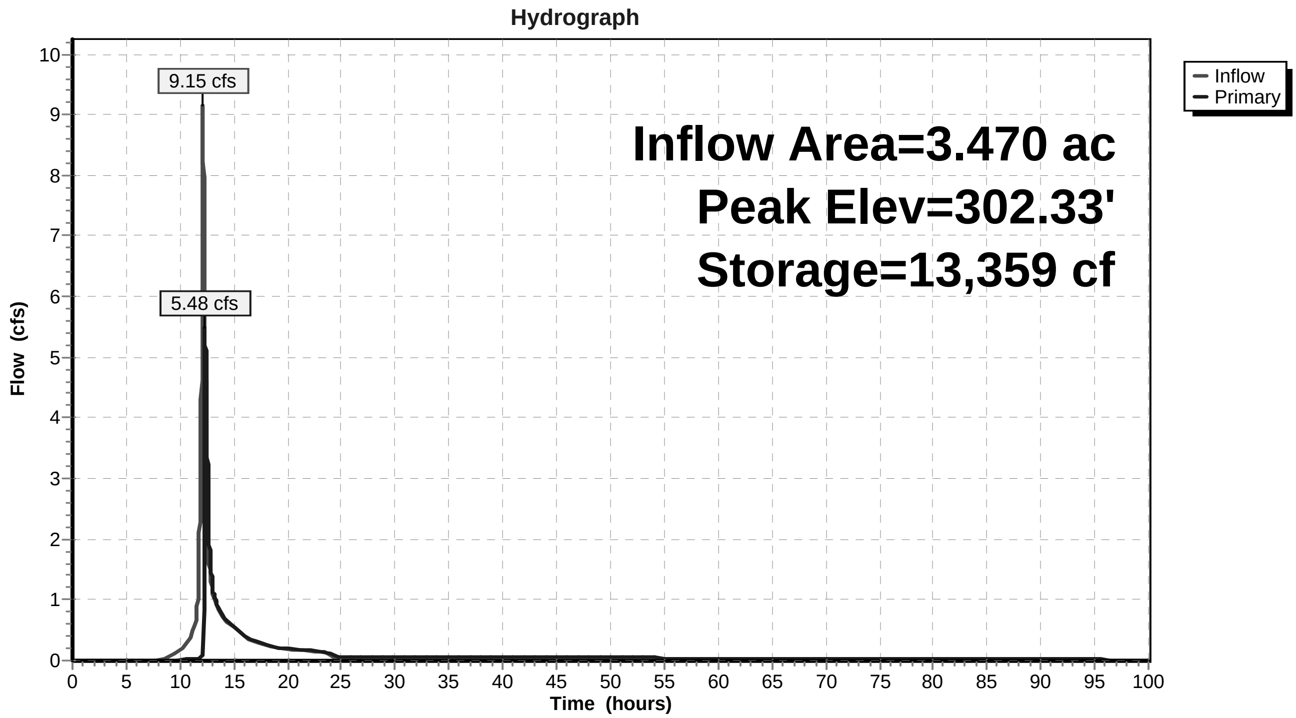
Volume	Invert	Avail.Storage	Storage Description
#1	295.50'	25,269 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
295.50	100	50.0	0	0	100
296.00	200	60.0	74	74	192
298.00	500	75.0	677	751	402
300.00	3,200	250.0	3,310	4,061	4,940
302.00	4,600	300.0	7,758	11,819	7,196
304.50	6,200	310.0	13,450	25,269	8,100

Device	Routing	Invert	Outlet Devices
#1	Primary	295.45'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 295.45' / 290.93' S= 0.0753 '/' Cc= 0.900 n= 0.013
#2	Device 1	298.76'	**1.1" Vert. Orifice** C= 0.600
#3	Device 1	302.00'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600
#4	Primary	303.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.48 cfs @ 12.30 hrs HW=302.33' TW=291.85' (Dynamic Tailwater)
—**1=Culvert** (Passes 5.48 cfs of 21.06 cfs potential flow)
 —**2=Orifice** (Orifice Controls 0.06 cfs @ 9.04 fps)
 —**3=Orifice/Grate** (Orifice Controls 5.42 cfs @ 1.84 fps)
—**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P3:


Hydrograph
9.15 cfs
5.48 cfs
Inflow Area=3.470 ac
Peak Elev=302.33'
Storage=13,359 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P3-DMH1:

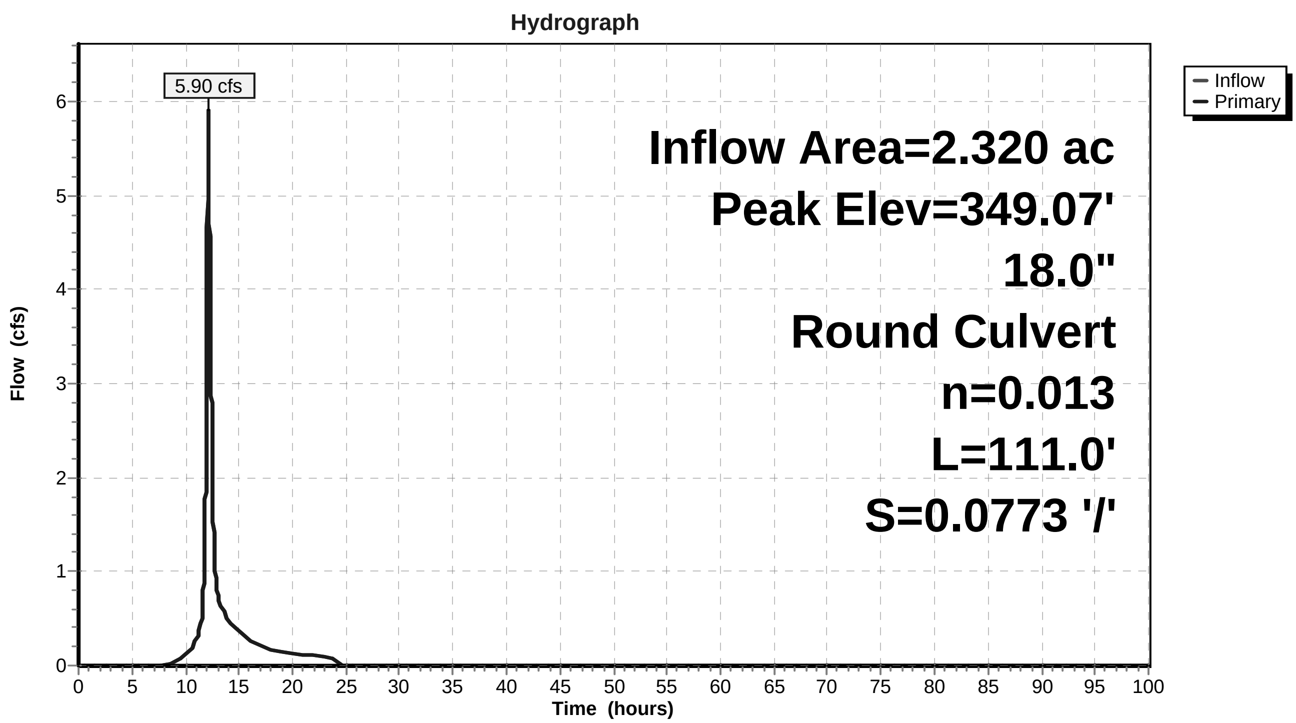
Inflow Area =	2.320 ac,	18.10% Impervious,	Inflow Depth = 2.71"	for 10 yr event	
Inflow =	5.90 cfs @	12.13 hrs,	Volume=	0.524 af	
Outflow =	5.90 cfs @	12.13 hrs,	Volume=	0.524 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.90 cfs @	12.13 hrs,	Volume=	0.524 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.07' @ 12.13 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.83'	**18.0" Round Culvert** L= 111.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.83' / 339.25' S= 0.0773 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.90 cfs @ 12.13 hrs HW=349.07' TW=324.79' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.90 cfs @ 3.79 fps)

Pond P3-DMH1:



Summary for Pond P3-DMH2:

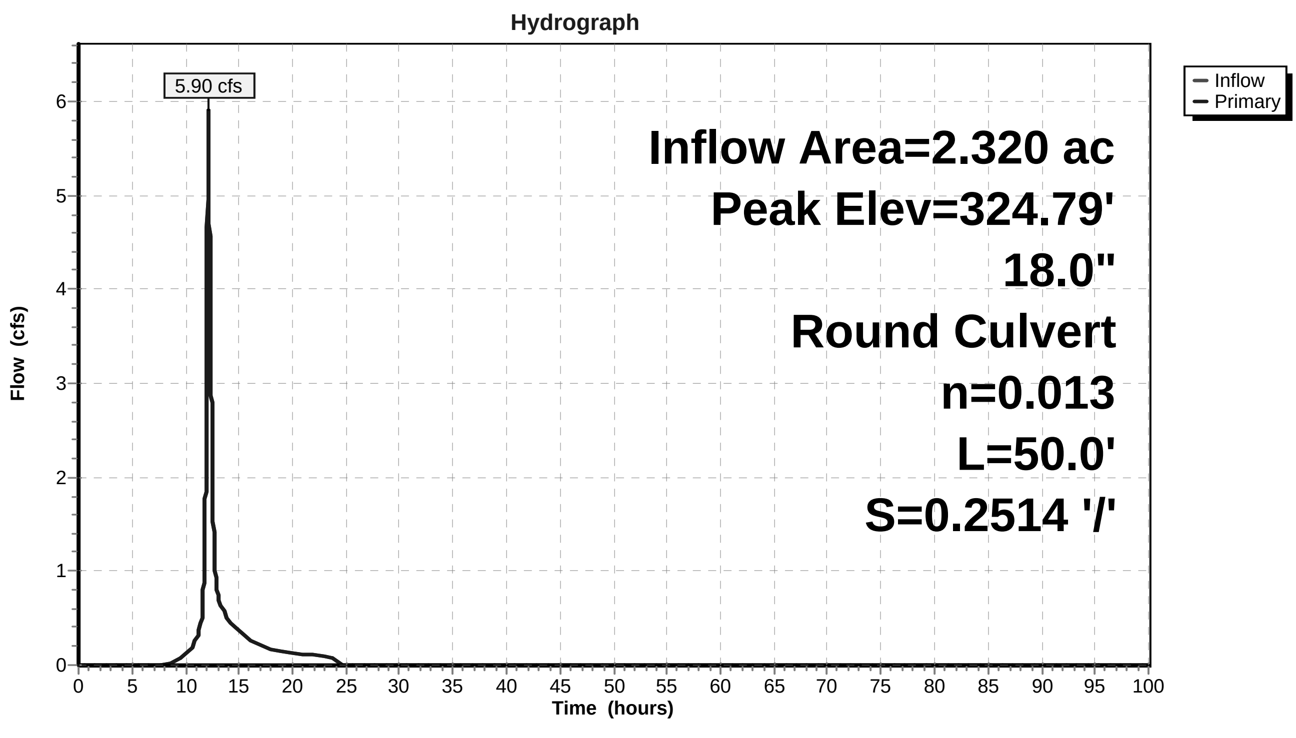
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 2.71" for 10 yr event
Inflow = 5.90 cfs @ 12.13 hrs, Volume= 0.524 af
Outflow = 5.90 cfs @ 12.13 hrs, Volume= 0.524 af, Atten= 0%, Lag= 0.0 min
Primary = 5.90 cfs @ 12.13 hrs, Volume= 0.524 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 324.79' @ 12.13 hrs
Flood Elev= 342.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	323.55'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 323.55' / 310.98' S= 0.2514 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.90 cfs @ 12.13 hrs HW=324.79' TW=304.18' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.90 cfs @ 3.79 fps)

Pond P3-DMH2:



Summary for Pond P3-DMH3A:

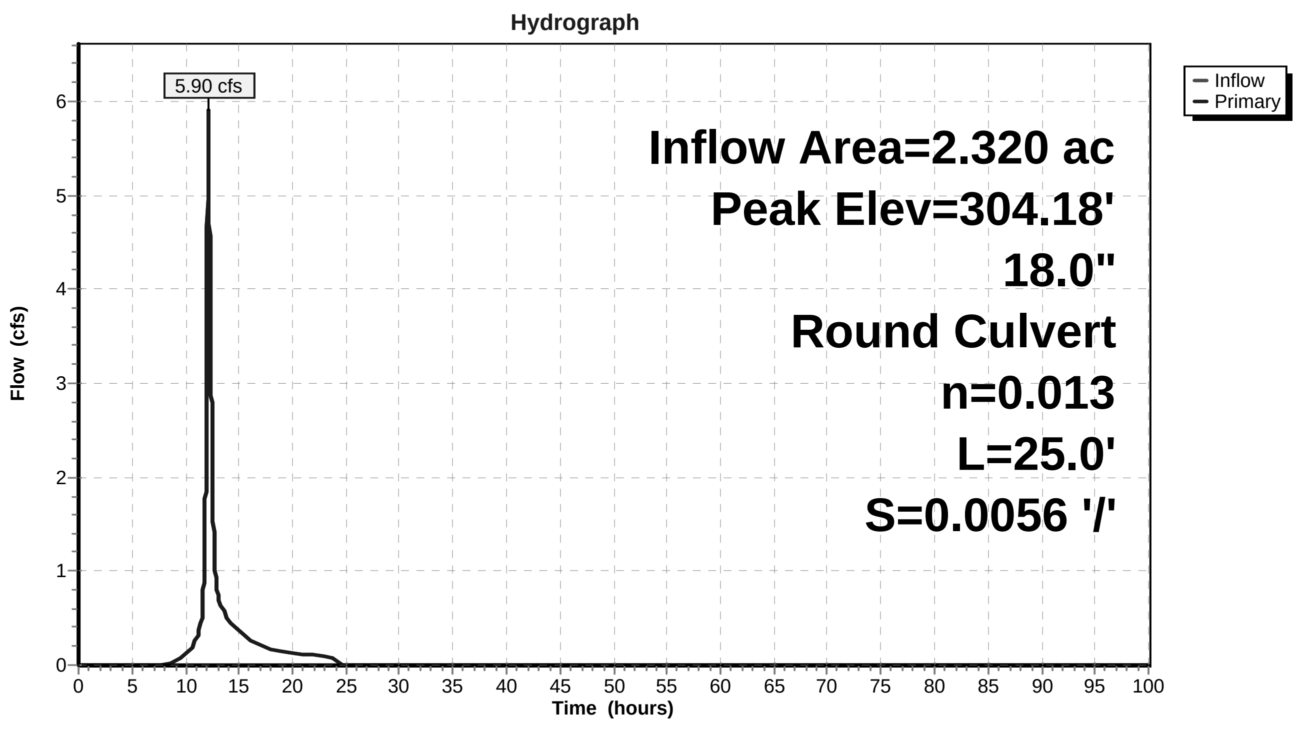
Inflow Area =	2.320 ac,	18.10% Impervious,	Inflow Depth = 2.71"	for 10 yr event
Inflow =	5.90 cfs @	12.13 hrs, Volume=	0.524 af	
Outflow =	5.90 cfs @	12.13 hrs, Volume=	0.524 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.90 cfs @	12.13 hrs, Volume=	0.524 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 304.18' @ 12.13 hrs
Flood Elev= 321.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.64'	**18.0" Round Culvert** L= 25.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.64' / 302.50' S= 0.0056 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.90 cfs @ 12.13 hrs HW=304.18' TW=303.70' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.90 cfs @ 3.34 fps)

Pond P3-DMH3A:



Summary for Pond P3-DMH3B:

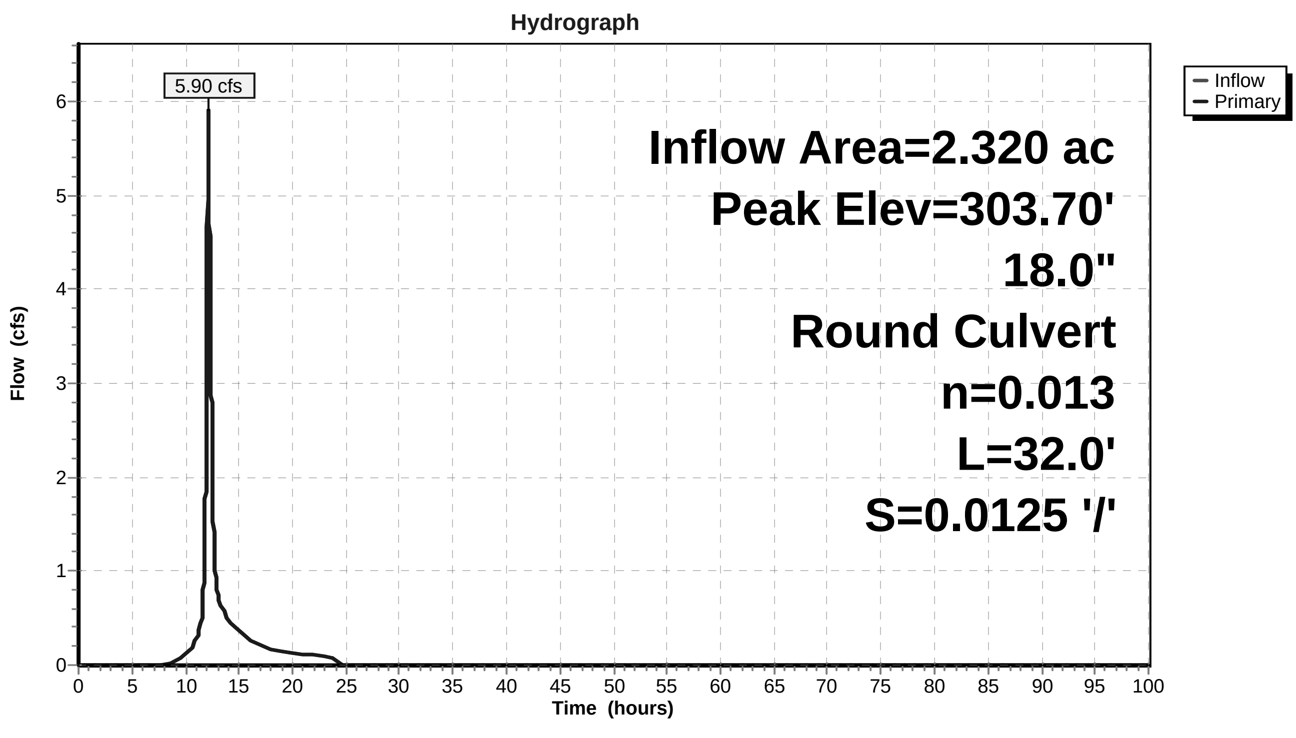
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 2.71" for 10 yr event
Inflow = 5.90 cfs @ 12.13 hrs, Volume= 0.524 af
Outflow = 5.90 cfs @ 12.13 hrs, Volume= 0.524 af, Atten= 0%, Lag= 0.0 min
Primary = 5.90 cfs @ 12.13 hrs, Volume= 0.524 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 303.70' @ 12.13 hrs
Flood Elev= 305.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.40'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.40' / 302.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=5.90 cfs @ 12.13 hrs HW=303.70' TW=301.72' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 5.90 cfs @ 4.85 fps)

Pond P3-DMH3B:



Summary for Pond P3-DMH4:

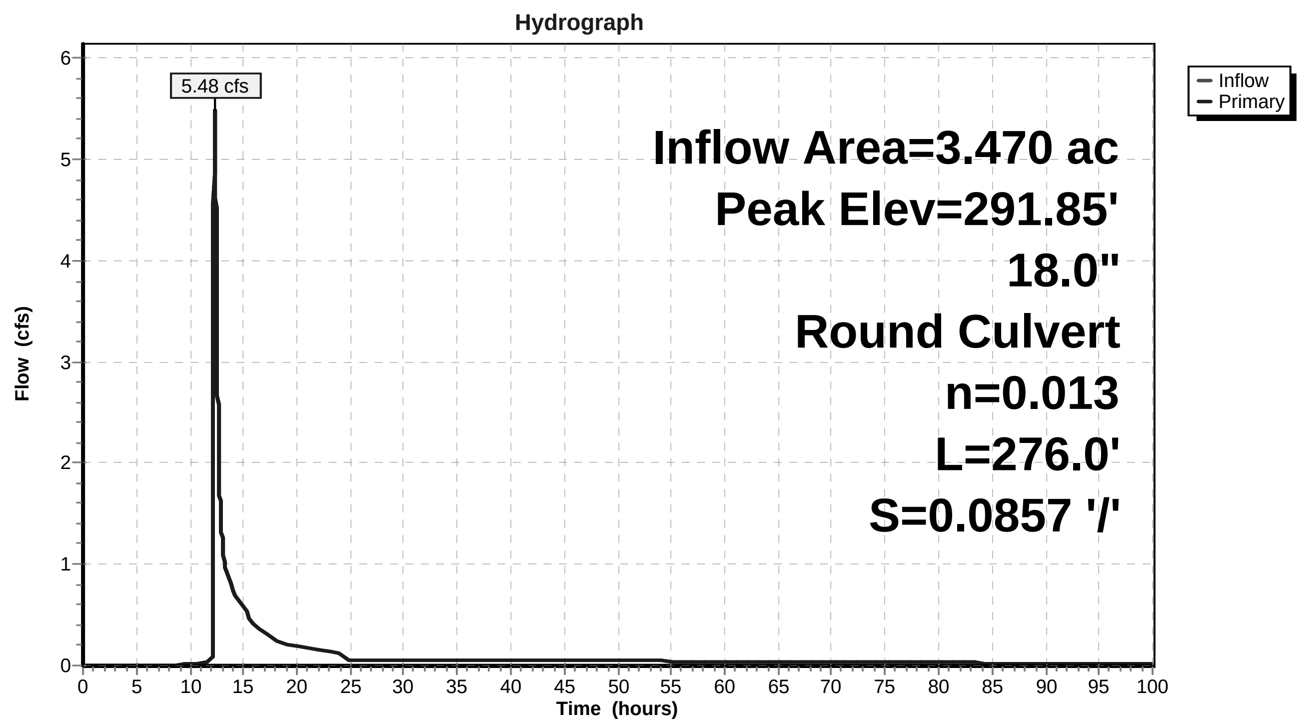
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 2.64" for 10 yr event
Inflow = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af
Outflow = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af, Atten= 0%, Lag= 0.0 min
Primary = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 291.85' @ 12.30 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	290.83'	**18.0" Round Culvert** L= 276.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 290.83' / 267.17' S= 0.0857 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=5.48 cfs @ 12.30 hrs HW=291.85' TW=264.17' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.48 cfs @ 4.29 fps)

Pond P3-DMH4:



Summary for Pond P3-DMH5:

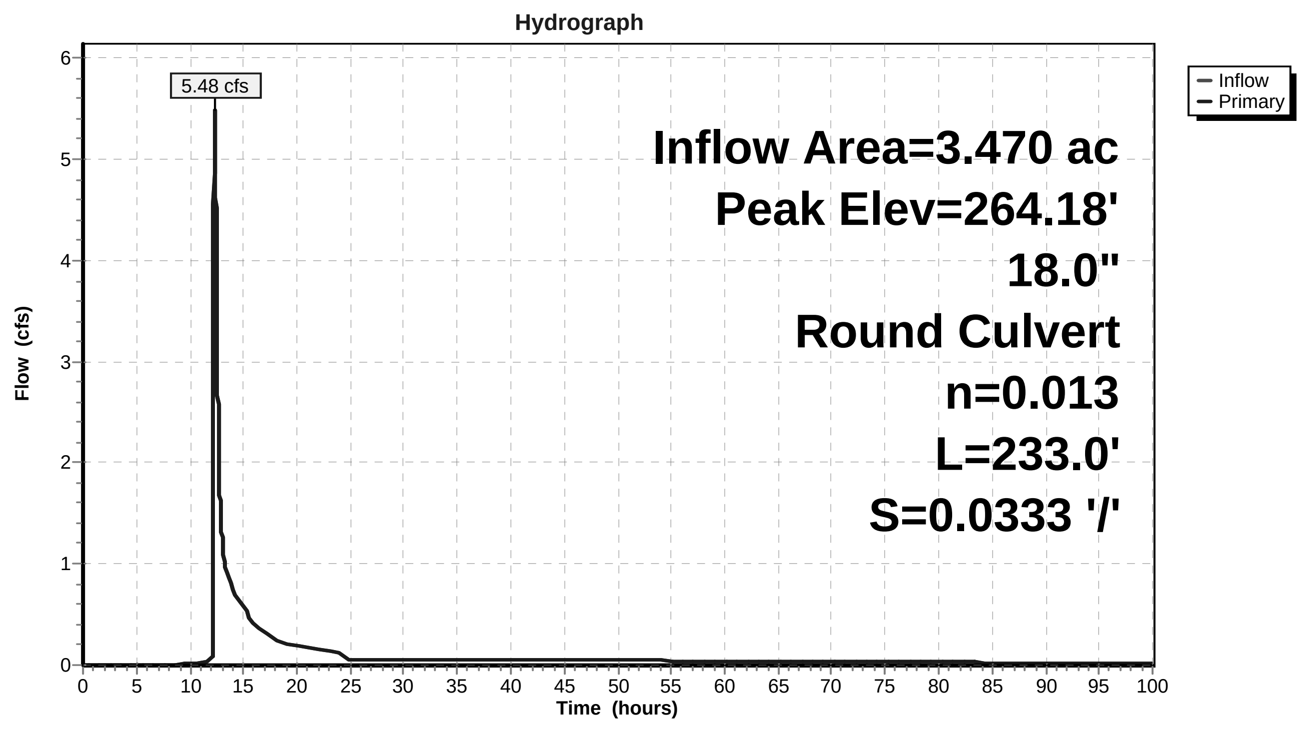
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 2.64" for 10 yr event
Inflow = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af
Outflow = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af, Atten= 0%, Lag= 0.0 min
Primary = 5.48 cfs @ 12.30 hrs, Volume= 0.763 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 264.18' @ 12.30 hrs
Flood Elev= 271.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	263.00'	**18.0" Round Culvert** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 263.00' / 255.25' S= 0.0333 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.48 cfs @ 12.30 hrs HW=264.17' TW=255.24' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.48 cfs @ 3.69 fps)

Pond P3-DMH5:



Summary for Pond WQV-P:

Inflow Area = 0.690 ac, 20.29% Impervious, Inflow Depth = 2.85" for 10 yr event
Inflow = 2.07 cfs @ 12.10 hrs, Volume= 0.164 af
Outflow = 1.05 cfs @ 12.29 hrs, Volume= 0.118 af, Atten= 49%, Lag= 11.2 min
Primary = 1.05 cfs @ 12.29 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 255.83' @ 12.29 hrs Surf.Area= 1,431 sf Storage= 2,781 cf
Flood Elev= 258.00' Surf.Area= 2,100 sf Storage= 6,625 cf

Plug-Flow detention time= 188.2 min calculated for 0.118 af (72% of inflow)
Center-of-Mass det. time= 91.7 min (899.8 - 808.1)

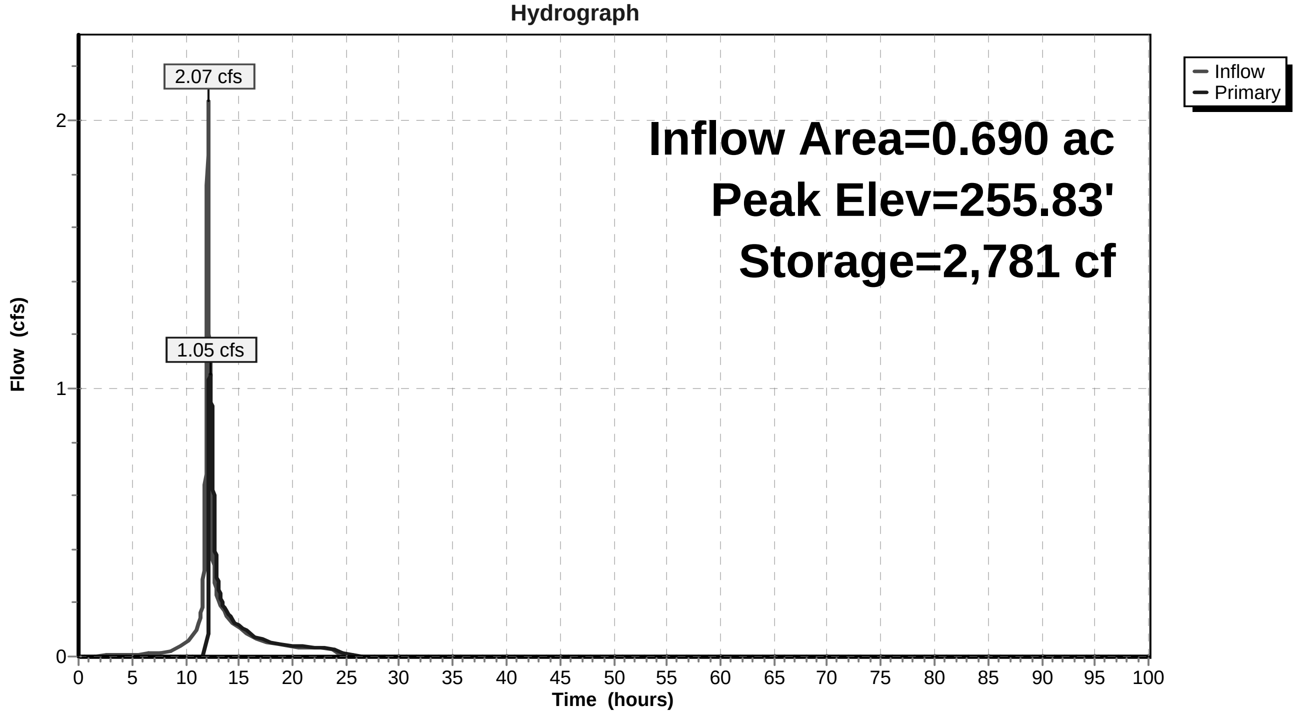
Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	6,625 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	175	0	0
254.00	675	850	850
256.00	1,500	2,175	3,025
258.00	2,100	3,600	6,625

Device	Routing	Invert	Outlet Devices
#1	Primary	255.25'	**8.0" Round Culvert** L= 22.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 255.25' / 254.00' S= 0.0568 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	255.25'	**36.0" W x 24.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=1.05 cfs @ 12.29 hrs HW=255.83' TW=253.32' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.05 cfs @ 3.25 fps)
  └─**2=Orifice/Grate** (Passes 1.05 cfs of 8.58 cfs potential flow)

Pond WQV-P:


Hydrograph
2.07 cfs
1.05 cfs
Inflow Area=0.690 ac
Peak Elev=255.83'
Storage=2,781 cf
Inflow
Primary
Flow (cfs)
0
1
2
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Time (hours)

Summary for Subcatchment 1a:

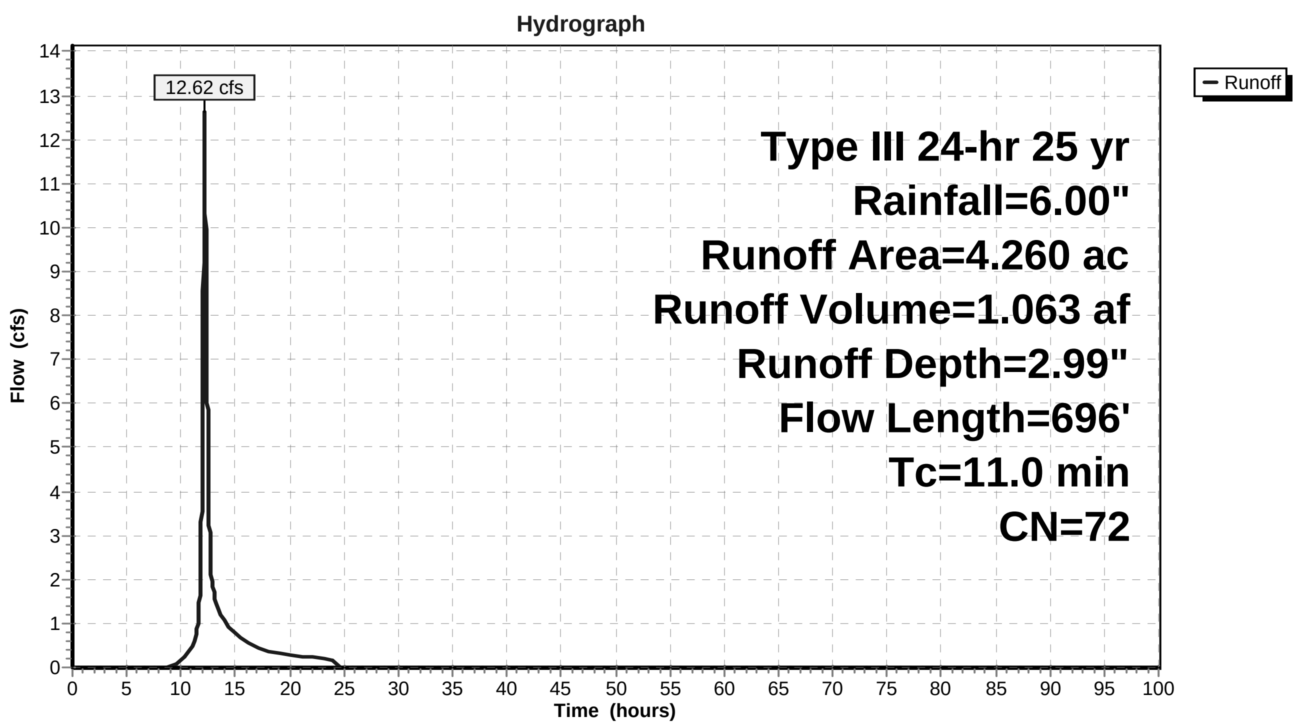
Runoff = 12.62 cfs @ 12.16 hrs, Volume= 1.063 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
2.530	73	Woods, Fair, HSG C
0.040	74	>75% Grass cover, Good, HSG C
4.260	72	Weighted Average
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

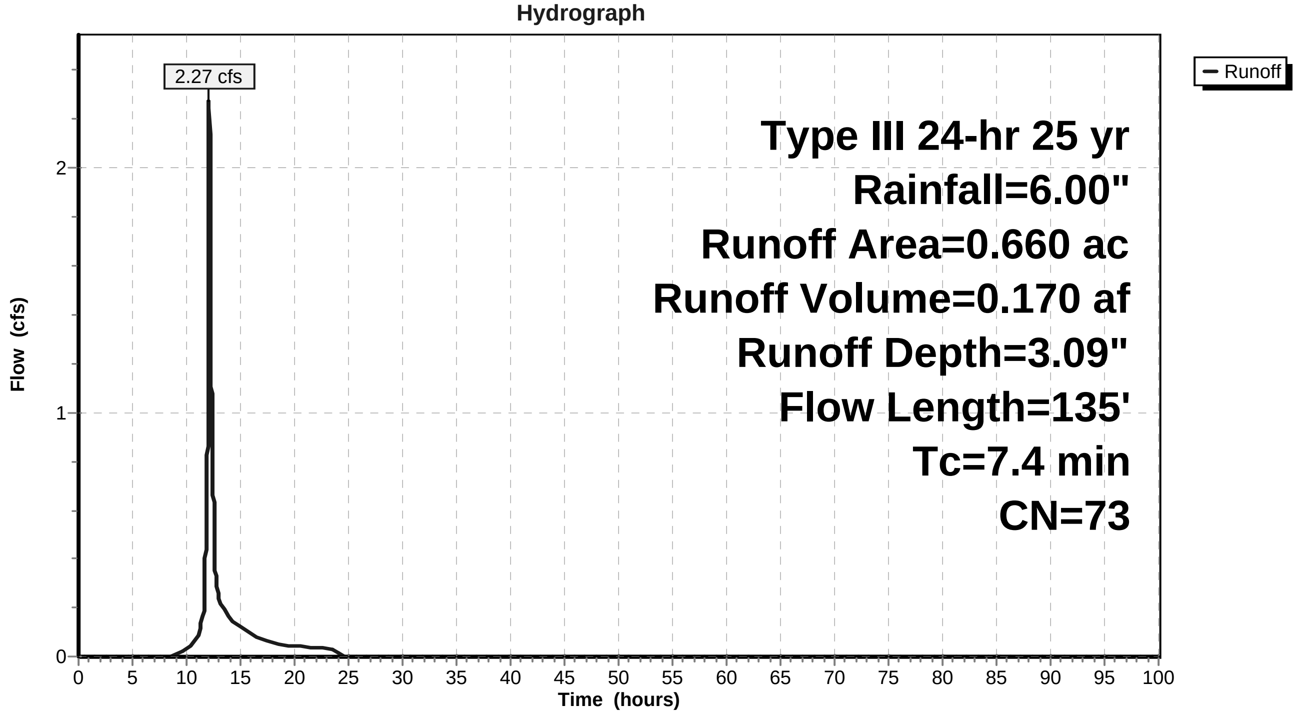
Runoff = 2.27 cfs @ 12.11 hrs, Volume= 0.170 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.350	73	Woods, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.060	70	Brush, Fair, HSG C
0.660	73	Weighted Average
0.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	10	0.3800	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.0	40	0.3800	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	15	0.3800	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	35	0.3800	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	35	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.4	135	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

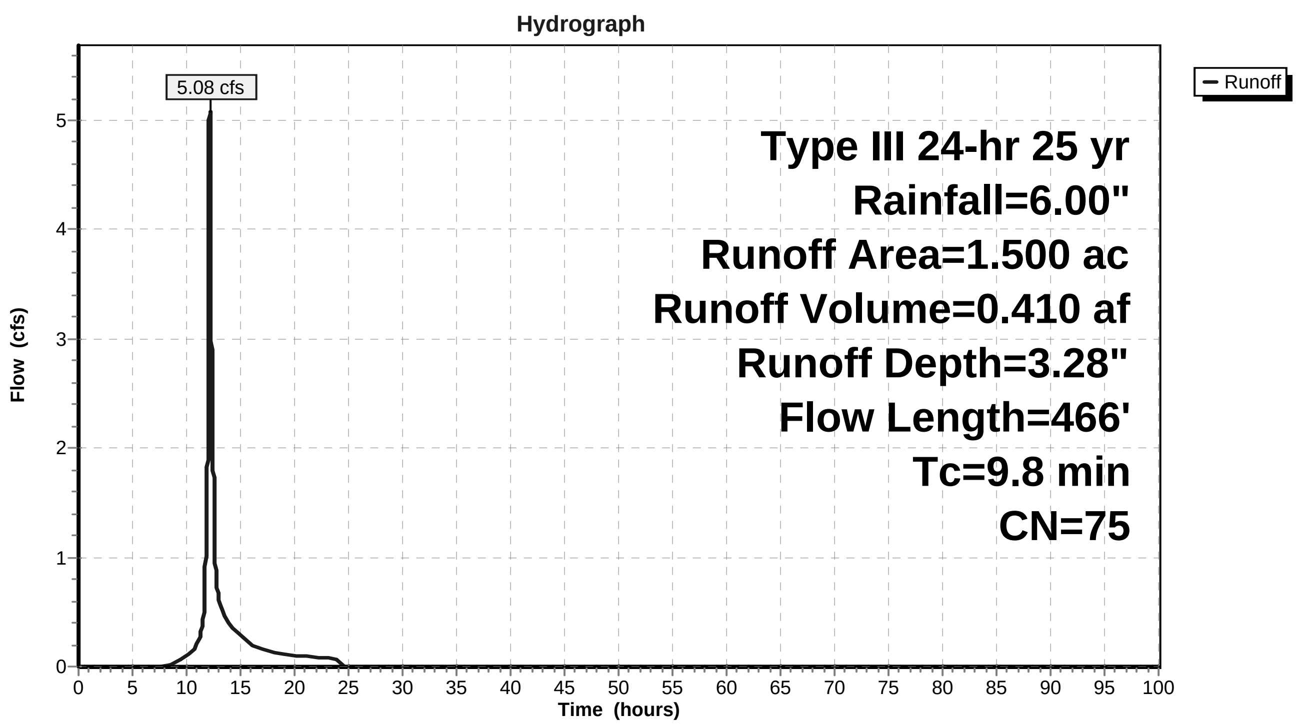
Runoff = 5.08 cfs @ 12.14 hrs, Volume= 0.410 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
1.200	73	Woods, Fair, HSG C
0.100	74	>75% Grass cover, Good, HSG C
0.140	79	50-75% Grass cover, Fair, HSG C
0.060	98	Paved parking & roofs
1.500	75	Weighted Average
1.440		96.00% Pervious Area
0.060		4.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	200	0.2600	8.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	166	0.0150	5.76	15.36	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
9.8	466	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

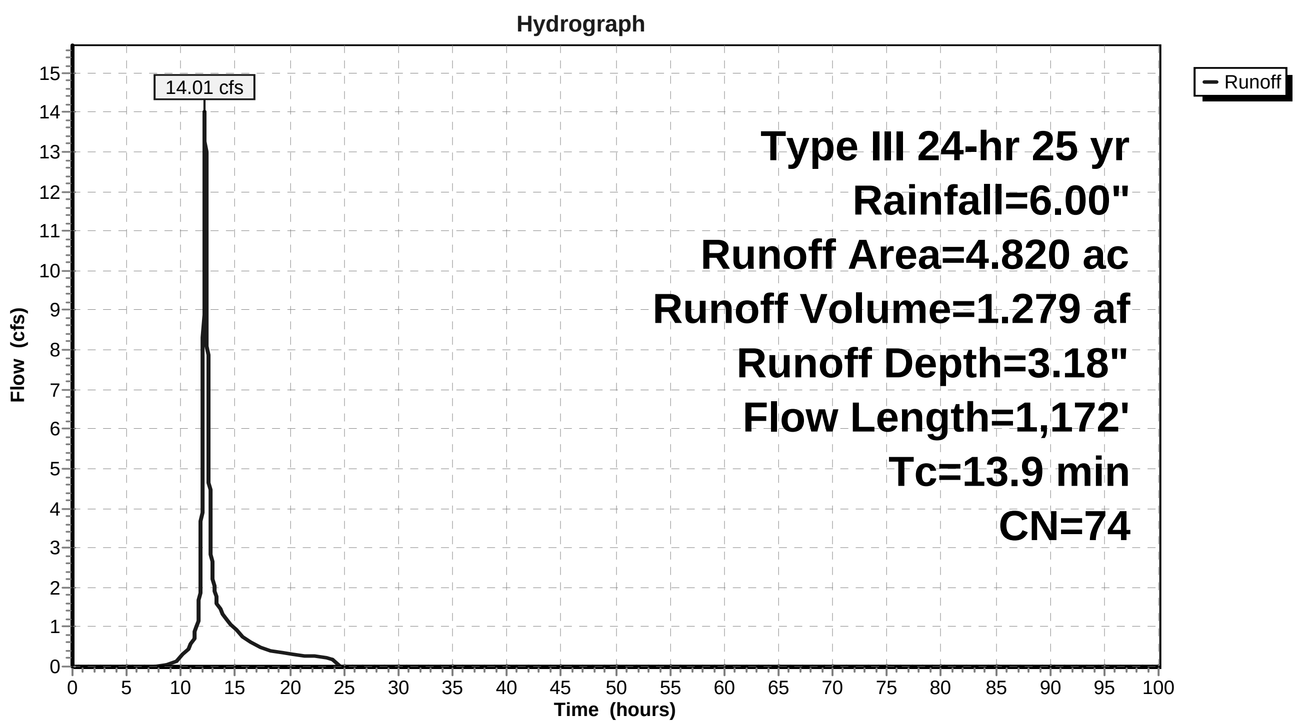
Runoff = 14.01 cfs @ 12.19 hrs, Volume= 1.279 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
3.910	73	Woods, Fair, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking & roofs
4.820	74	Weighted Average
4.670		96.89% Pervious Area
0.150		3.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.7	850	0.1040	5.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	222	0.0450	9.97	26.60	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
13.9	1,172	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

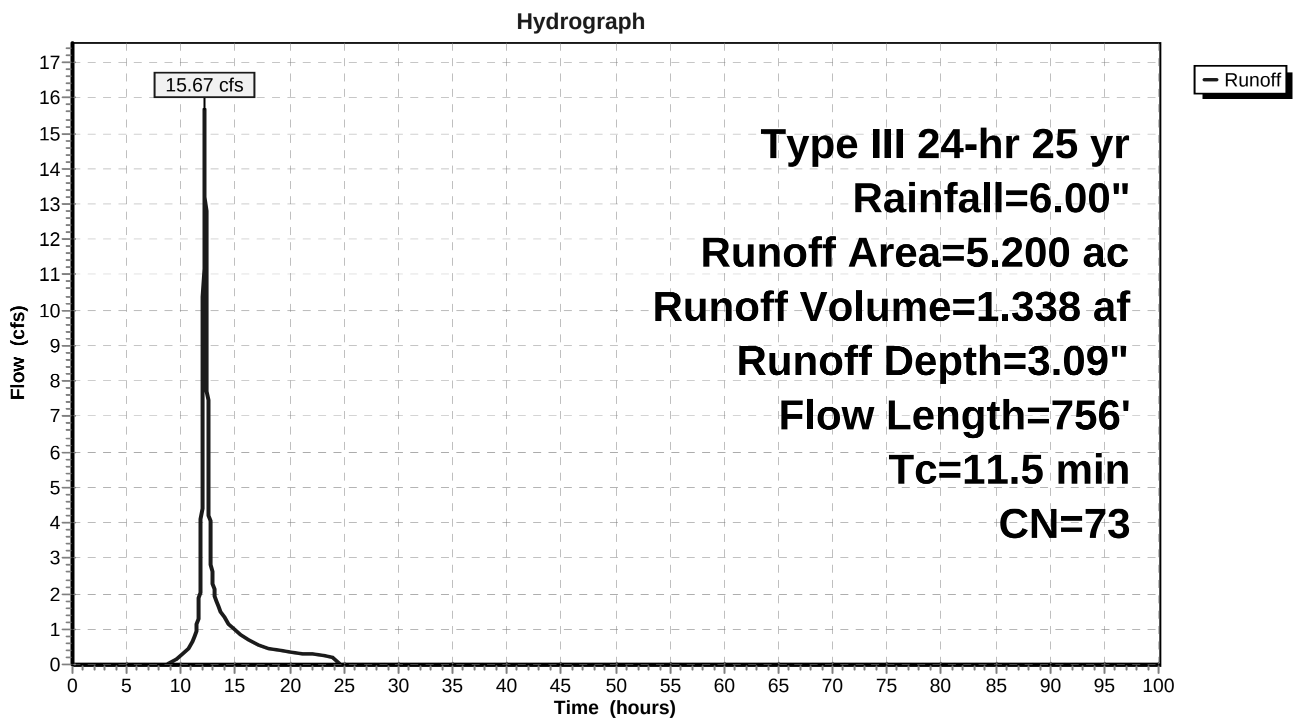
Runoff = 15.67 cfs @ 12.16 hrs, Volume= 1.338 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
4.160	73	Woods, Fair, HSG C
5.200	73	Weighted Average
5.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	656	0.0910	4.86		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	756	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

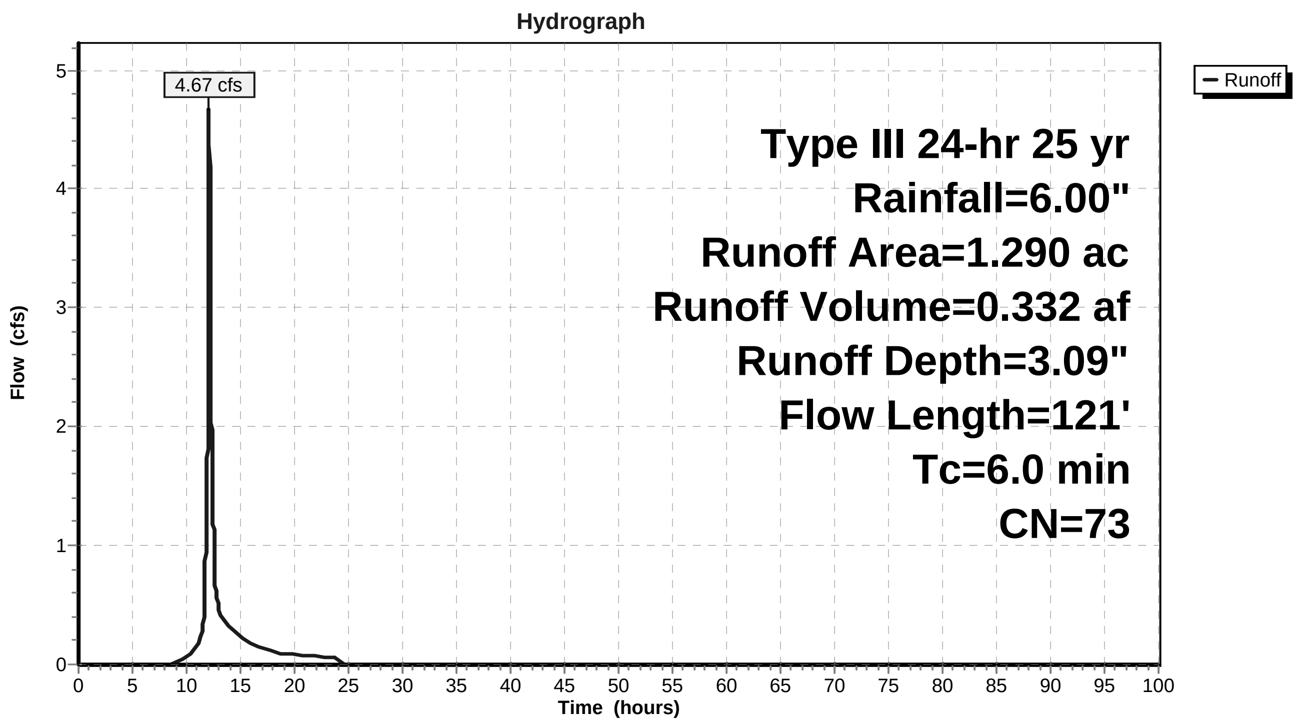
Runoff = 4.67 cfs @ 12.09 hrs, Volume= 0.332 af, Depth= 3.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.610	74	>75% Grass cover, Good, HSG C
0.680	73	Woods, Fair, HSG C
1.290	73	Weighted Average
1.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	100	0.3300	0.37		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.1	21	0.1420	6.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.5	121	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2b:



Summary for Subcatchment 2c:

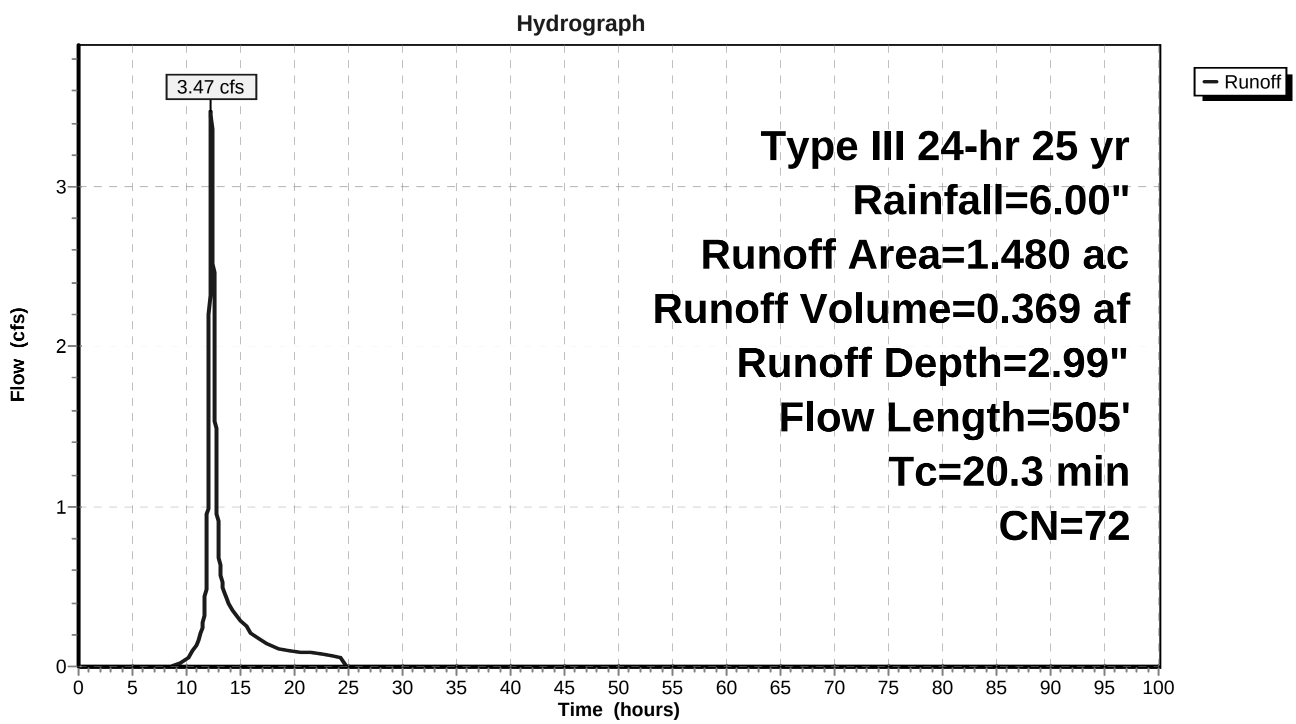
Runoff = 3.47 cfs @ 12.29 hrs, Volume= 0.369 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.800	73	Woods, Fair, HSG C
0.680	70	Brush, Fair, HSG C
1.480	72	Weighted Average
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0250	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	405	0.0790	4.53		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.3	505	Total			

Subcatchment 2c:



Summary for Subcatchment CB10A:

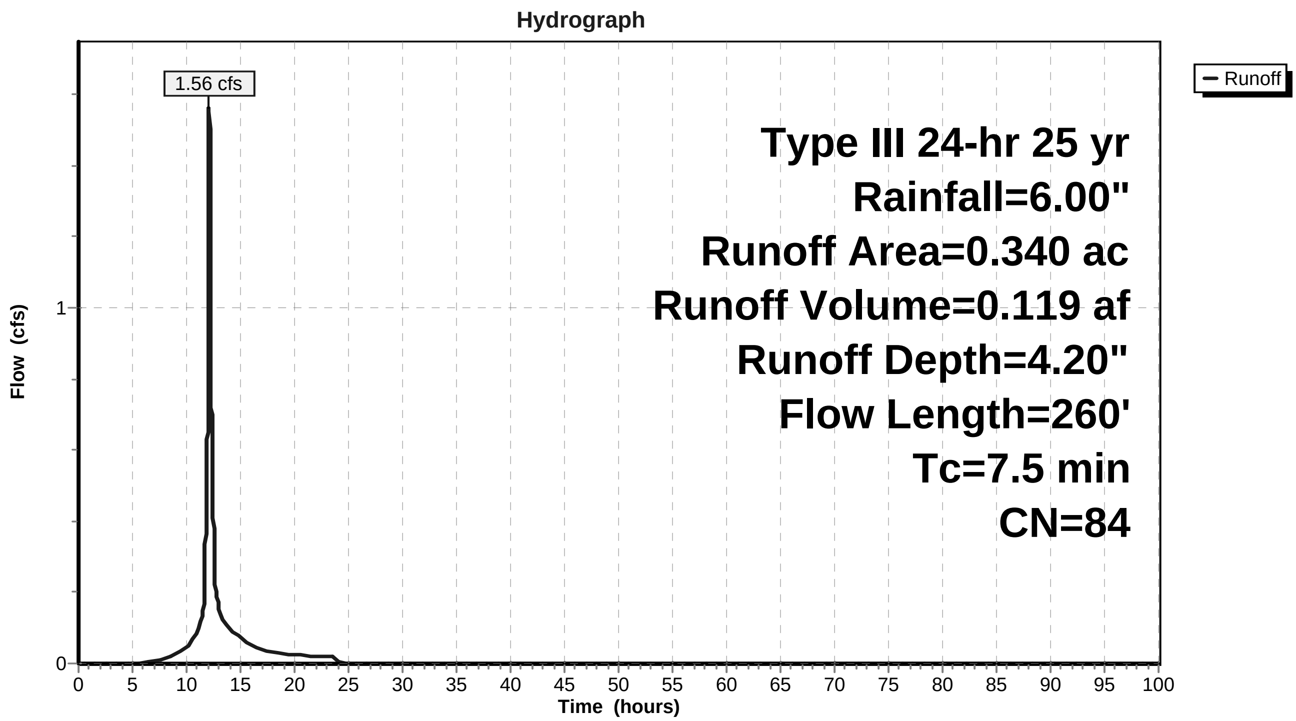
Runoff = 1.56 cfs @ 12.11 hrs, Volume= 0.119 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.200	74	>75% Grass cover, Good, HSG C
0.340	84	Weighted Average
0.200		58.82% Pervious Area
0.140		41.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0600	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.6	40	0.0200	1.20		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	160	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	260	Total			

Subcatchment CB10A:



Summary for Subcatchment CB10B:

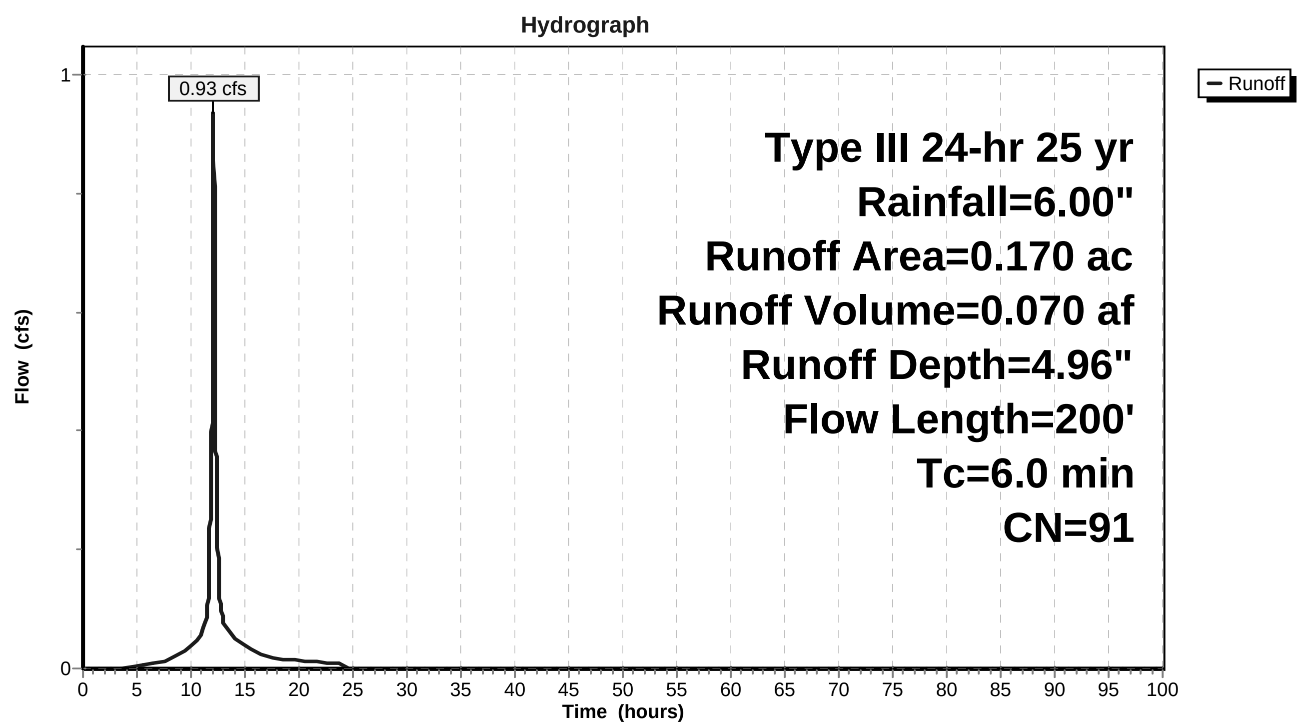
Runoff = 0.93 cfs @ 12.08 hrs, Volume= 0.070 af, Depth= 4.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.120	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.170	91	Weighted Average
0.050		29.41% Pervious Area
0.120		70.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	80	0.0100	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	100	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB10B:



Summary for Subcatchment CB11A:

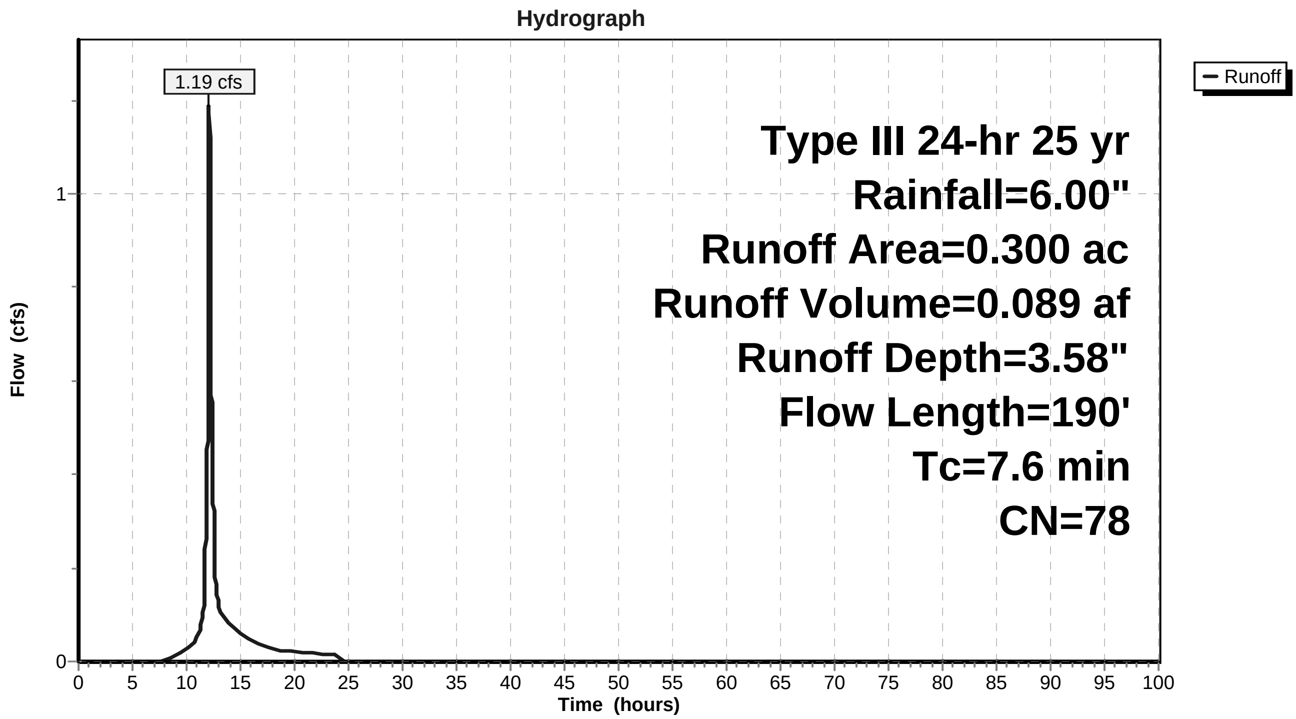
Runoff = 1.19 cfs @ 12.11 hrs, Volume= 0.089 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.300	78	Weighted Average
0.250		83.33% Pervious Area
0.050		16.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	15	0.2500	8.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	75	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.6	190	Total			

Subcatchment CB11A:



Summary for Subcatchment CB11B:

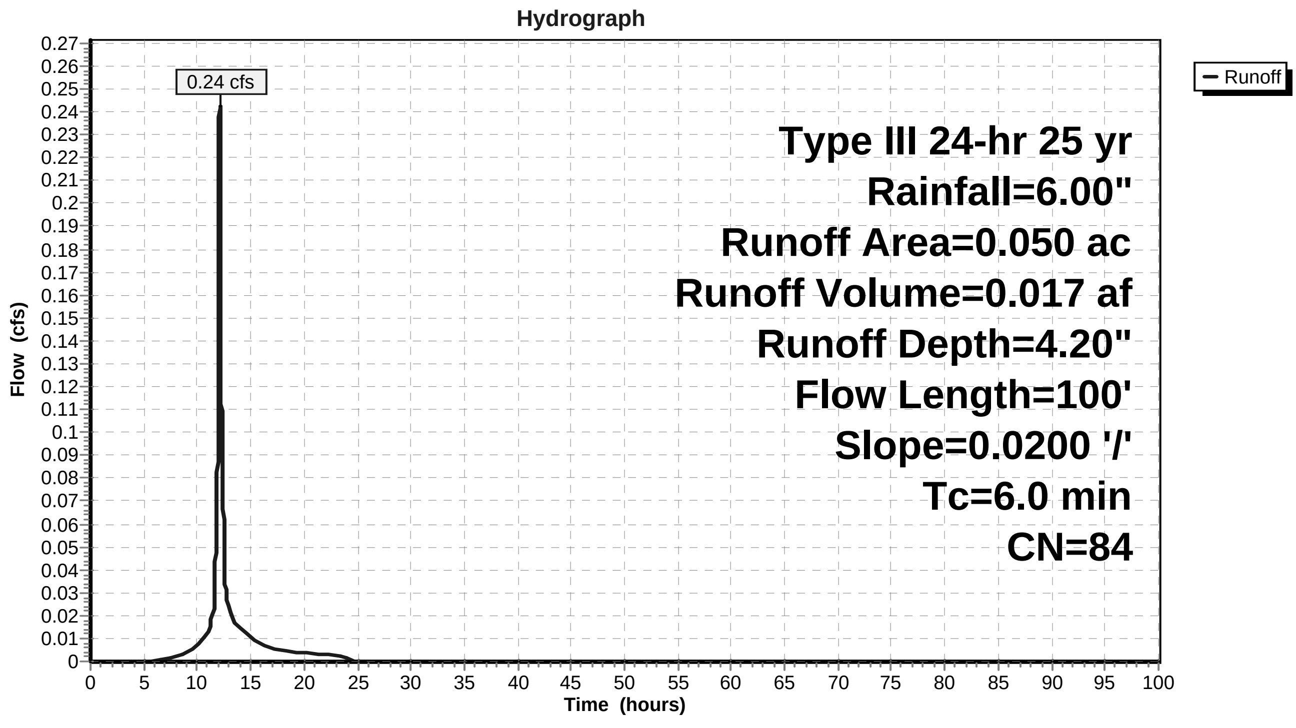
Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.030	74	>75% Grass cover, Good, HSG C
0.050	84	Weighted Average
0.030		60.00% Pervious Area
0.020		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.2	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB11B:



Summary for Subcatchment CB12A:

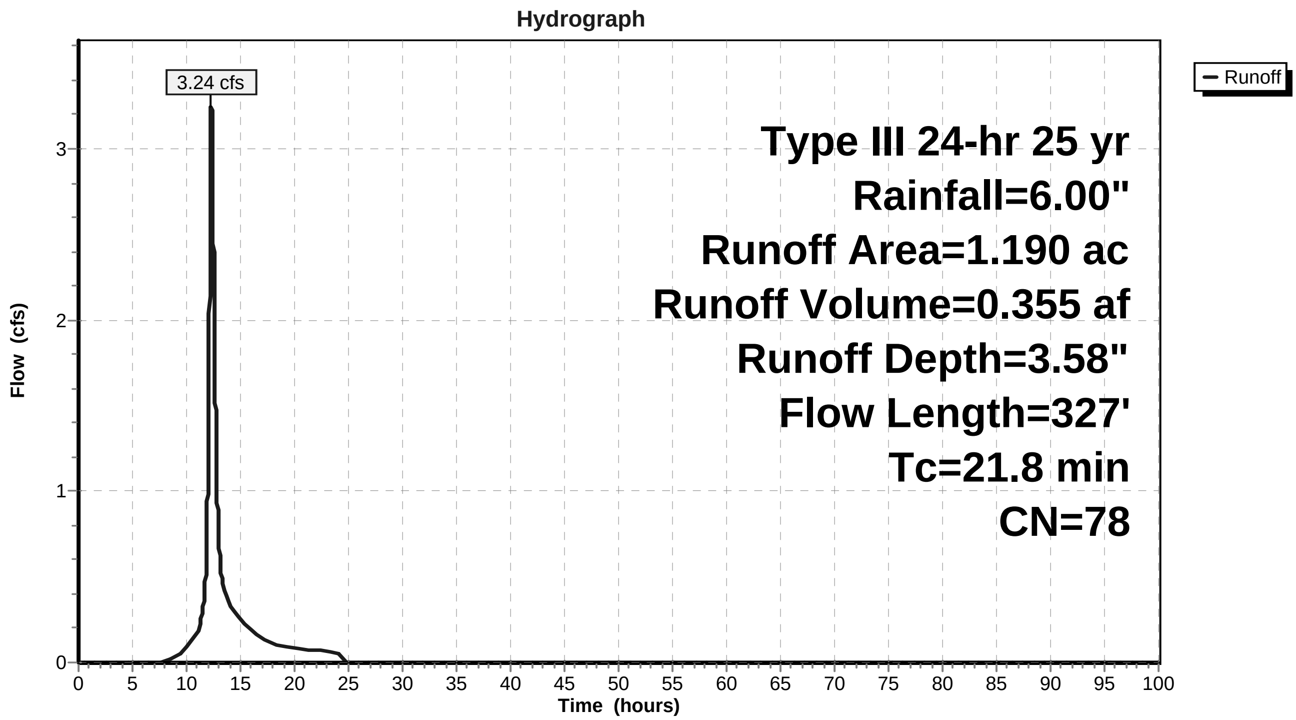
Runoff = 3.24 cfs @ 12.30 hrs, Volume= 0.355 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.590	74	>75% Grass cover, Good, HSG C
0.400	73	Woods, Fair, HSG C
1.190	78	Weighted Average
0.990		83.19% Pervious Area
0.200		16.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	70	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.2	30	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	177	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.8	327	Total			

Subcatchment CB12A:



Summary for Subcatchment CB12B:

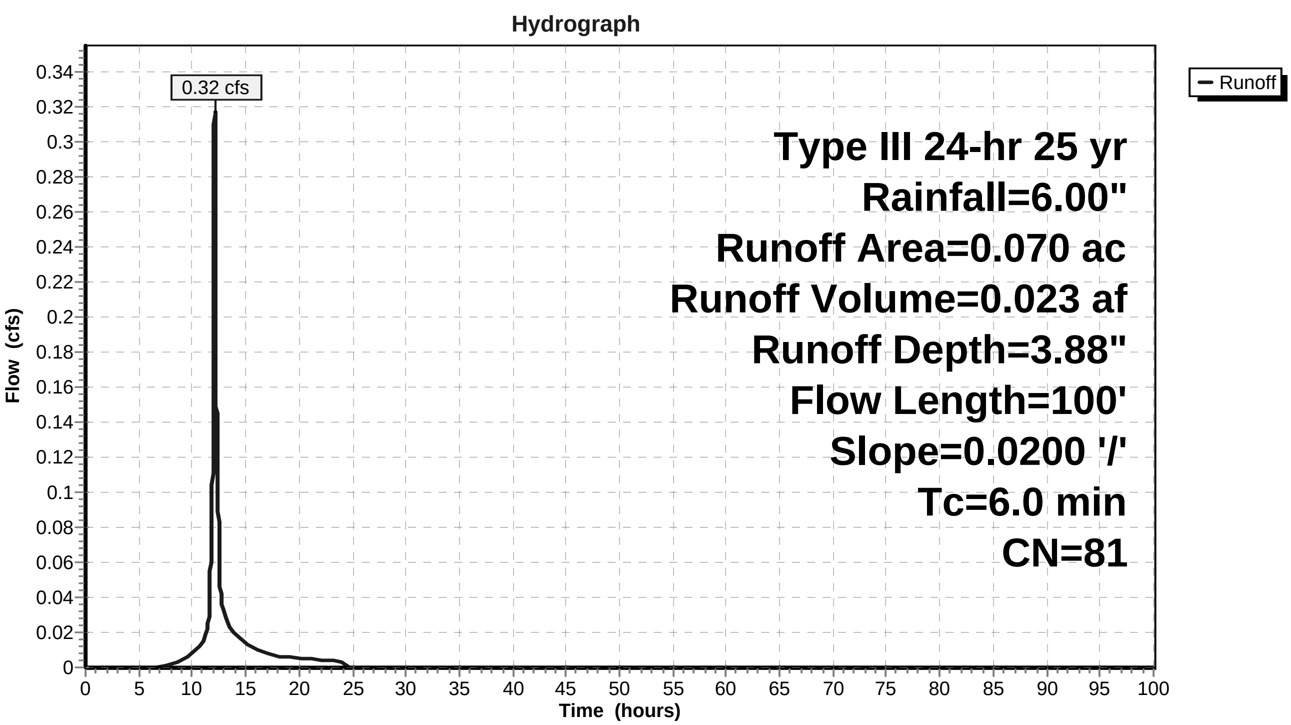
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB12B:



Summary for Subcatchment CB13A:

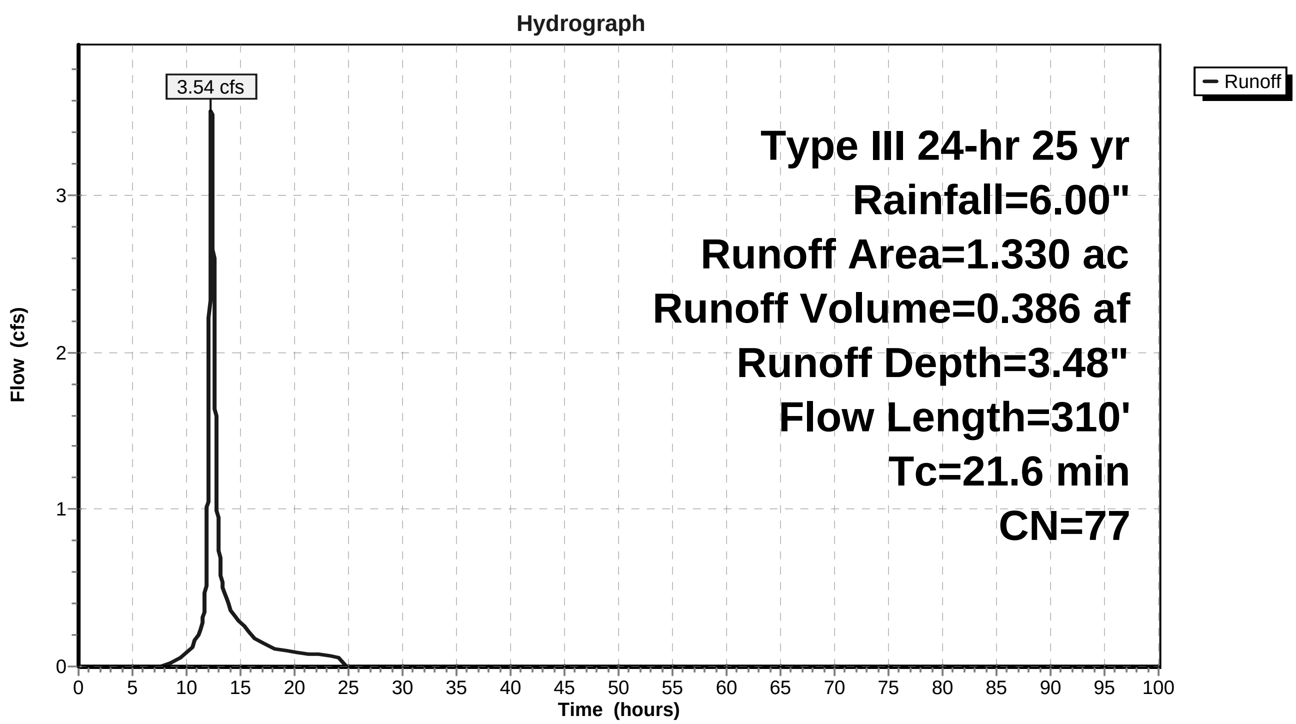
Runoff = 3.54 cfs @ 12.30 hrs, Volume= 0.386 af, Depth= 3.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.500	73	Woods, Fair, HSG C
0.630	74	>75% Grass cover, Good, HSG C
1.330	77	Weighted Average
1.130		84.96% Pervious Area
0.200		15.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	90	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	120	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.6	310	Total			

Subcatchment CB13A:



Summary for Subcatchment CB13B:

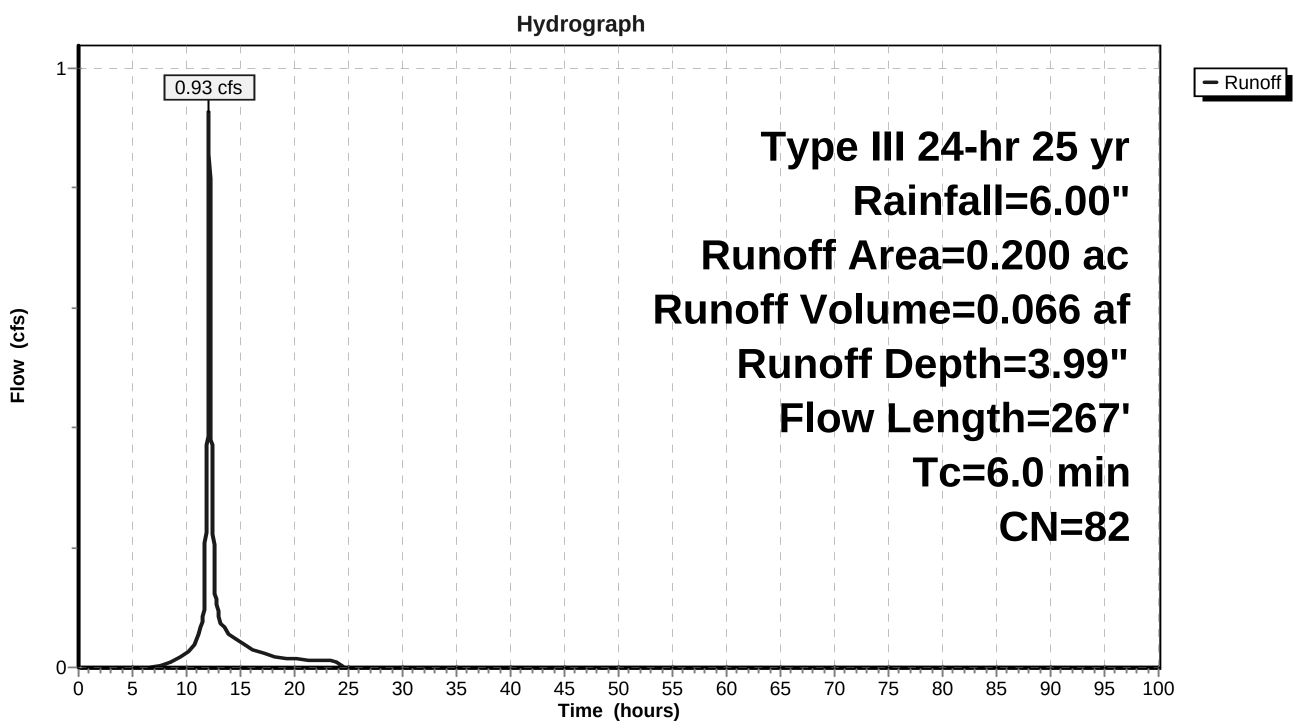
Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.066 af, Depth= 3.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.200	82	Weighted Average
0.130		65.00% Pervious Area
0.070		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
2.0	247	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.3	267	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB13B:



Summary for Subcatchment CB14A:

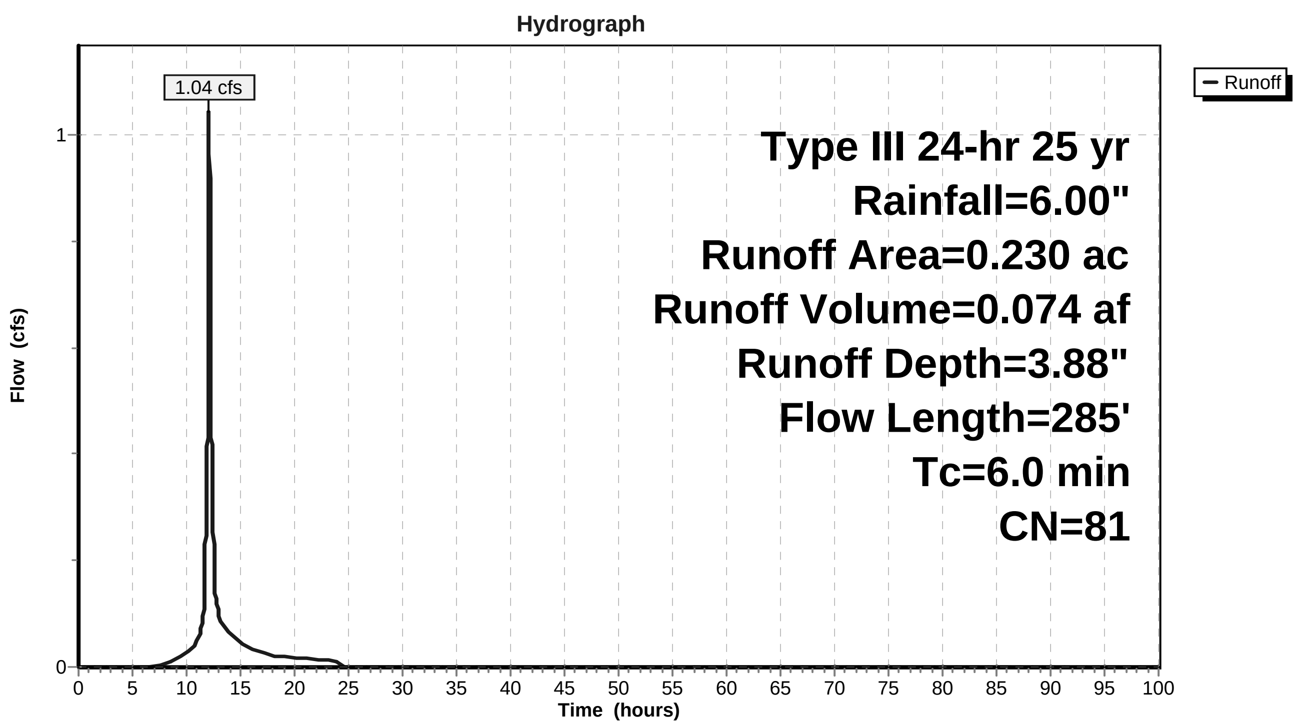
Runoff = 1.04 cfs @ 12.09 hrs, Volume= 0.074 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.160	74	>75% Grass cover, Good, HSG C
0.230	81	Weighted Average
0.160		69.57% Pervious Area
0.070		30.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14A:



Summary for Subcatchment CB14B:

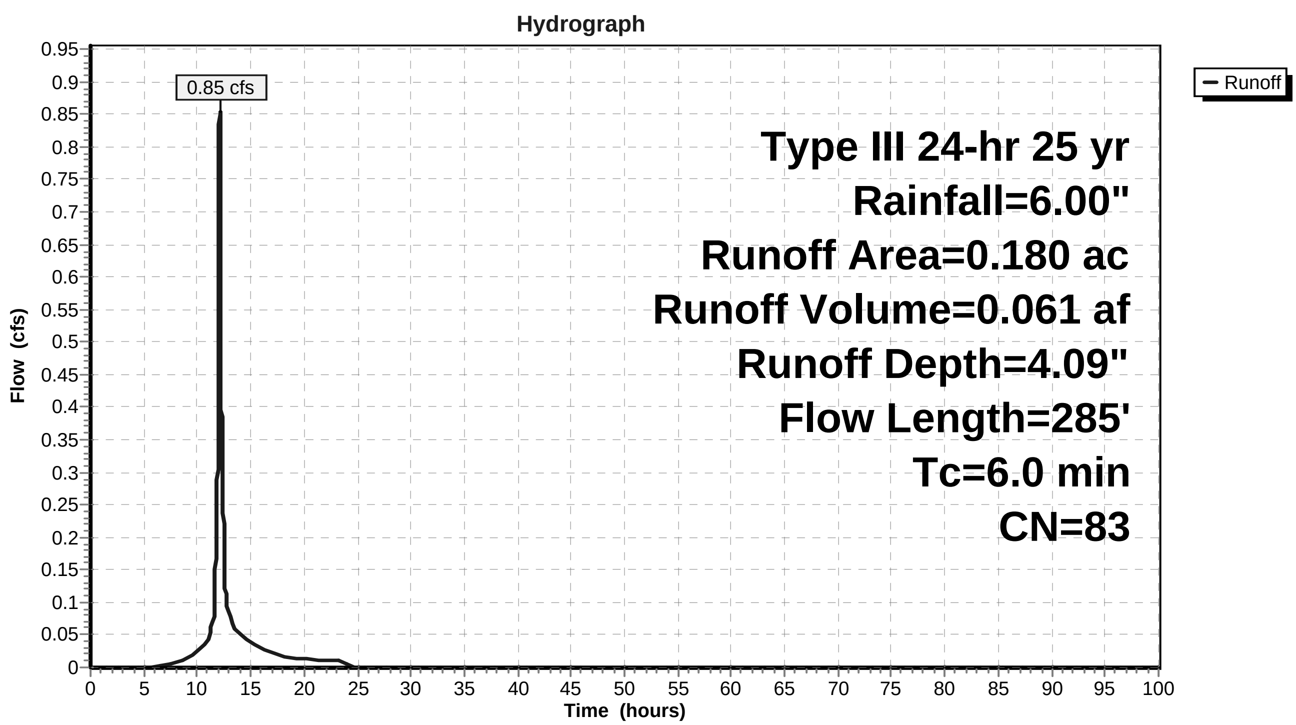
Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.061 af, Depth= 4.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.110	74	>75% Grass cover, Good, HSG C
0.180	83	Weighted Average
0.110		61.11% Pervious Area
0.070		38.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14B:



Summary for Subcatchment CB15A:

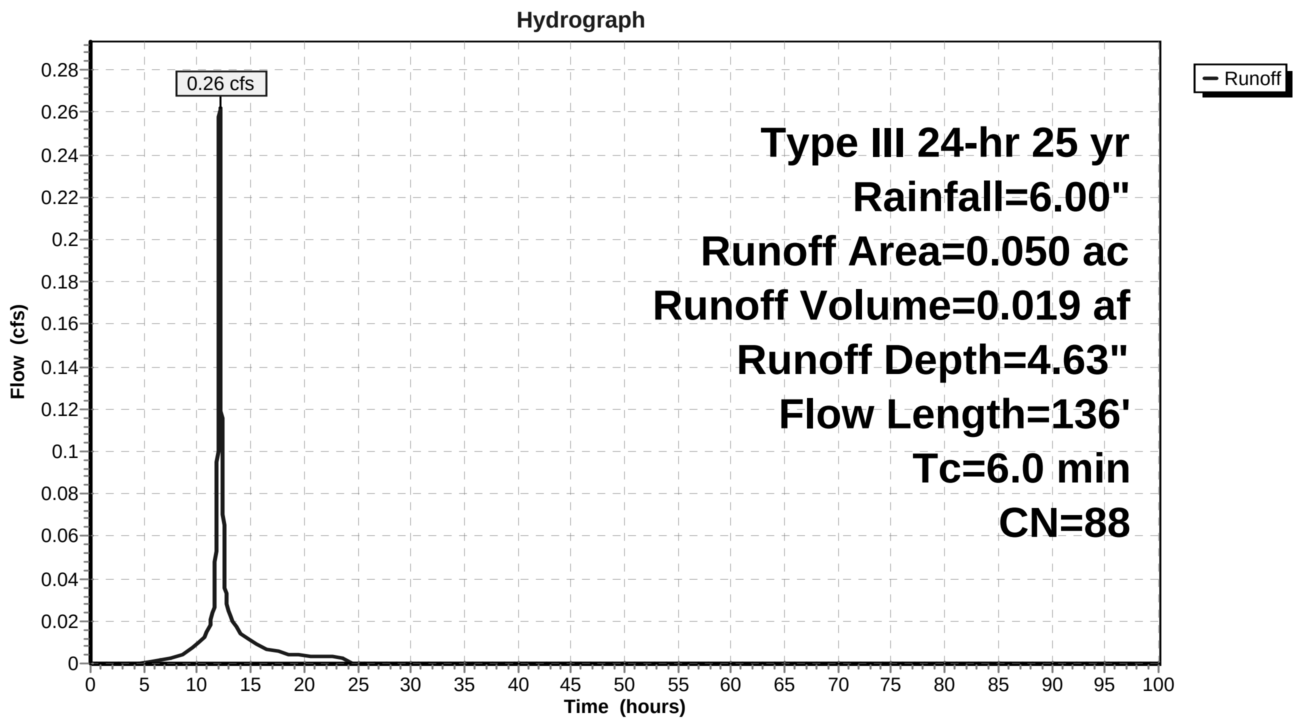
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15A:



Summary for Subcatchment CB15B:

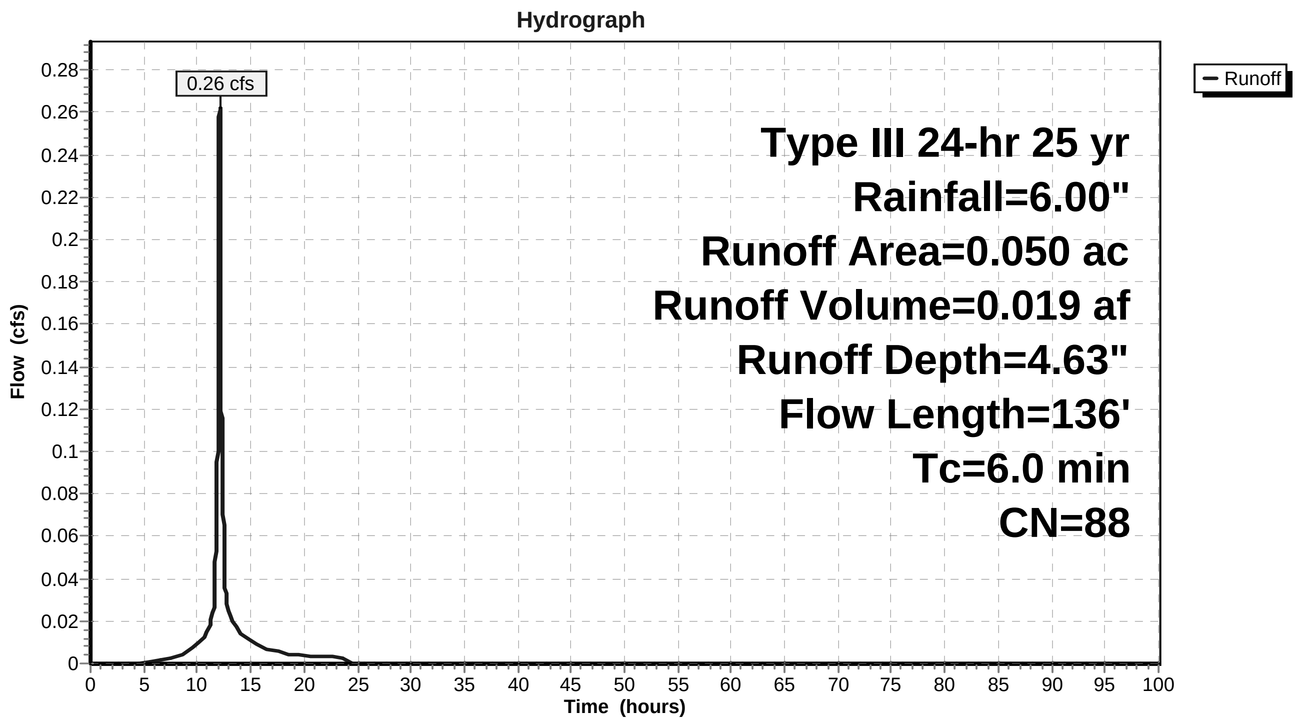
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15B:



Summary for Subcatchment CB16A:

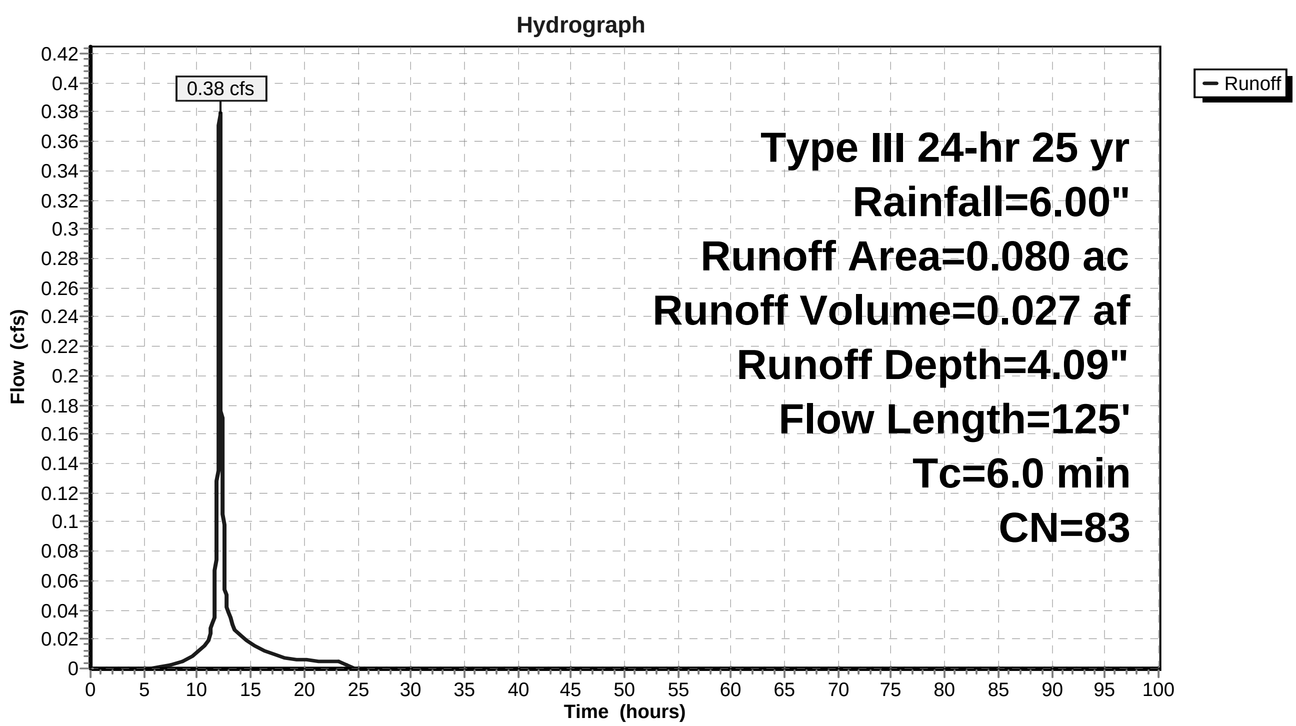
Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 4.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.080	83	Weighted Average
0.050		62.50% Pervious Area
0.030		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16A:



Summary for Subcatchment CB16B:

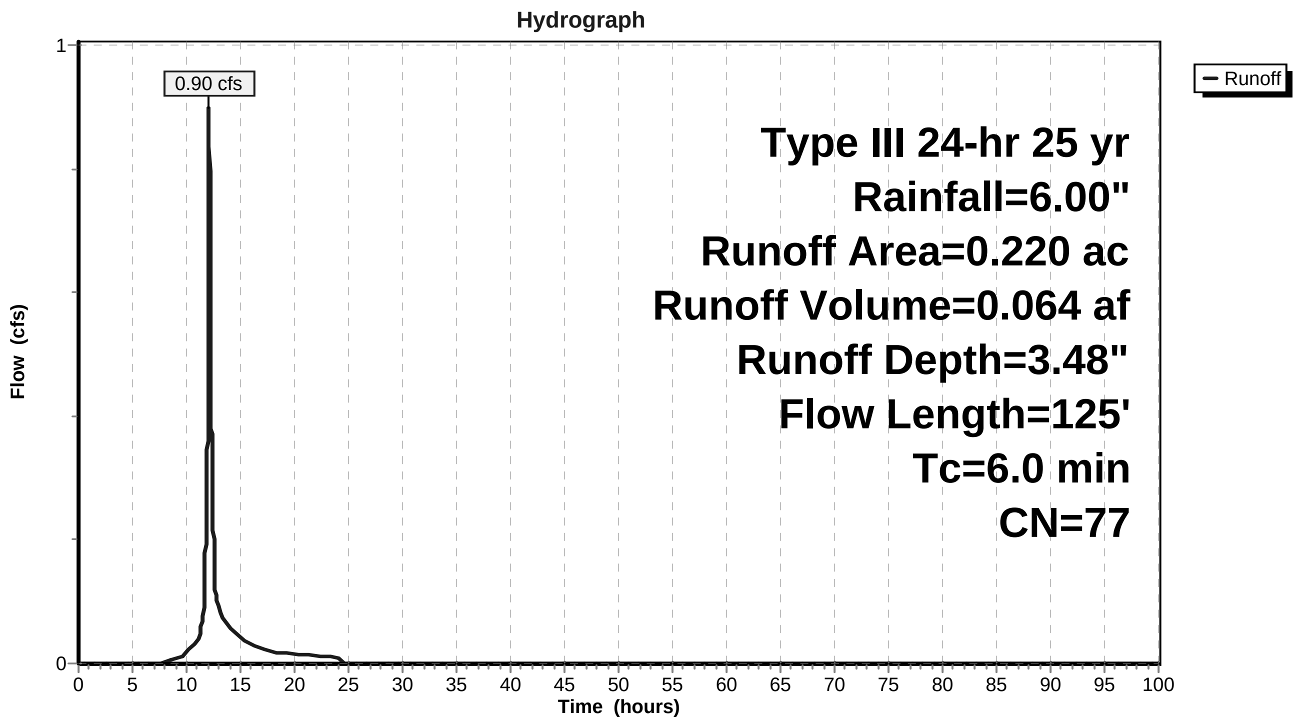
Runoff = 0.90 cfs @ 12.09 hrs, Volume= 0.064 af, Depth= 3.48"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.190	74	>75% Grass cover, Good, HSG C
0.220	77	Weighted Average
0.190		86.36% Pervious Area
0.030		13.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16B:



Summary for Subcatchment CB17A:

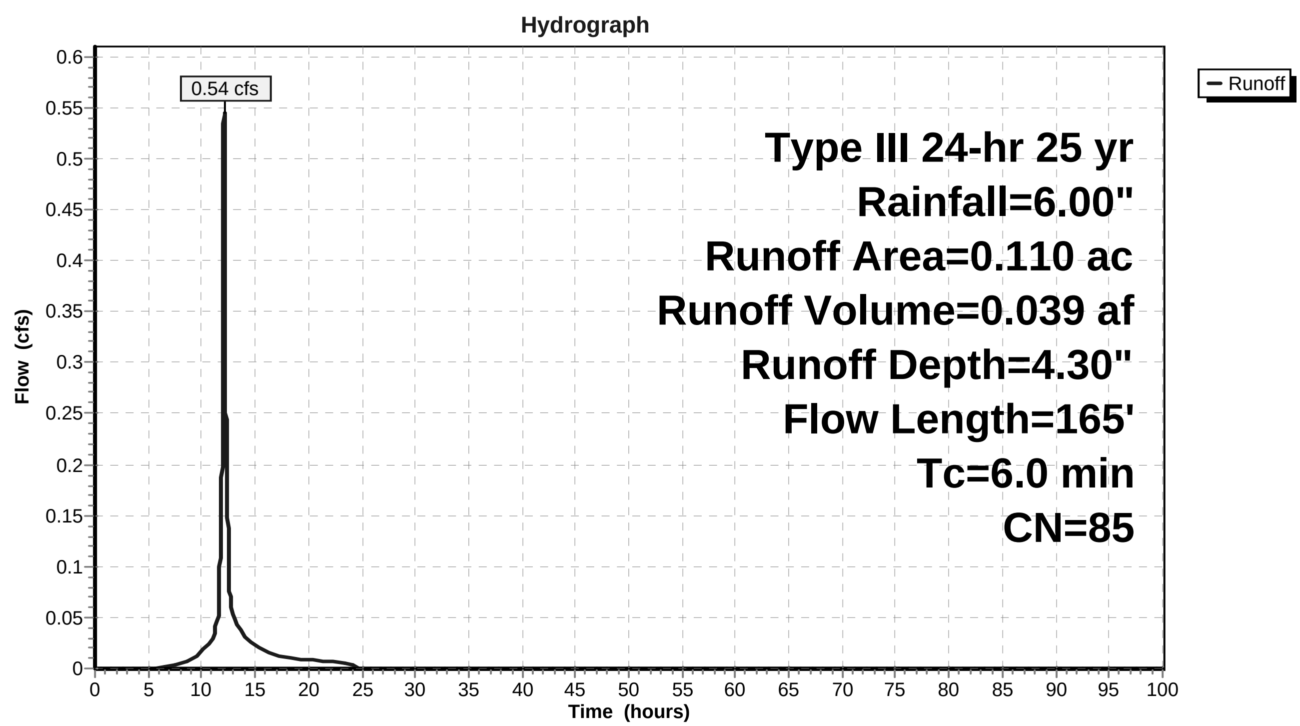
Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.110	85	Weighted Average
0.060		54.55% Pervious Area
0.050		45.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17A:



Summary for Subcatchment CB17B:

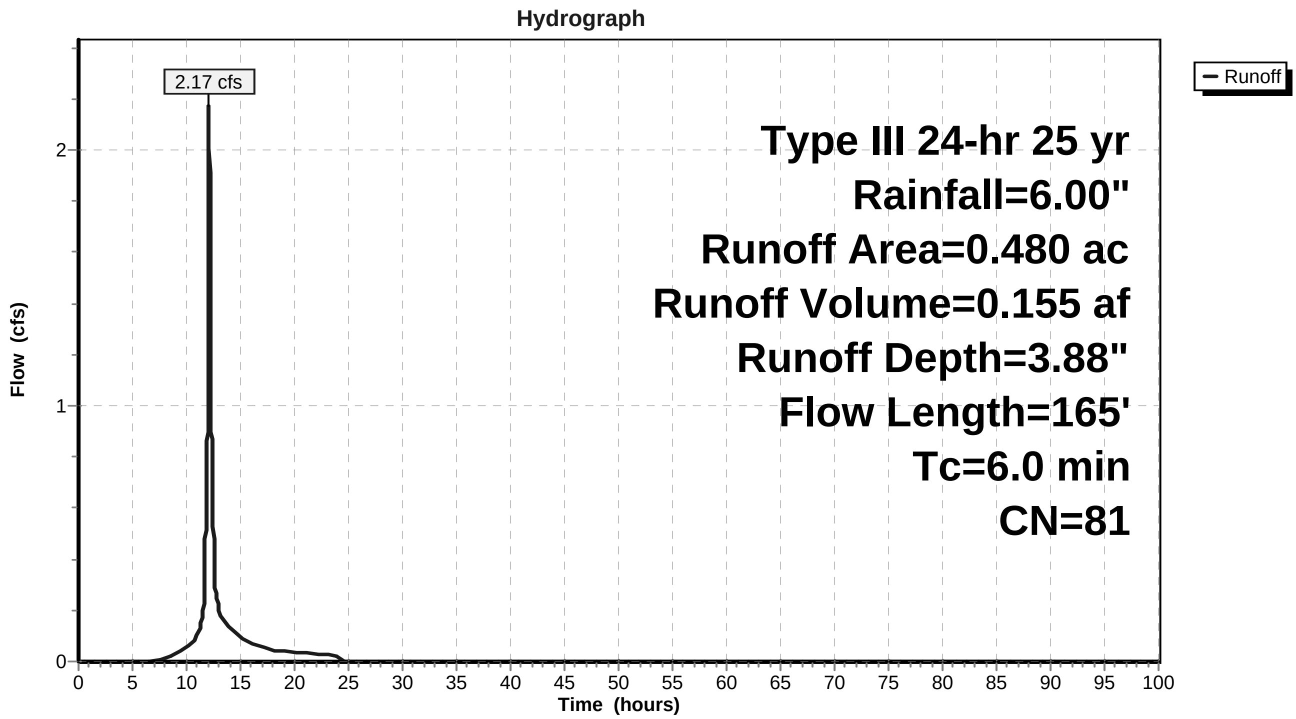
Runoff = 2.17 cfs @ 12.09 hrs, Volume= 0.155 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.100	73	Woods, Fair, HSG C
0.240	74	>75% Grass cover, Good, HSG C
0.480	81	Weighted Average
0.340		70.83% Pervious Area
0.140		29.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17B:



Summary for Subcatchment CB18A:

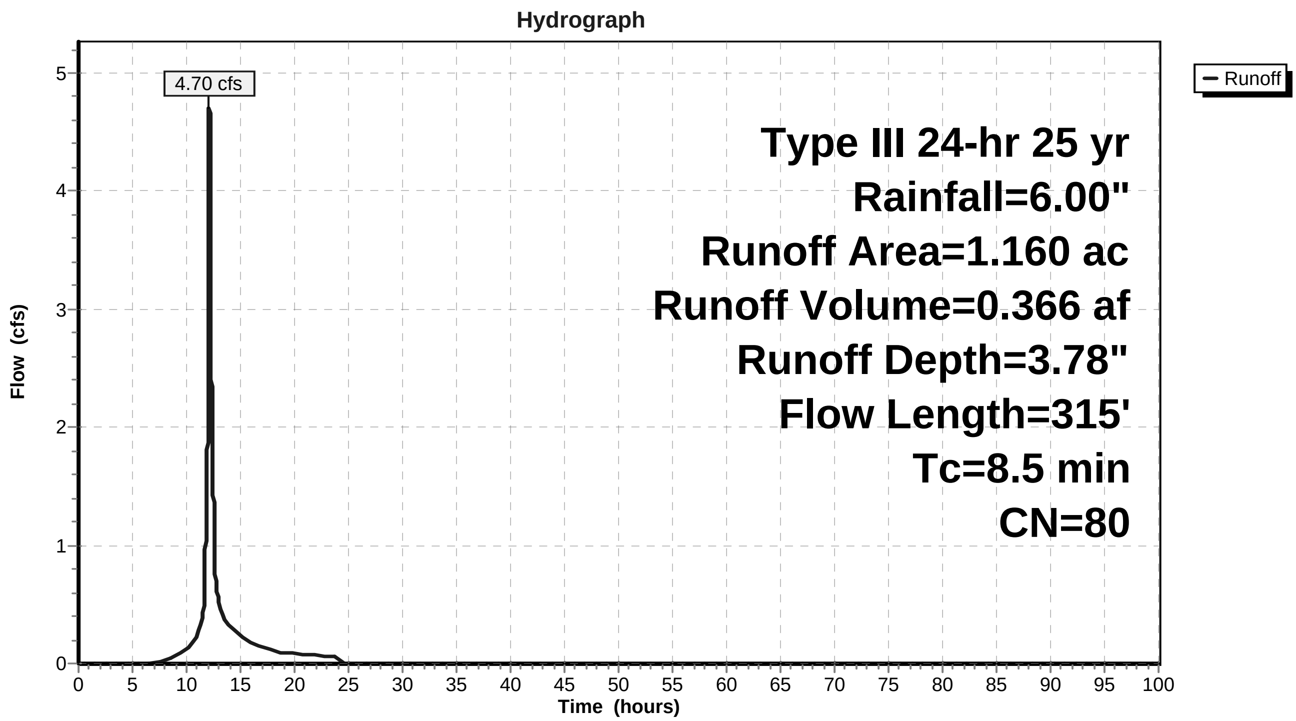
Runoff = 4.70 cfs @ 12.12 hrs, Volume= 0.366 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.310	98	Paved parking & roofs
0.850	74	>75% Grass cover, Good, HSG C
1.160	80	Weighted Average
0.850		73.28% Pervious Area
0.310		26.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	130	0.0400	3.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	85	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	315	Total			

Subcatchment CB18A:



Summary for Subcatchment CB18B:

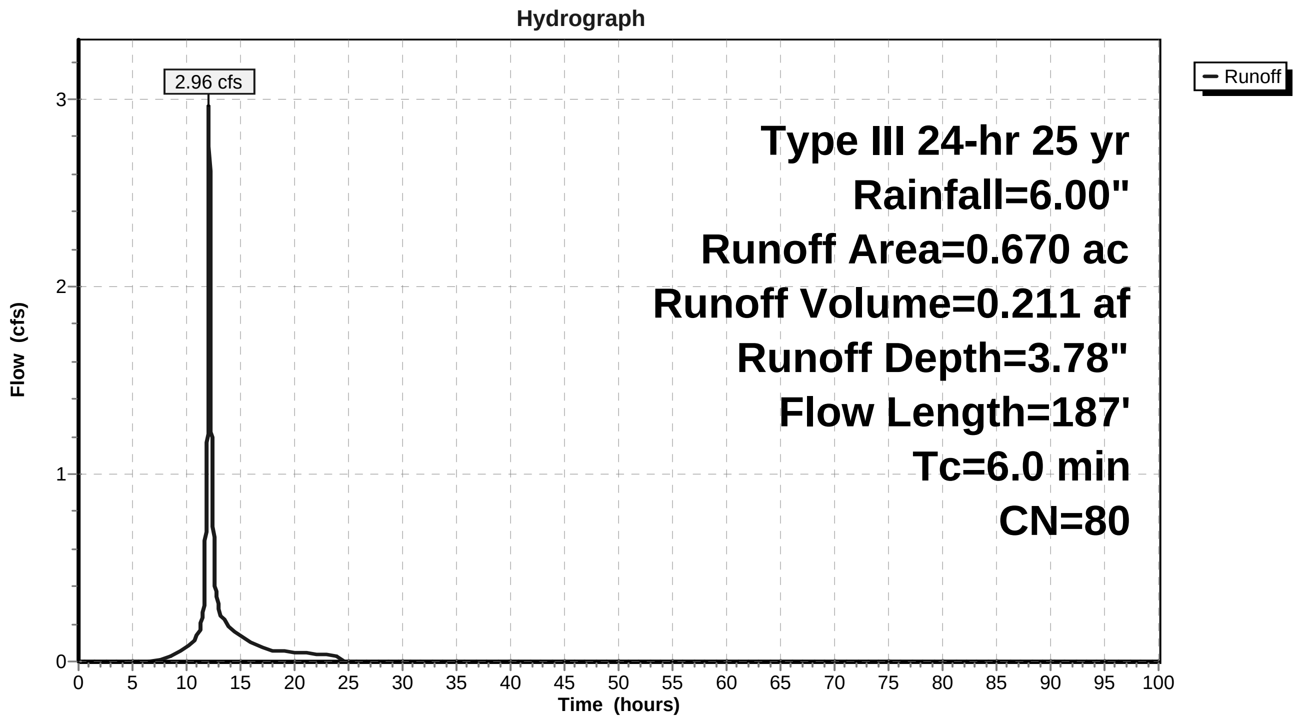
Runoff = 2.96 cfs @ 12.09 hrs, Volume= 0.211 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.170	98	Paved parking & roofs
0.050	73	Woods, Fair, HSG C
0.450	74	>75% Grass cover, Good, HSG C
0.670	80	Weighted Average
0.500		74.63% Pervious Area
0.170		25.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	87	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	187	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB18B:



Summary for Subcatchment CB1A:

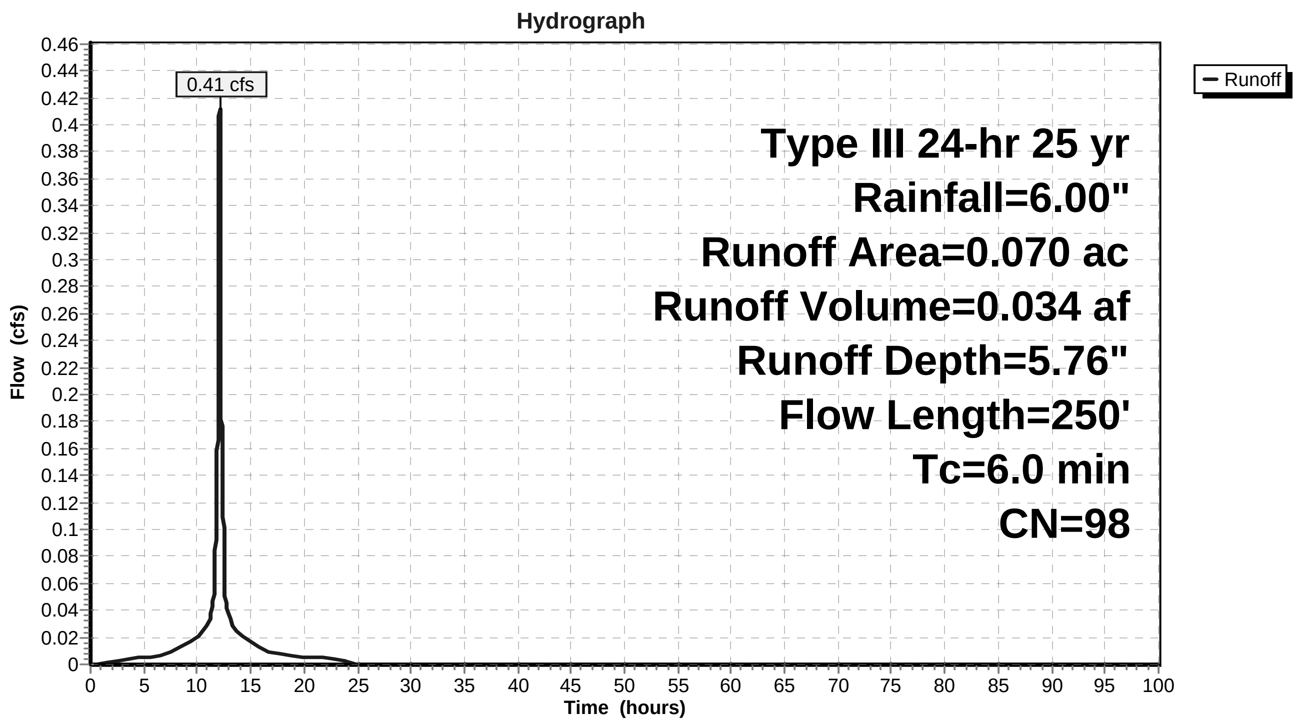
Runoff = 0.41 cfs @ 12.08 hrs, Volume= 0.034 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1A:



Summary for Subcatchment CB1B:

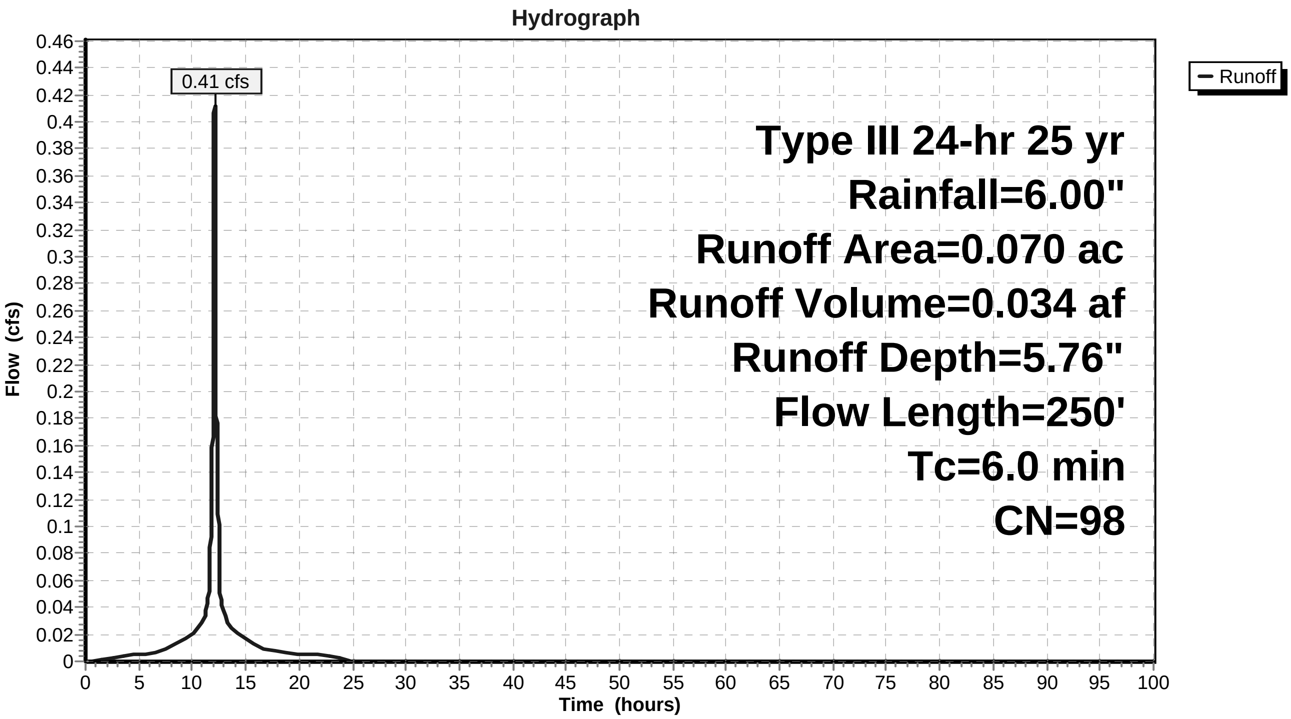
Runoff = 0.41 cfs @ 12.08 hrs, Volume= 0.034 af, Depth= 5.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1B:



Summary for Subcatchment CB1C:

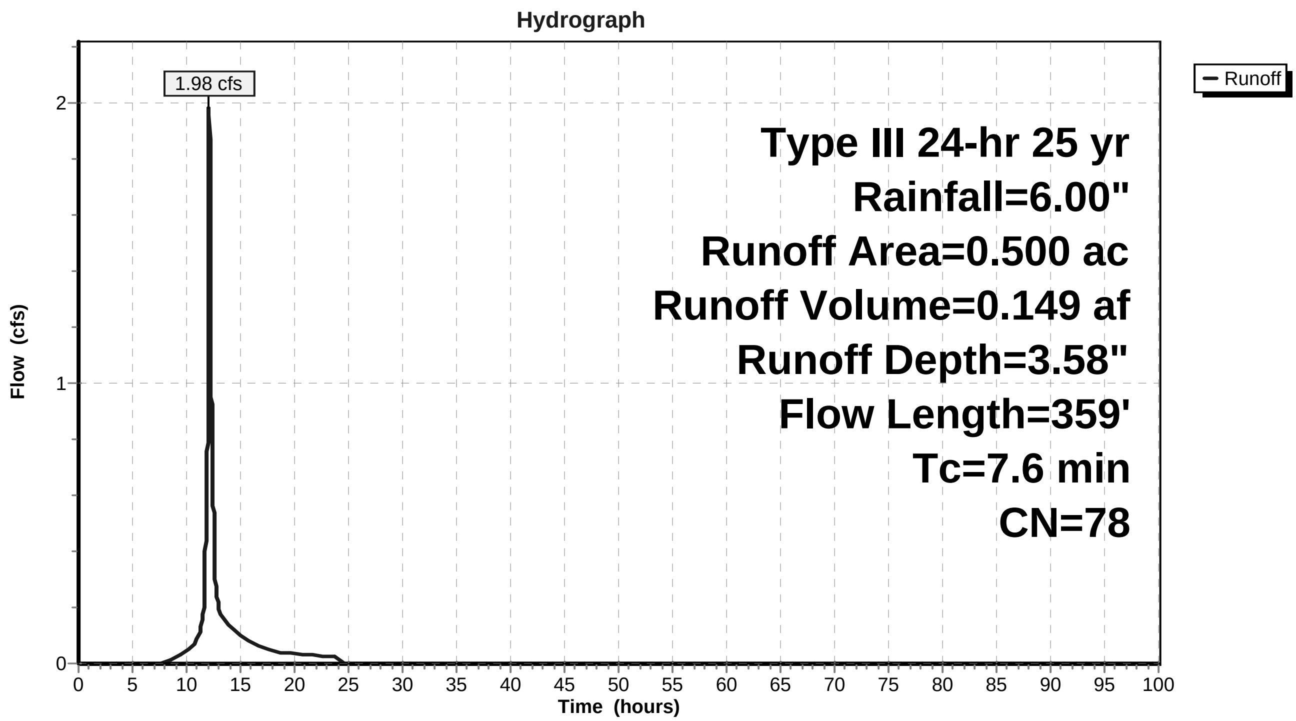
Runoff = 1.98 cfs @ 12.11 hrs, Volume= 0.149 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.020	89	Gravel roads, HSG C
0.080	98	Paved parking & roofs
0.300	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.500	78	Weighted Average
0.420		84.00% Pervious Area
0.080		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.2600	0.34		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	259	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	359	Total			

Subcatchment CB1C:



Summary for Subcatchment CB2A:

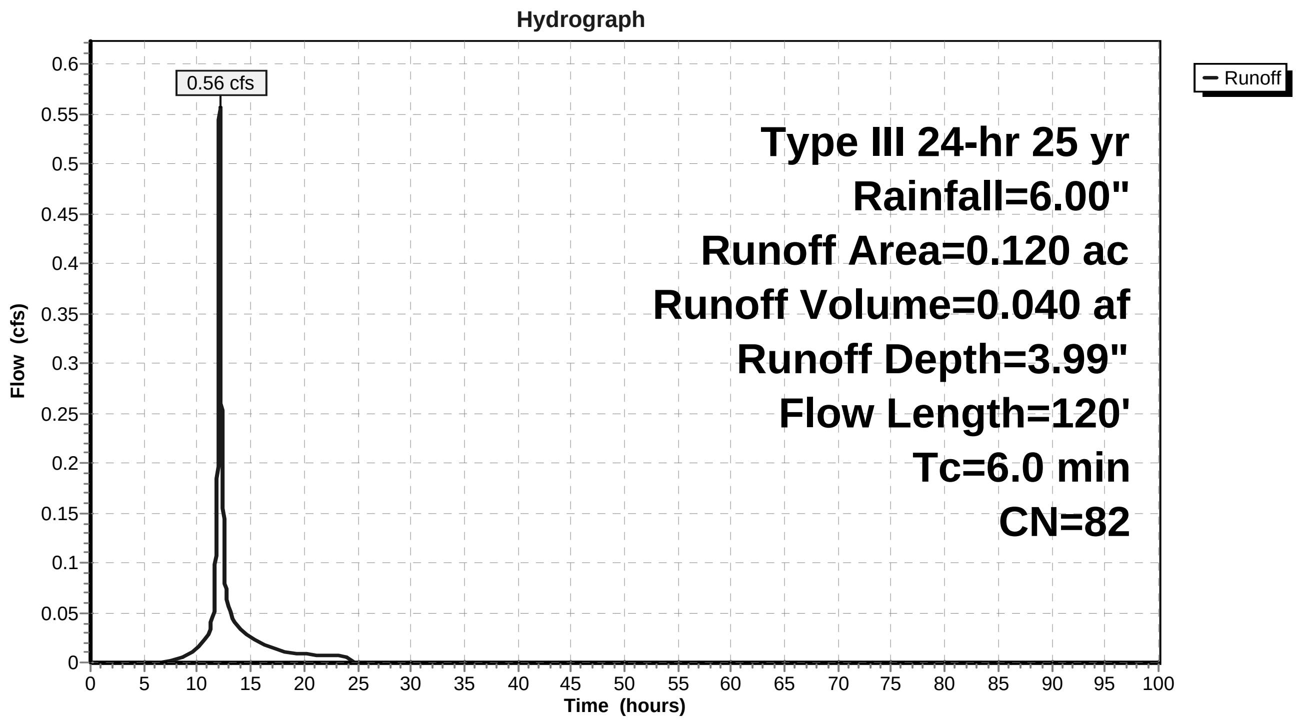
Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 3.99"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.080	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.120	82	Weighted Average
0.080		66.67% Pervious Area
0.040		33.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2A:



Summary for Subcatchment CB2B:

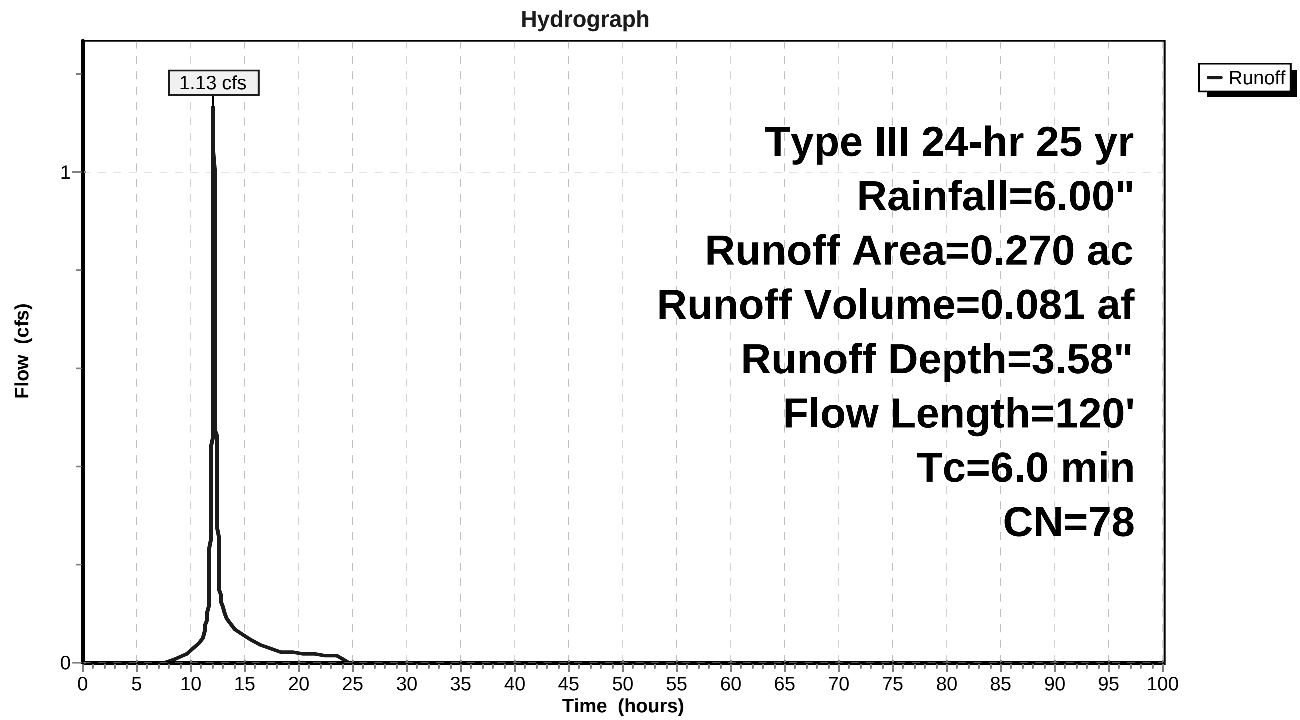
Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.081 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.270	78	Weighted Average
0.230		85.19% Pervious Area
0.040		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2B:



Summary for Subcatchment CB3A:

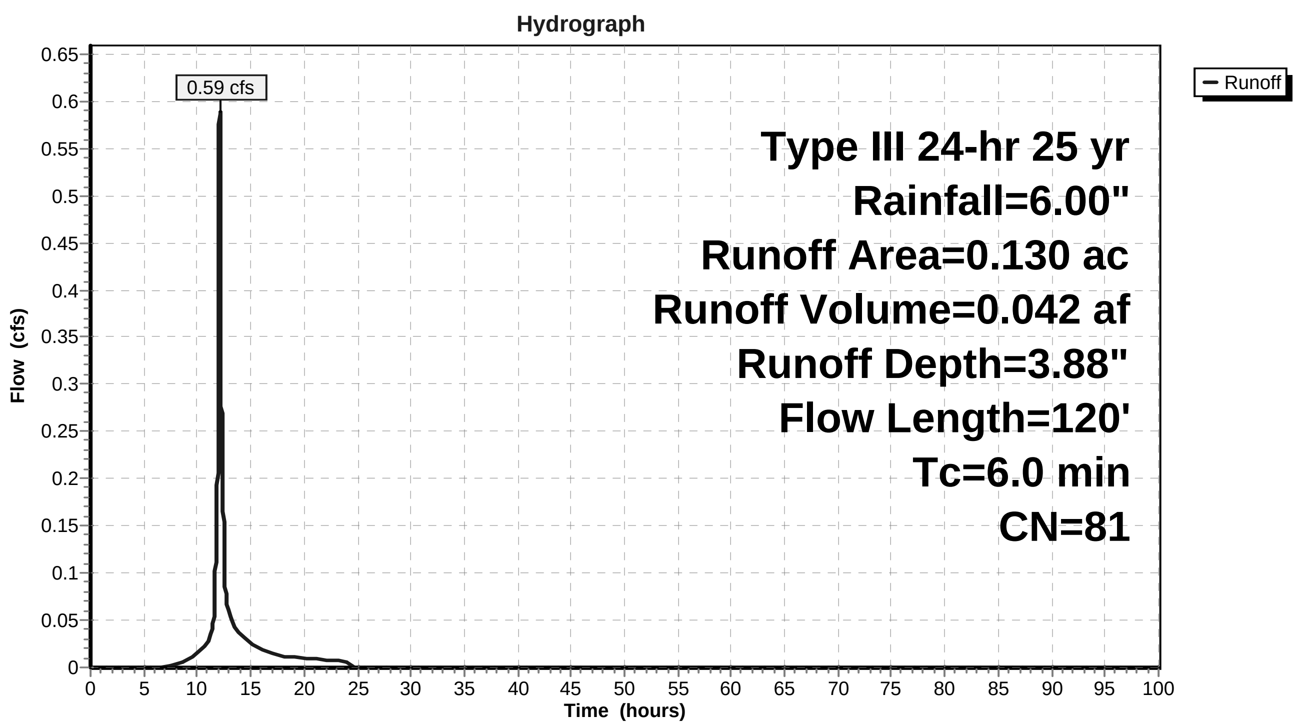
Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.090	74	>75% Grass cover, Good, HSG C
0.130	81	Weighted Average
0.090		69.23% Pervious Area
0.040		30.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	100	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3A:



Summary for Subcatchment CB3B:

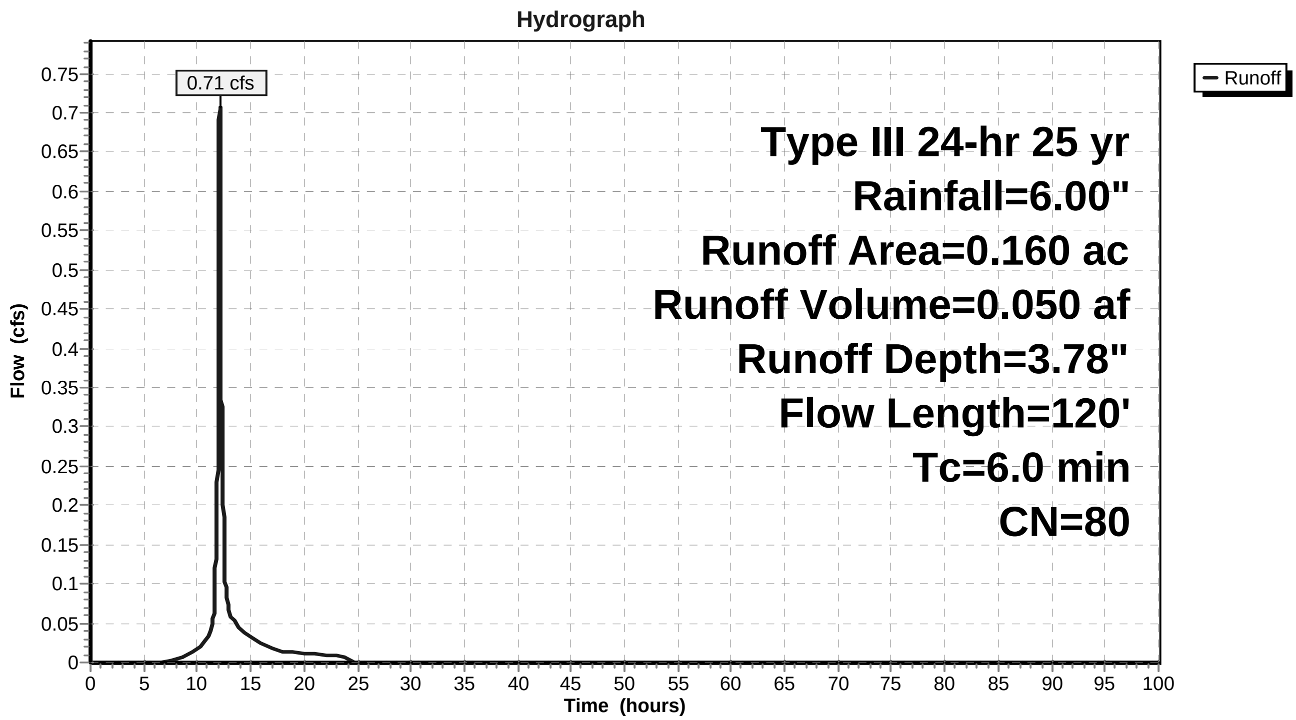
Runoff = 0.71 cfs @ 12.09 hrs, Volume= 0.050 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.120	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.160	80	Weighted Average
0.120		75.00% Pervious Area
0.040		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3B:



Summary for Subcatchment CB4A:

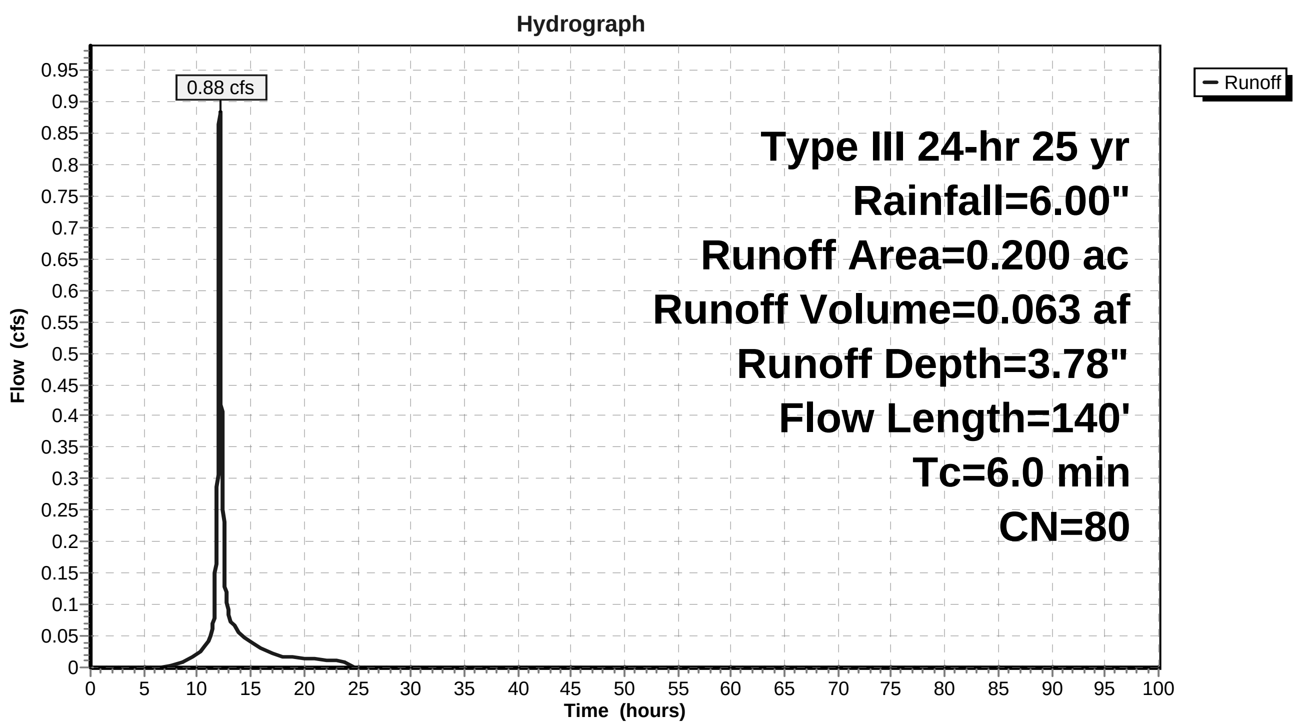
Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.200	80	Weighted Average
0.150		75.00% Pervious Area
0.050		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4A:



Summary for Subcatchment CB4B:

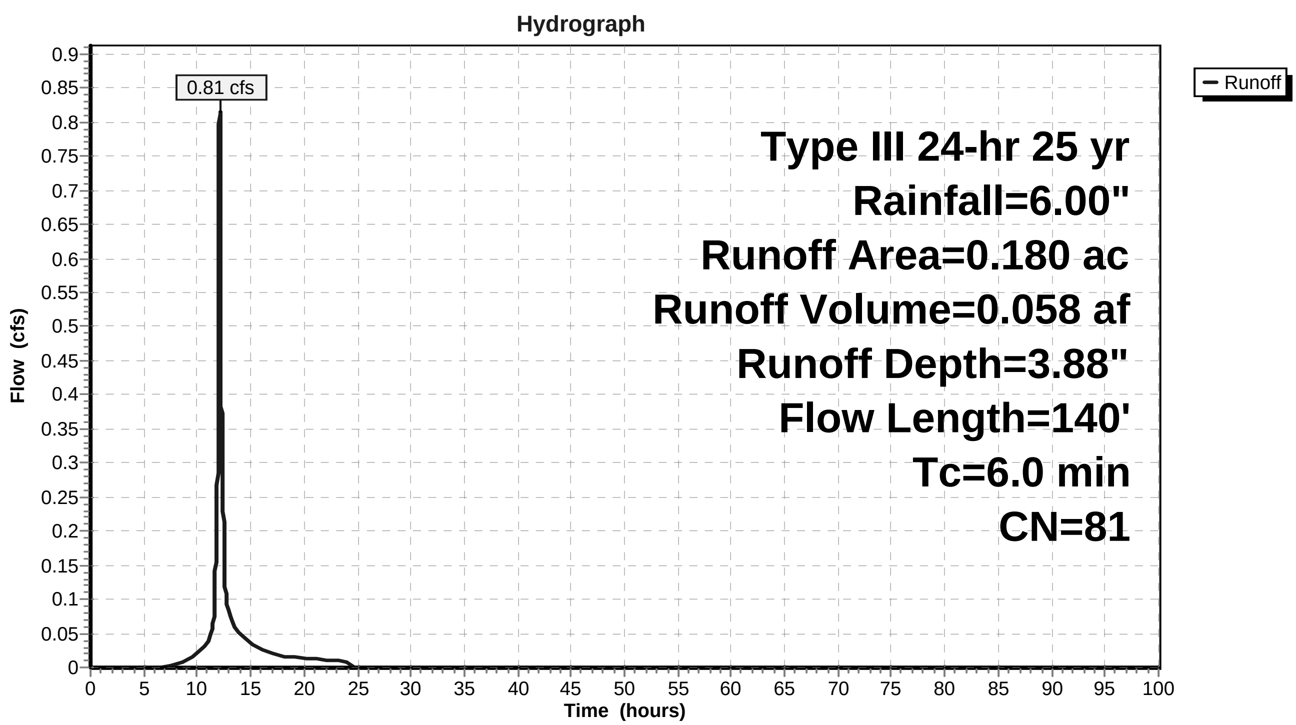
Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.058 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.180	81	Weighted Average
0.130		72.22% Pervious Area
0.050		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4B:



Summary for Subcatchment CB5A:

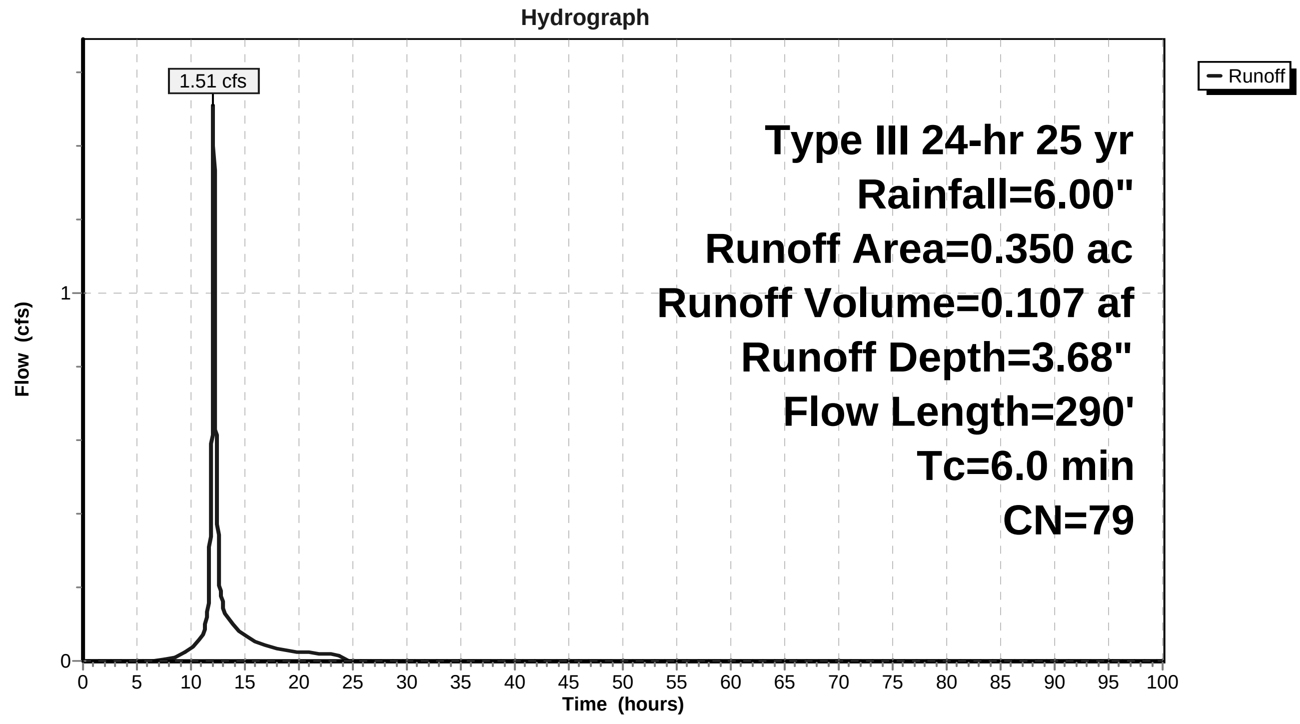
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.107 af, Depth= 3.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.140	73	Woods, Fair, HSG C
0.350	79	Weighted Average
0.270		77.14% Pervious Area
0.080		22.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	270	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	290	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5A:



Summary for Subcatchment CB5B:

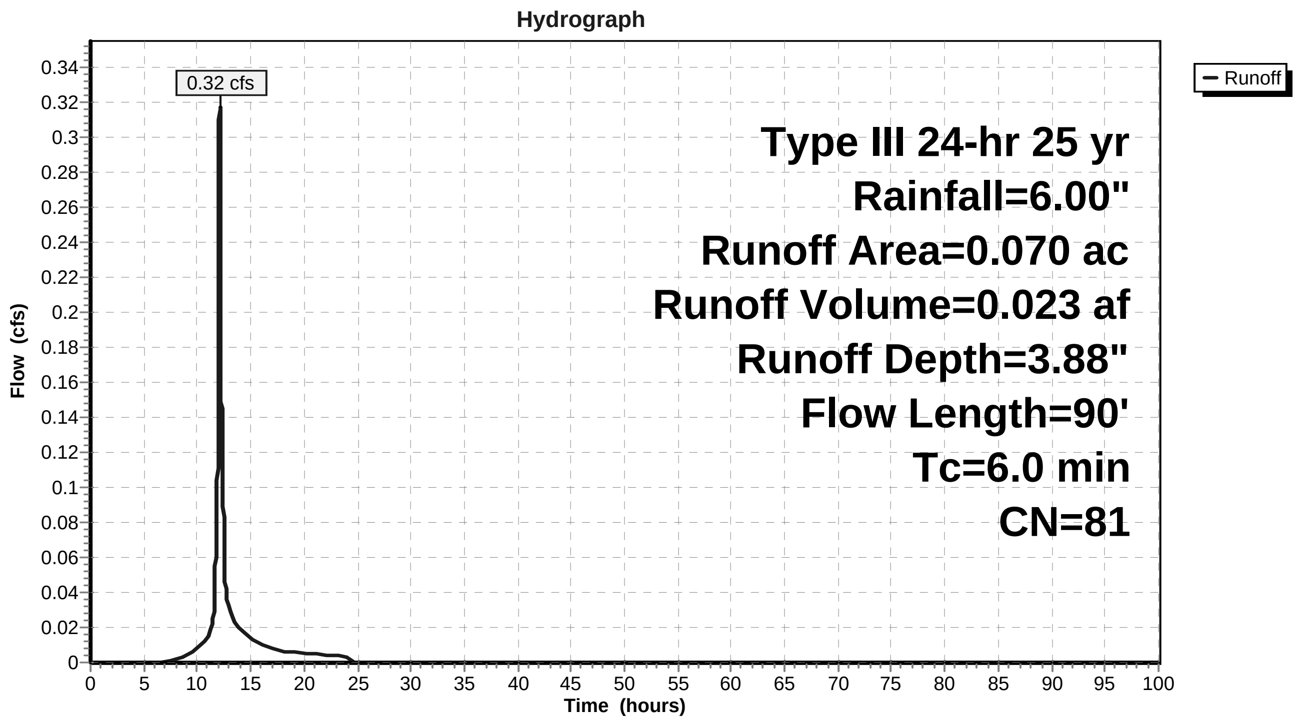
Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.050	74	>75% Grass cover, Good, HSG C
0.020	98	Paved parking & roofs
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	70	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	90	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5B:



Summary for Subcatchment CB6A:

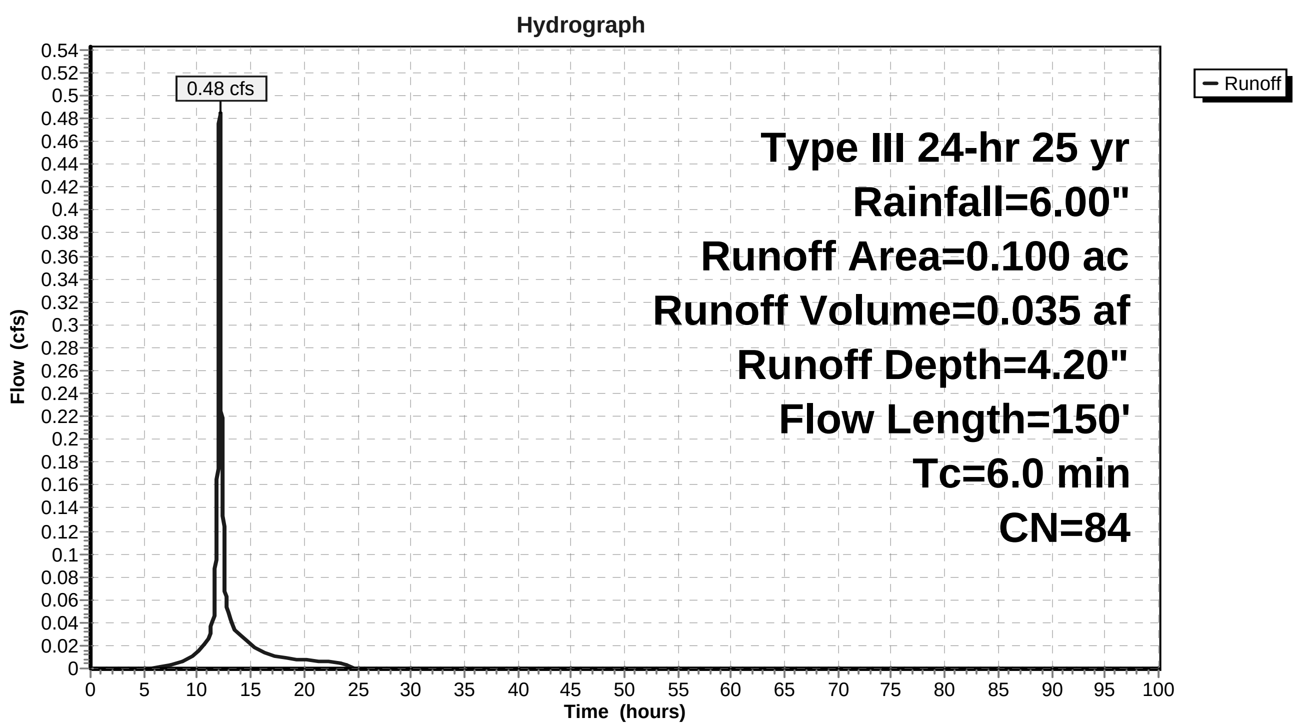
Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.7	80	0.0500	1.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6A:



Summary for Subcatchment CB6B:

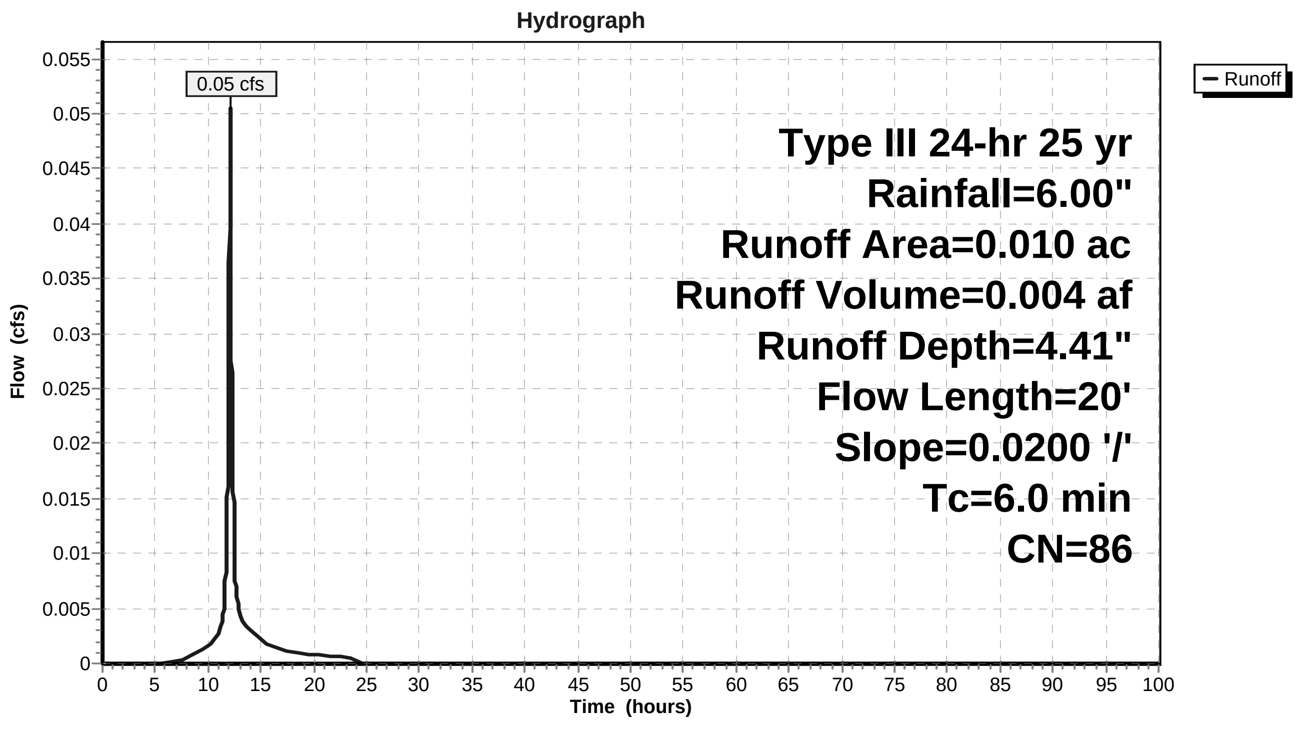
Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth= 4.41"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.005	74	>75% Grass cover, Good, HSG C
0.005	98	Paved parking & roofs
0.010	86	Weighted Average
0.005		50.00% Pervious Area
0.005		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6B:



Summary for Subcatchment CB7A:

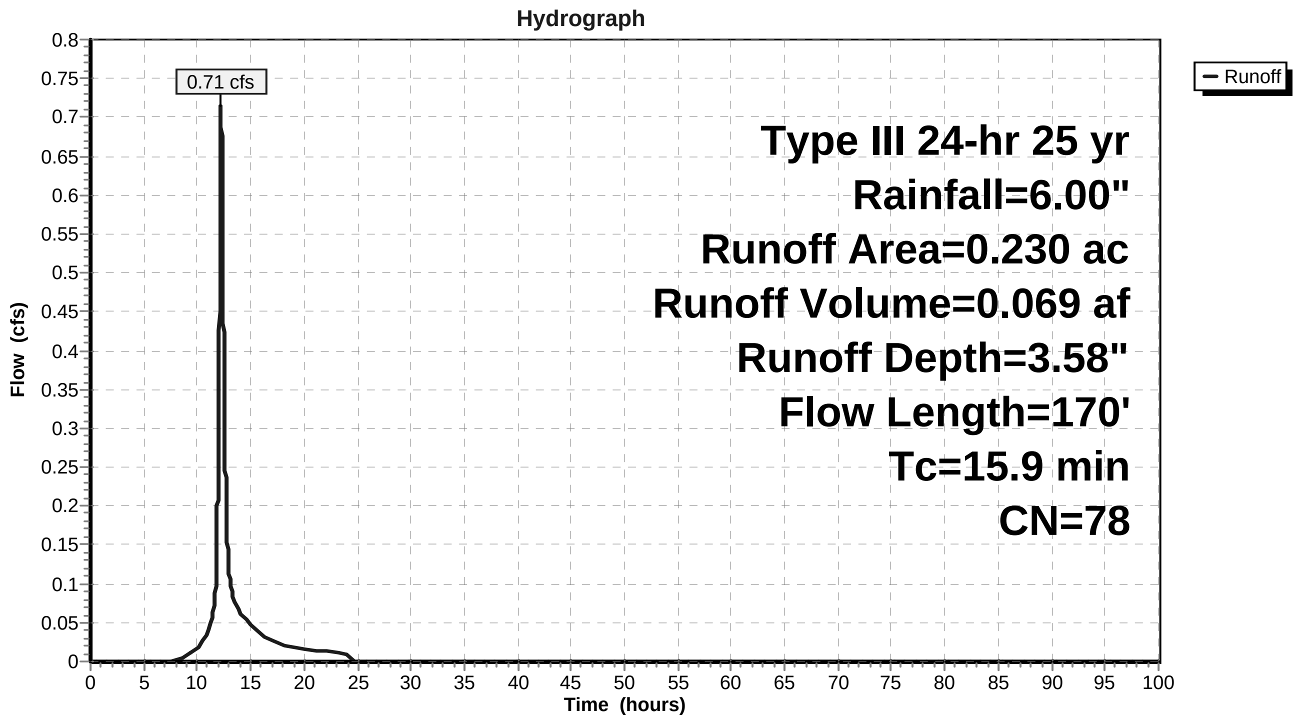
Runoff = 0.71 cfs @ 12.21 hrs, Volume= 0.069 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.130	73	Woods, Fair, HSG C
0.060	74	>75% Grass cover, Good, HSG C
0.230	78	Weighted Average
0.190		82.61% Pervious Area
0.040		17.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	30	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	40	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.9	170	Total			

Subcatchment CB7A:



Summary for Subcatchment CB7B:

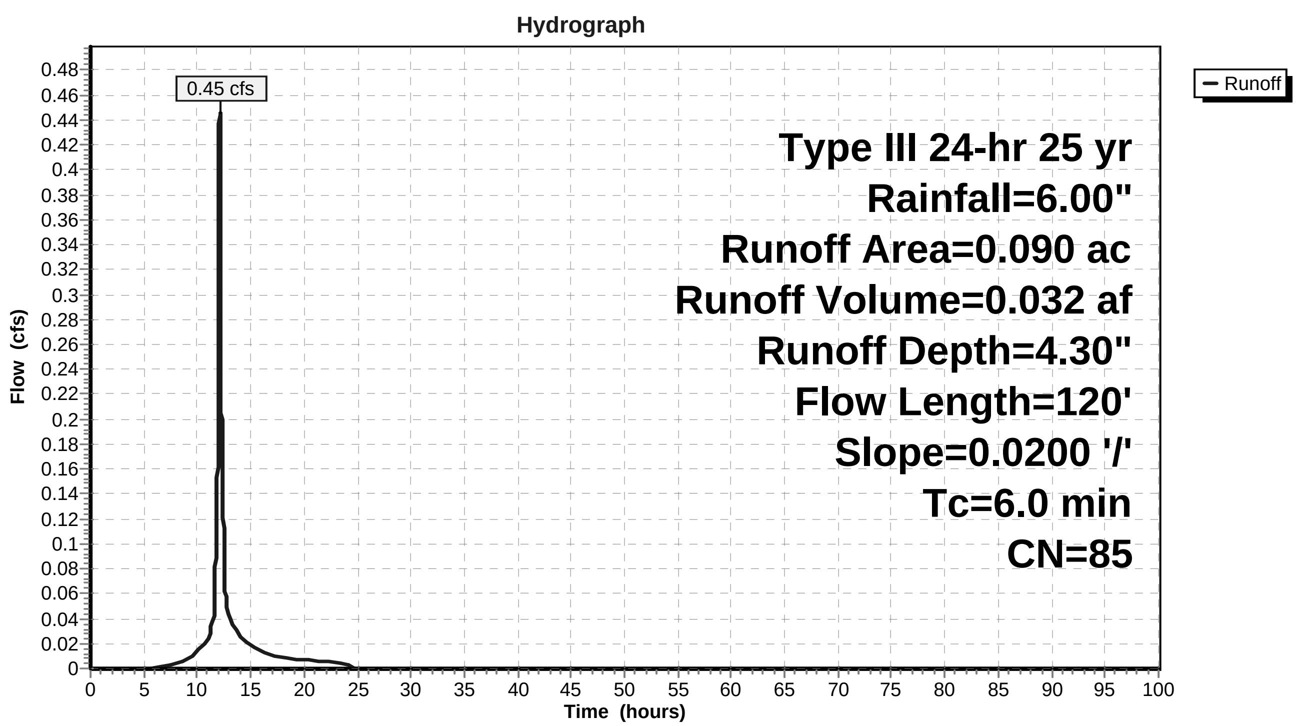
Runoff = 0.45 cfs @ 12.09 hrs, Volume= 0.032 af, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.090	85	Weighted Average
0.050		55.56% Pervious Area
0.040		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB7B:



Summary for Subcatchment CB8A:

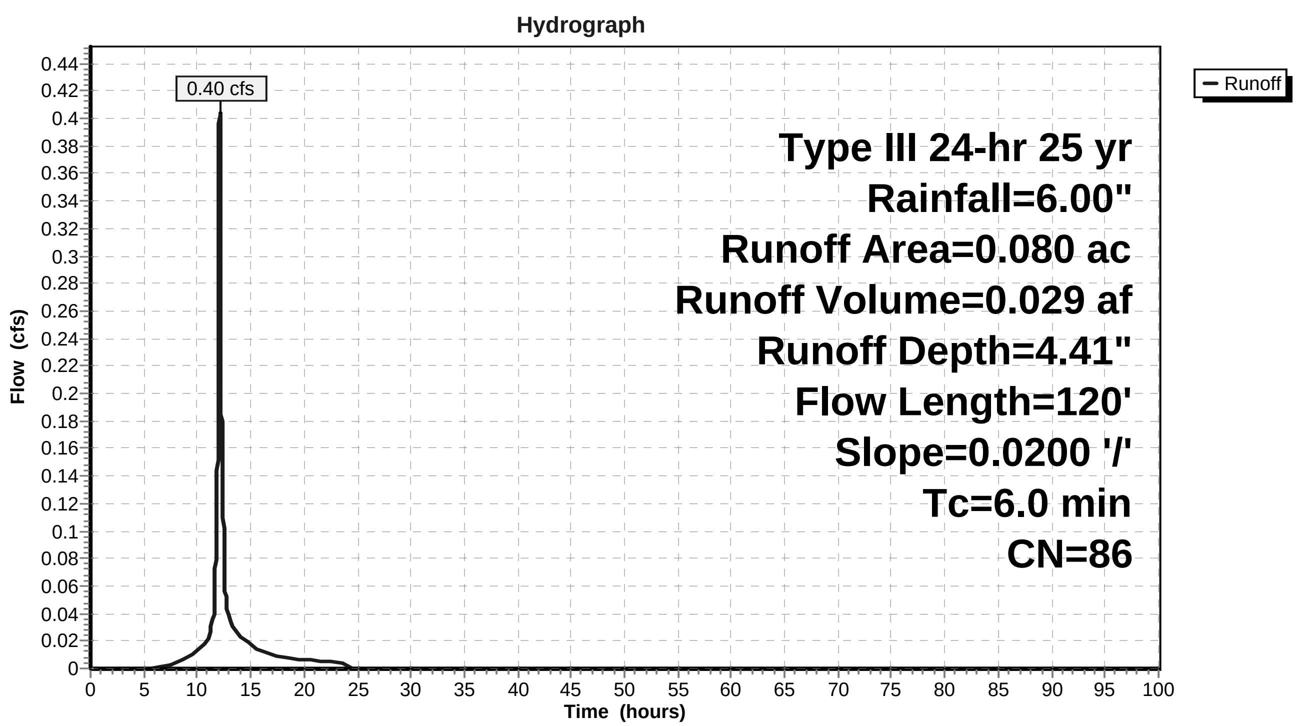
Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 4.41"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.040	74	>75% Grass cover, Good, HSG C
0.080	86	Weighted Average
0.040		50.00% Pervious Area
0.040		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8A:



Summary for Subcatchment CB8B:

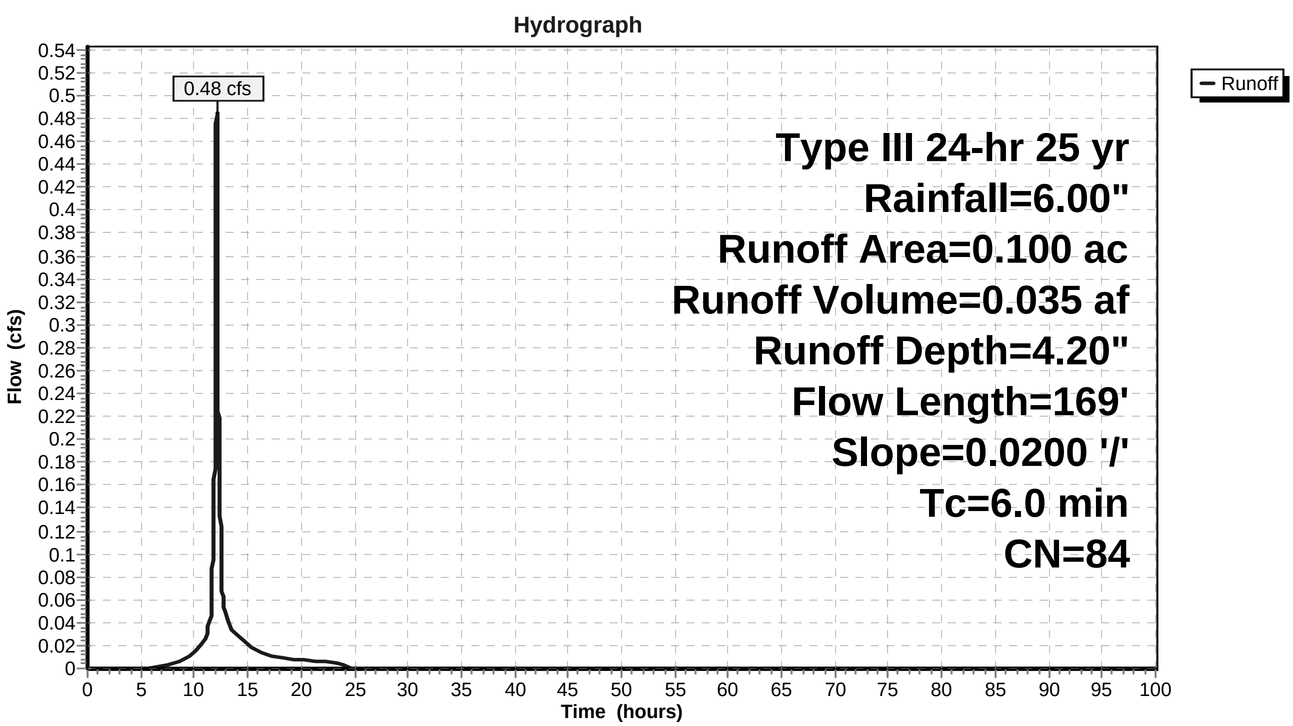
Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	169	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8B:



Summary for Subcatchment CB9A:

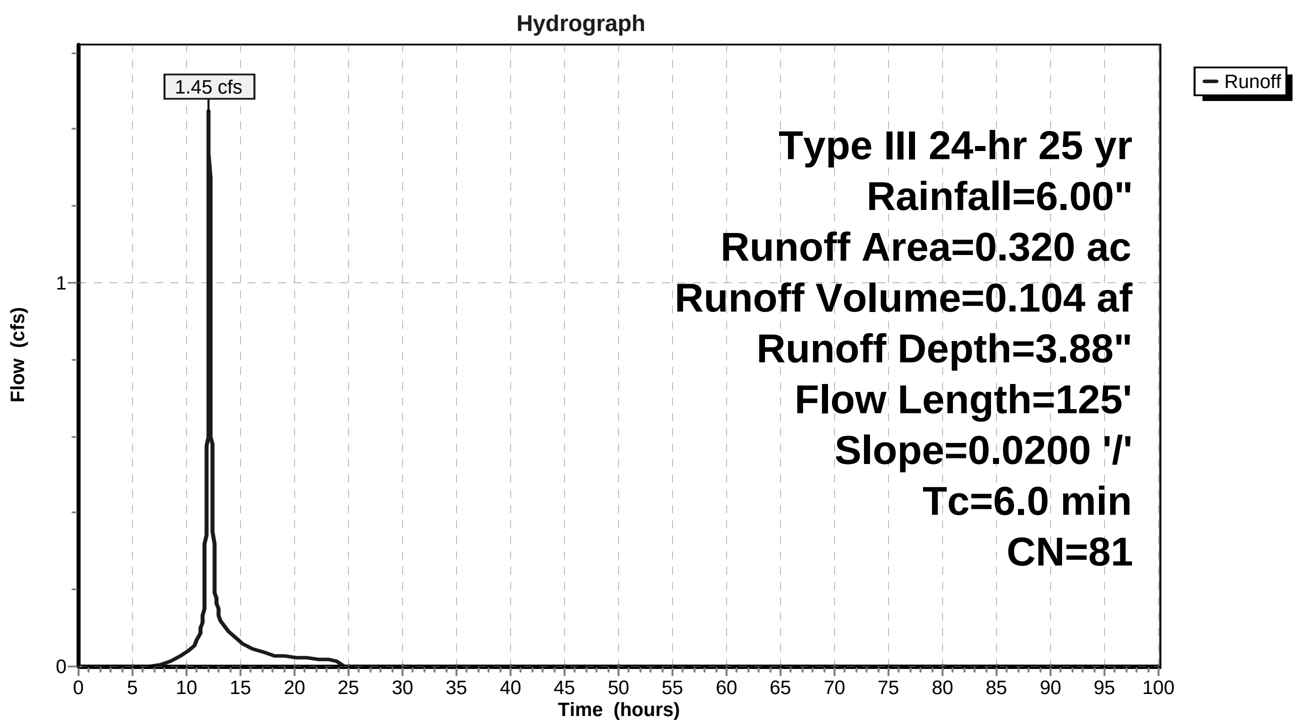
Runoff = 1.45 cfs @ 12.09 hrs, Volume= 0.104 af, Depth= 3.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.100	98	Paved parking & roofs
0.120	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.320	81	Weighted Average
0.220		68.75% Pervious Area
0.100		31.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9A:



Summary for Subcatchment CB9B:

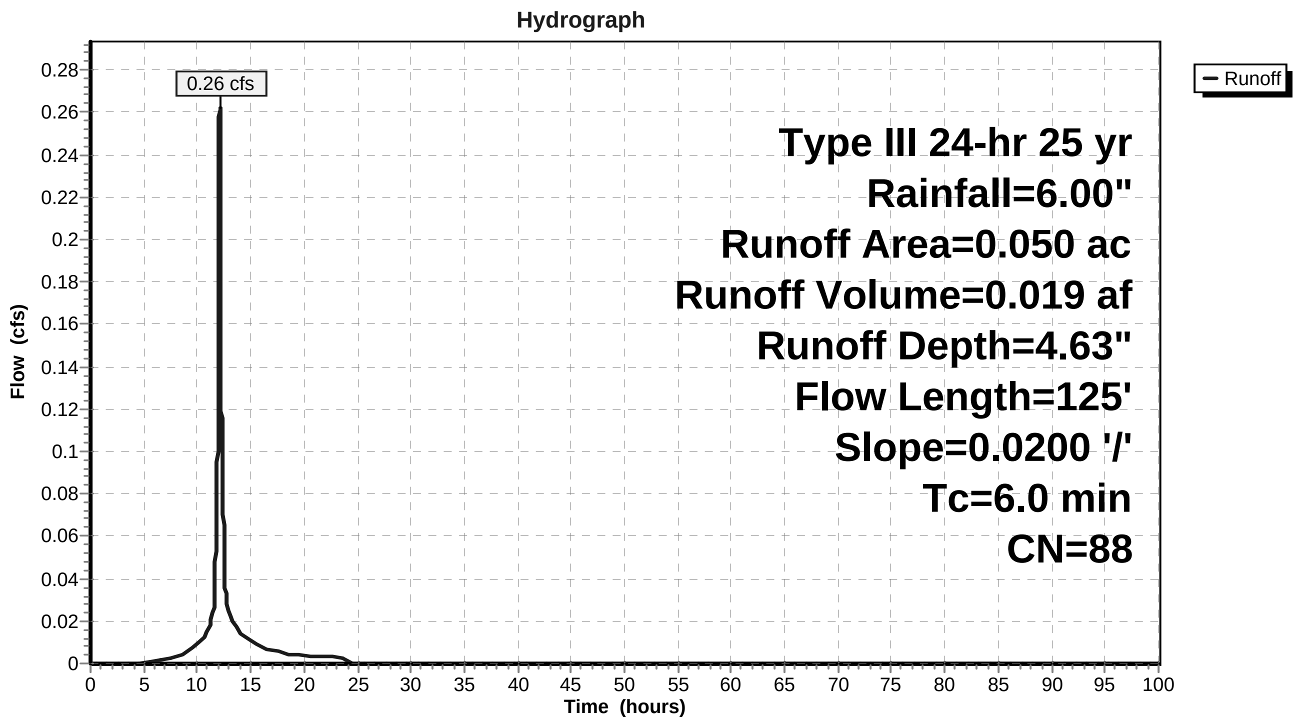
Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.020	74	>75% Grass cover, Good, HSG C
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9B:



Summary for Subcatchment I-14A:

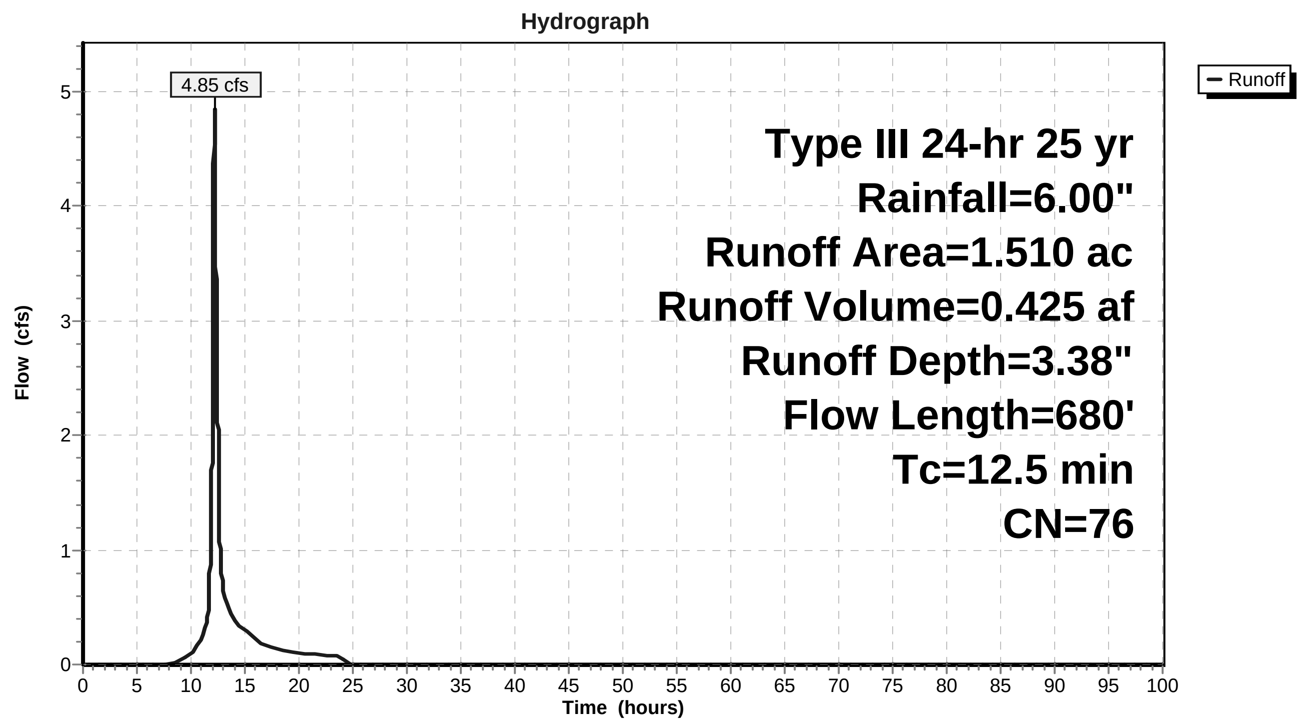
Runoff = 4.85 cfs @ 12.17 hrs, Volume= 0.425 af, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.160	98	Paved parking & roofs
0.140	73	Woods, Fair, HSG C
1.210	74	>75% Grass cover, Good, HSG C
1.510	76	Weighted Average
1.350		89.40% Pervious Area
0.160		10.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.2	80	0.1250	5.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.5	500	0.0160	2.39	11.95	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
12.5	680	Total			

Subcatchment I-14A:



Summary for Subcatchment IN-CB1A:

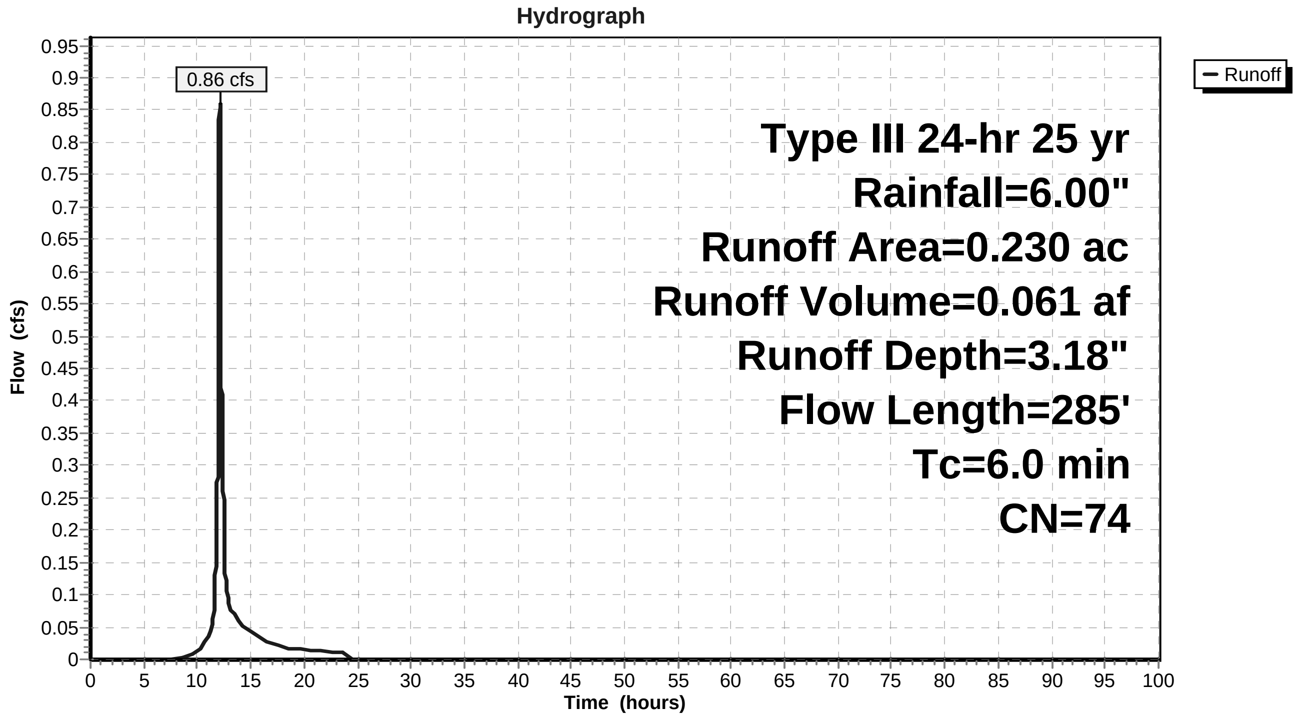
Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.061 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	55	0.9000	0.50		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	230	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.5	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment IN-CB1A:



Summary for Subcatchment P-2:

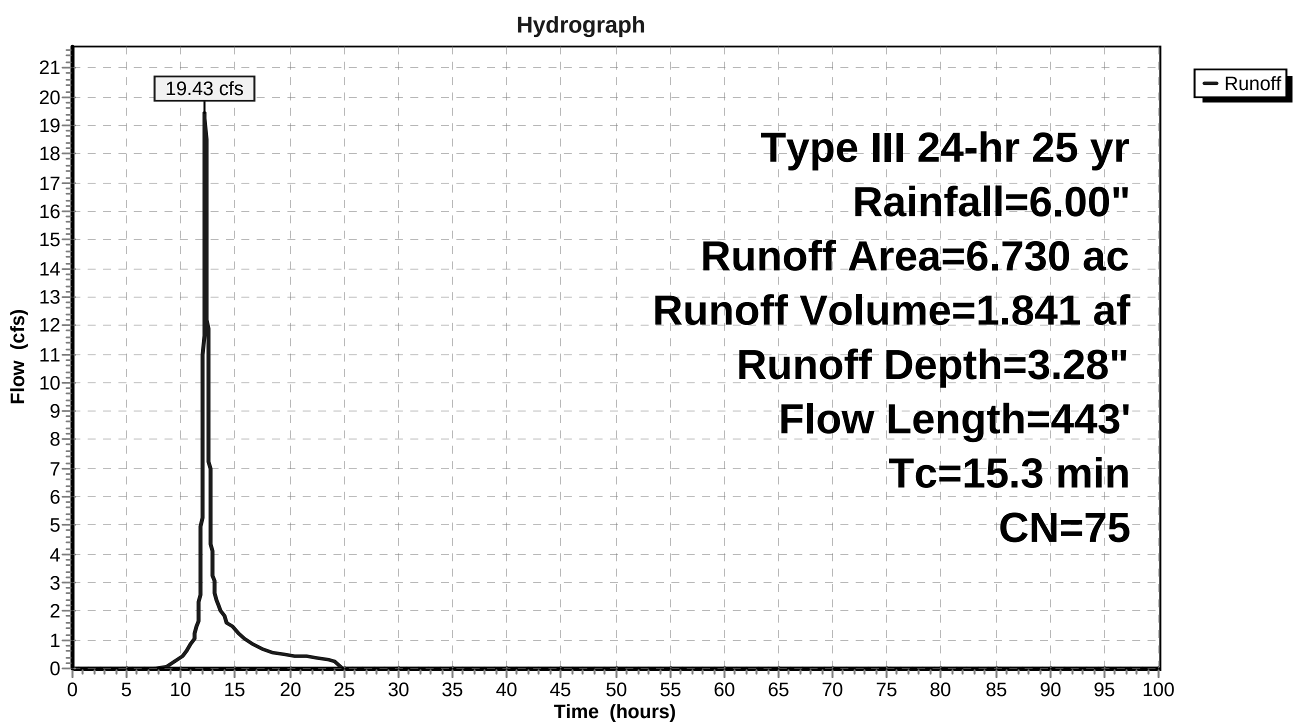
Runoff = 19.43 cfs @ 12.21 hrs, Volume= 1.841 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
3.680	73	Woods, Fair, HSG C
0.200	98	Paved parking & roofs
2.720	74	>75% Grass cover, Good, HSG C
0.130	98	Water Surface, HSG C
6.730	75	Weighted Average
6.400		95.10% Pervious Area
0.330		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.6	343	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.3	443	Total			

Subcatchment P-2:



Summary for Subcatchment P-3:

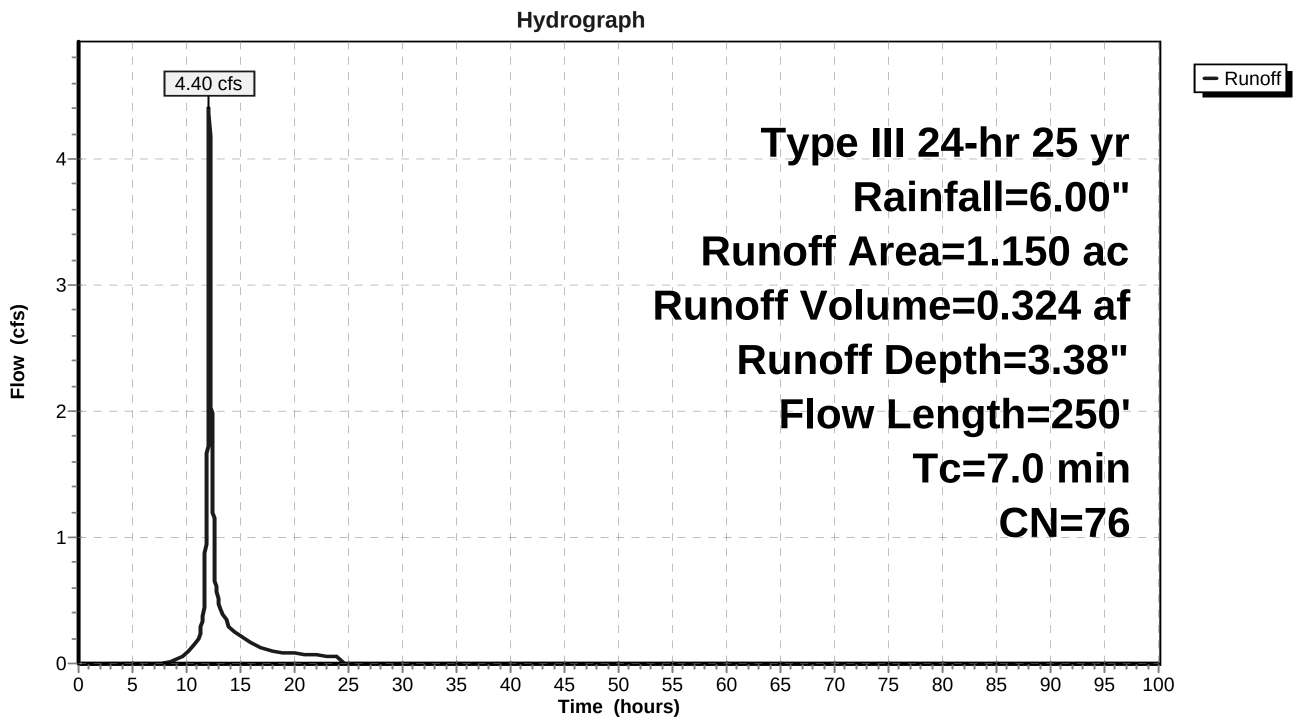
Runoff = 4.40 cfs @ 12.10 hrs, Volume= 0.324 af, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.460	74	>75% Grass cover, Good, HSG C
0.050	98	Paved parking & roofs
0.580	73	Woods, Fair, HSG C
0.060	98	Water Surface, HSG C
1.150	76	Weighted Average
1.040		90.43% Pervious Area
0.110		9.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.1200	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.3	150	0.3000	8.82		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	250	Total			

Subcatchment P-3:



Summary for Subcatchment P1:

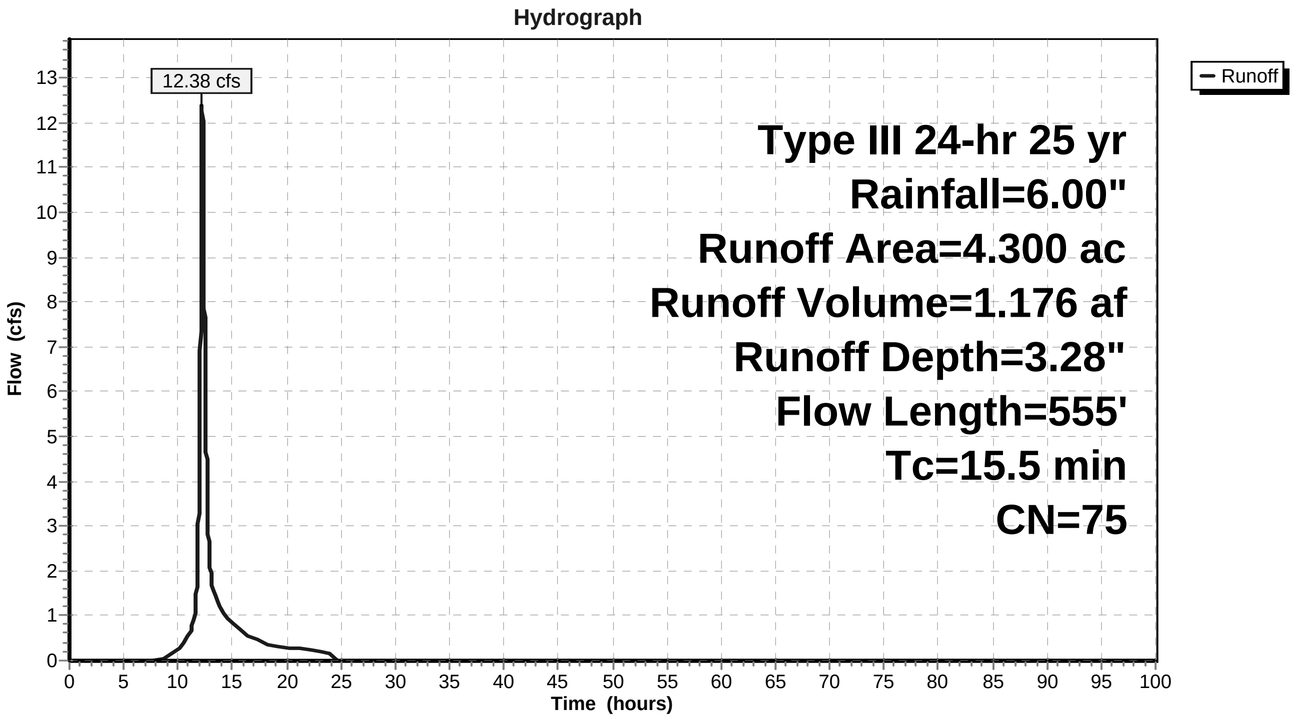
Runoff = 12.38 cfs @ 12.21 hrs, Volume= 1.176 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
2.990	73	Woods, Fair, HSG C
1.000	74	>75% Grass cover, Good, HSG C
0.120	89	Gravel roads, HSG C
0.050	98	Water Surface, HSG C
4.300	75	Weighted Average
4.110		95.58% Pervious Area
0.190		4.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	155	0.0600	3.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	300	0.2260	8.45	25.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 2.0 '/' Top.W=5.00' n= 0.056
15.5	555	Total			

Subcatchment P1:



Summary for Subcatchment SW1A:

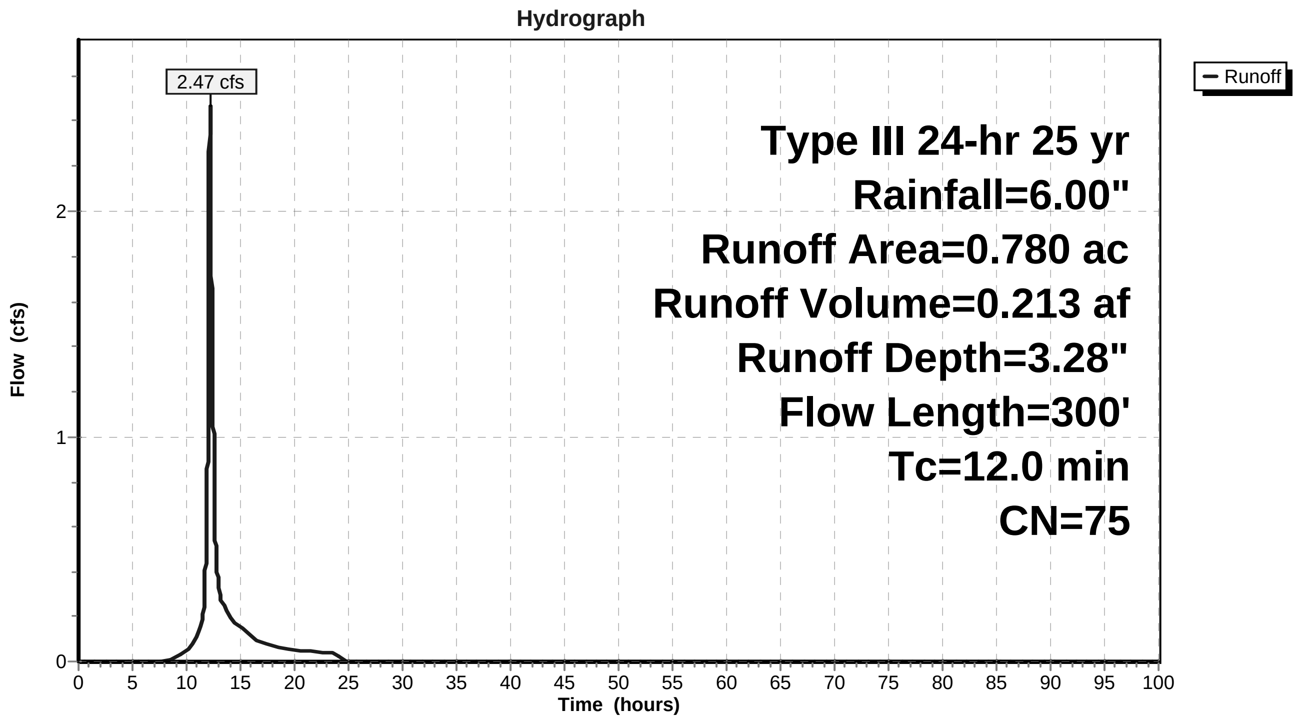
Runoff = 2.47 cfs @ 12.17 hrs, Volume= 0.213 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.090	73	Woods, Fair, HSG C
0.640	74	>75% Grass cover, Good, HSG C
0.780	75	Weighted Average
0.730		93.59% Pervious Area
0.050		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	50	0.1000	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.1	200	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.0	300	Total			

Subcatchment SW1A:



Summary for Subcatchment SW1B:

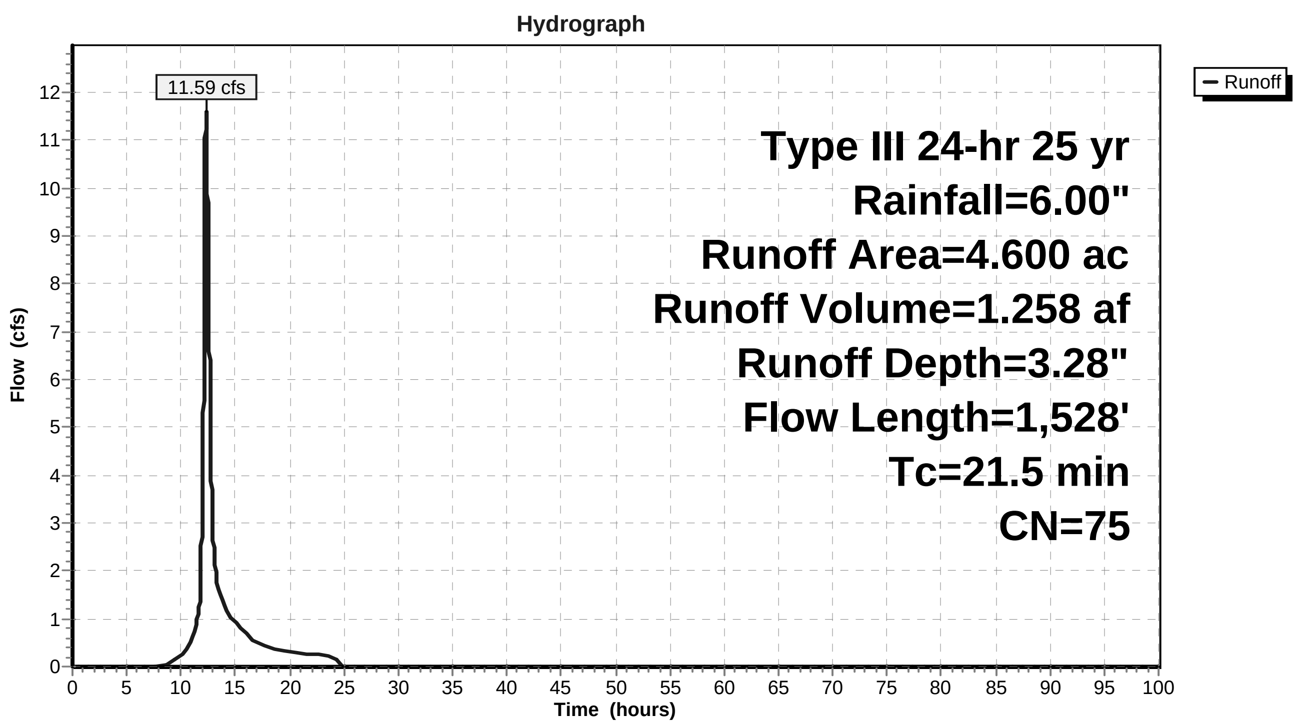
Runoff = 11.59 cfs @ 12.30 hrs, Volume= 1.258 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.290	98	Paved parking & roofs
1.890	73	Woods, Fair, HSG C
2.370	74	>75% Grass cover, Good, HSG C
0.050	70	Brush, Fair, HSG C
4.600	75	Weighted Average
4.310		93.70% Pervious Area
0.290		6.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0650	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.4	300	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,128	0.0180	2.59	12.31	**Trap/Vee/Rect Channel Flow,** Bot.W=2.25' D=1.00' Z= 2.0 & 3.0 '/' Top.W=7.25' n= 0.056
21.5	1,528	Total			

Subcatchment SW1B:



Summary for Subcatchment SW1C:

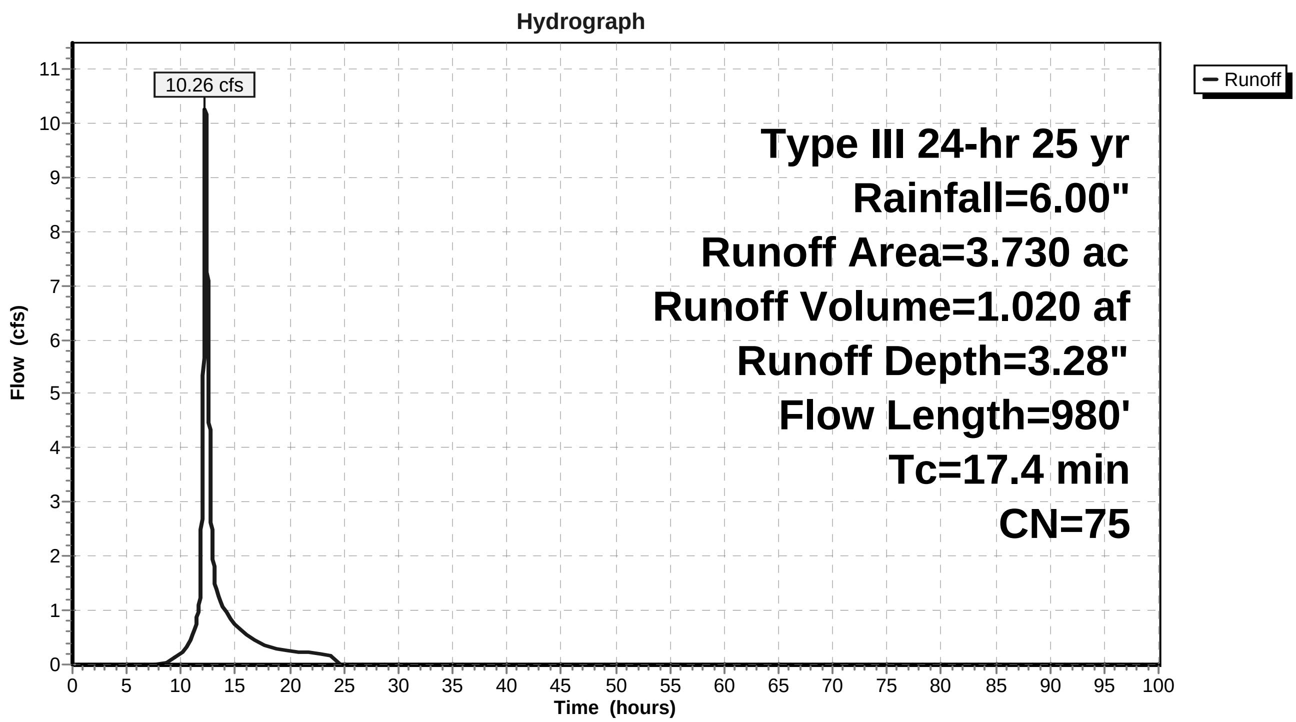
Runoff = 10.26 cfs @ 12.24 hrs, Volume= 1.020 af, Depth= 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.230	98	Paved parking & roofs
1.590	73	Woods, Fair, HSG C
1.910	74	>75% Grass cover, Good, HSG C
3.730	75	Weighted Average
3.500		93.83% Pervious Area
0.230		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.4	600	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	280	0.0140	2.24	11.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
17.4	980	Total			

Subcatchment SW1C:



Summary for Subcatchment WQVP:

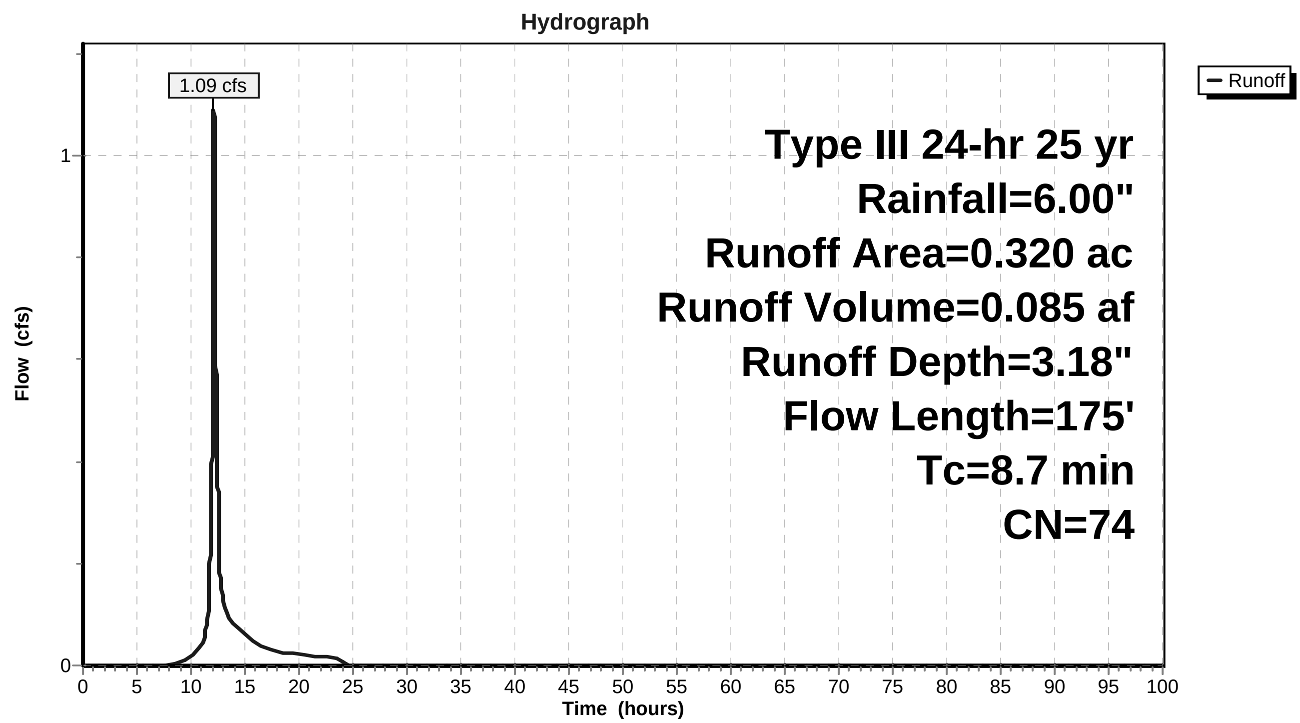
Runoff = 1.09 cfs @ 12.12 hrs, Volume= 0.085 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 yr Rainfall=6.00"

Area (ac)	CN	Description
0.060	73	Woods, Fair, HSG C
0.260	74	>75% Grass cover, Good, HSG C
0.320	74	Weighted Average
0.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	30	0.1800	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
6.4	70	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.3500	9.52		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	175	Total			

Subcatchment WQVP:

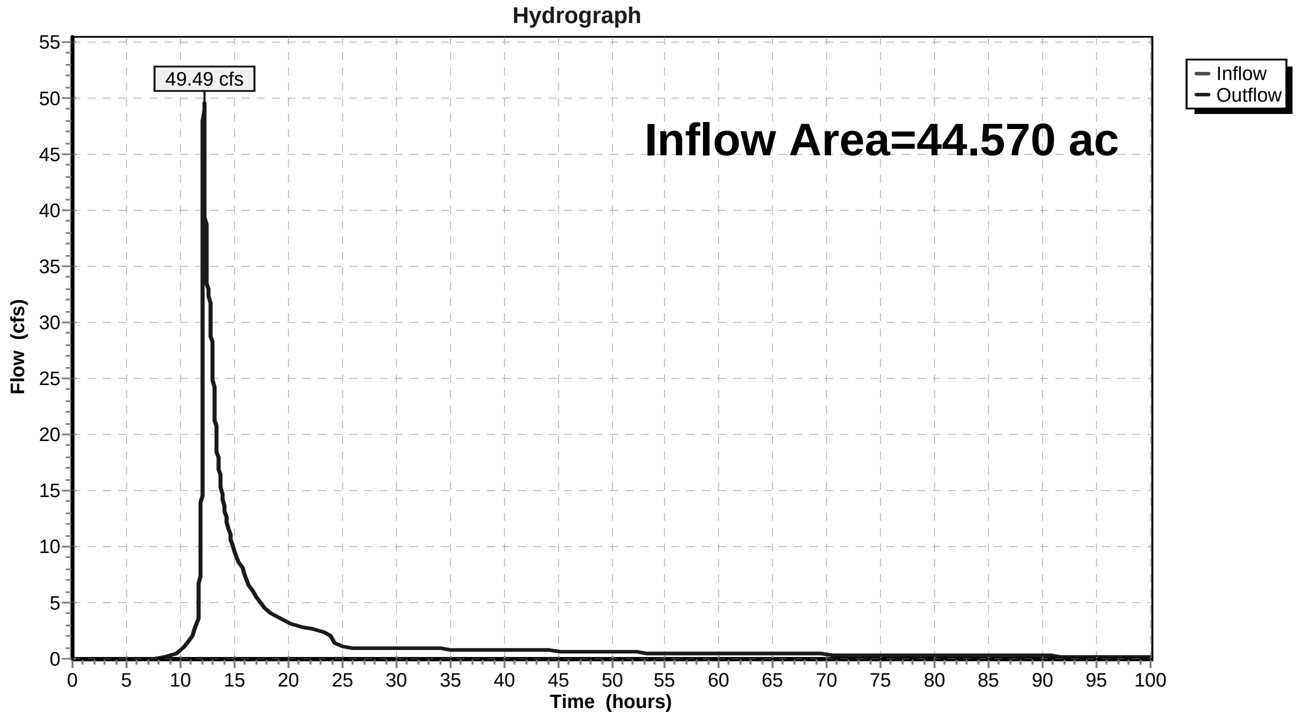


Summary for Reach dp1:

Inflow Area = 44.570 ac, 9.50% Impervious, Inflow Depth > 3.31" for 25 yr event
Inflow = 49.49 cfs @ 12.18 hrs, Volume= 12.282 af
Outflow = 49.49 cfs @ 12.18 hrs, Volume= 12.282 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp1:

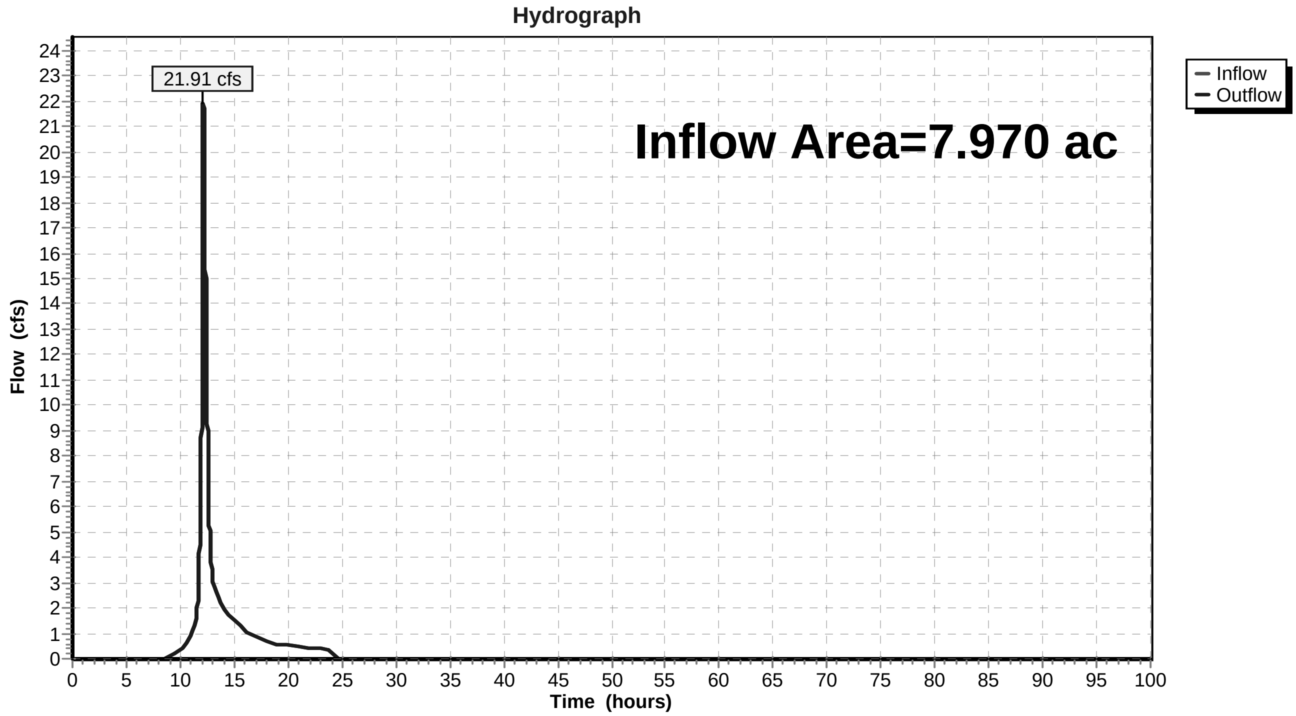


Summary for Reach dp2:

Inflow Area =	7.970 ac,	0.00% Impervious,	Inflow Depth = 3.07"	for 25 yr event	
Inflow =	21.91 cfs @	12.15 hrs,	Volume=	2.040 af	
Outflow =	21.91 cfs @	12.15 hrs,	Volume=	2.040 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



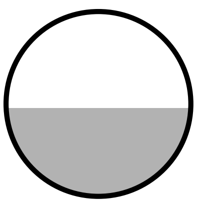
Summary for Reach IN14A:

Inflow Area = 1.510 ac, 10.60% Impervious, Inflow Depth = 3.38" for 25 yr event
Inflow = 4.85 cfs @ 12.17 hrs, Volume= 0.425 af
Outflow = 4.85 cfs @ 12.18 hrs, Volume= 0.425 af, Atten= 0%, Lag= 0.0 min

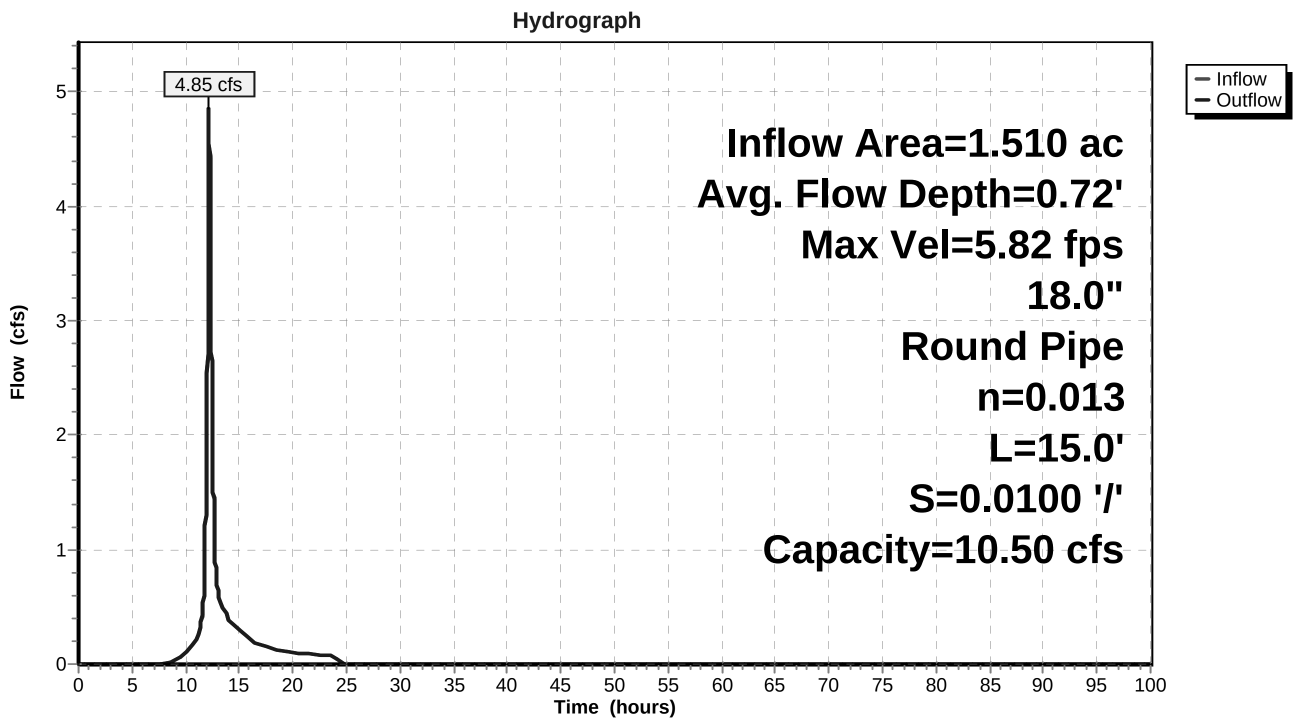
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 5.82 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.19 fps, Avg. Travel Time= 0.1 min

Peak Storage= 12 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.72'
Defined Flood Depth= 366.83', Capacity at Flood Depth= -10,724.81 cfs
Bank-Full Depth= 1.50', Capacity at Bank-Full= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 15.0' Slope= 0.0100 '/'
Inlet Invert= 362.00', Outlet Invert= 361.85'



Reach IN14A:



Summary for Reach SW:

Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 3.28" for 25 yr event
Inflow = 23.54 cfs @ 12.26 hrs, Volume= 2.492 af
Outflow = 23.37 cfs @ 12.28 hrs, Volume= 2.492 af, Atten= 1%, Lag= 1.4 min

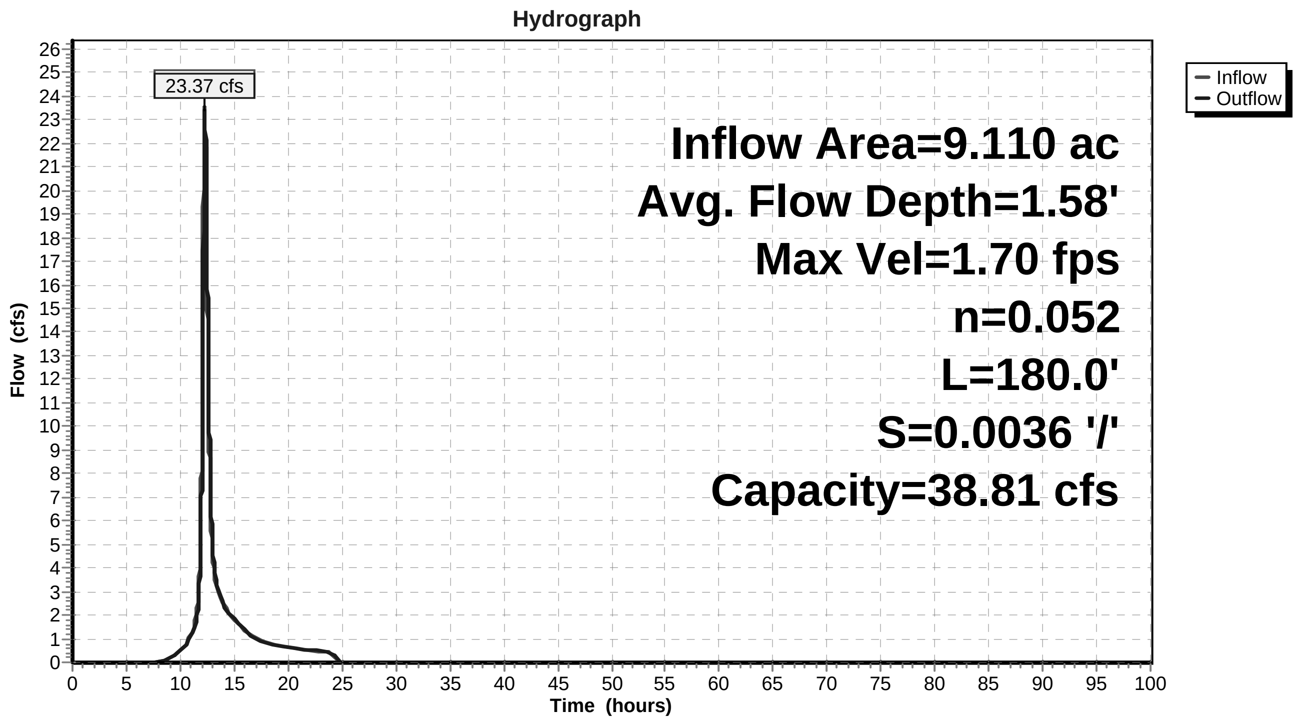
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.70 fps, Min. Travel Time= 1.8 min
Avg. Velocity = 0.59 fps, Avg. Travel Time= 5.1 min

Peak Storage= 2,475 cf @ 12.28 hrs
Average Depth at Peak Storage= 1.58'
Defined Flood Depth= 345.00', Capacity at Flood Depth= 14,324.68 cfs
Bank-Full Depth= 2.00', Capacity at Bank-Full= 38.81 cfs

4.00' x 2.00' deep channel, n= 0.052
Side Slope Z-value= 3.0 '/' Top Width= 16.00'
Length= 180.0' Slope= 0.0036 '/'
Inlet Invert= 341.45', Outlet Invert= 340.80'

‡

Reach SW:



Summary for Pond CB-10A:

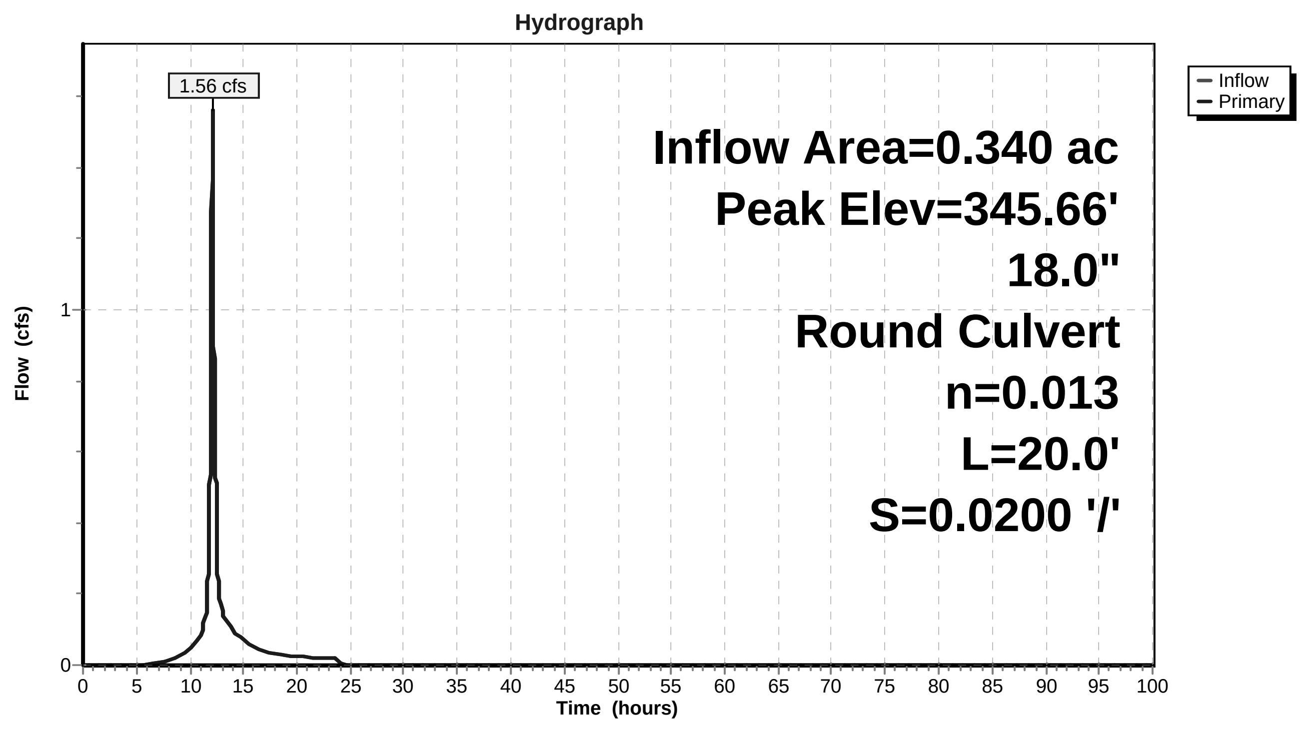
Inflow Area = 0.340 ac, 41.18% Impervious, Inflow Depth = 4.20" for 25 yr event
Inflow = 1.56 cfs @ 12.11 hrs, Volume= 0.119 af
Outflow = 1.56 cfs @ 12.11 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min
Primary = 1.56 cfs @ 12.11 hrs, Volume= 0.119 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 345.66' @ 12.12 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.56 cfs @ 12.11 hrs HW=345.65' TW=345.33' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.56 cfs @ 3.14 fps)

Pond CB-10A:



Summary for Pond CB-10B:

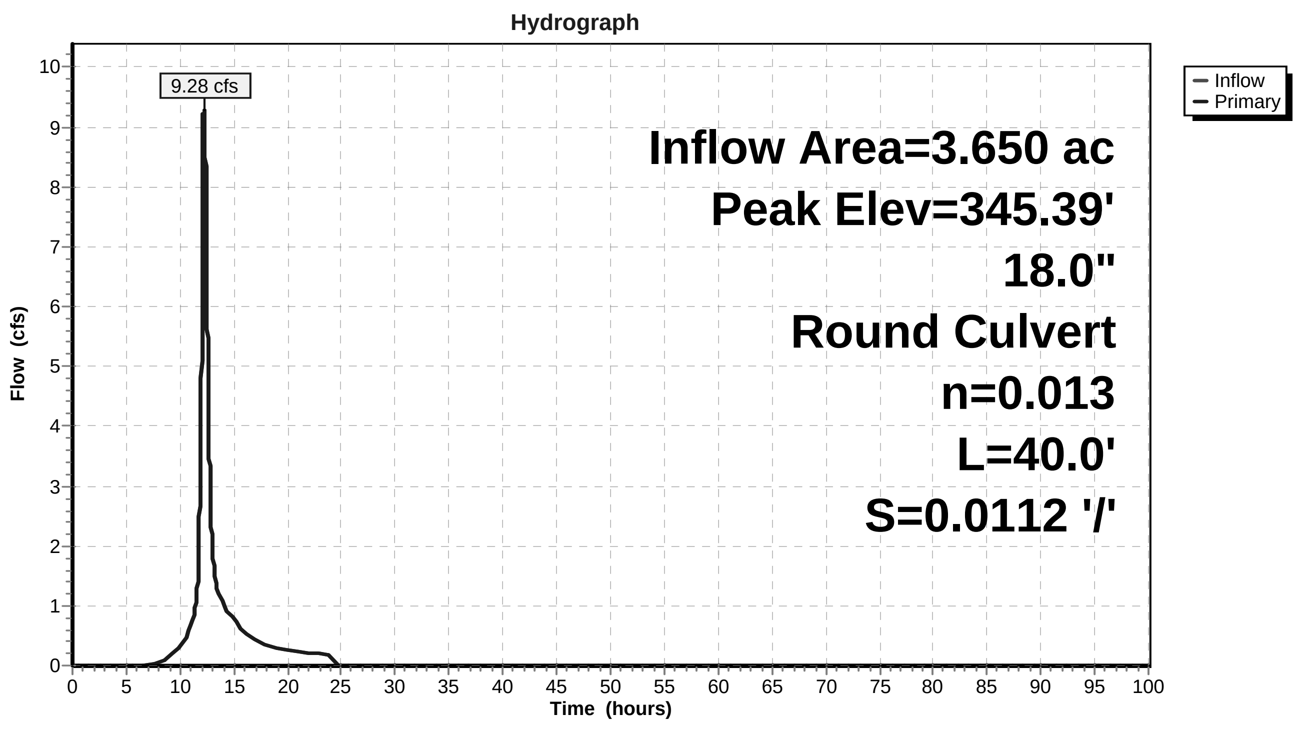
Inflow Area = 3.650 ac, 22.47% Impervious, Inflow Depth = 3.70" for 25 yr event
Inflow = 9.28 cfs @ 12.24 hrs, Volume= 1.126 af
Outflow = 9.28 cfs @ 12.24 hrs, Volume= 1.126 af, Atten= 0%, Lag= 0.0 min
Primary = 9.28 cfs @ 12.24 hrs, Volume= 1.126 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 345.39' @ 12.24 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.45'	**18.0" Round Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.45' / 343.00' S= 0.0112 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=9.28 cfs @ 12.24 hrs HW=345.39' TW=336.64' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.28 cfs @ 5.25 fps)

Pond CB-10B:



Summary for Pond CB-11A:

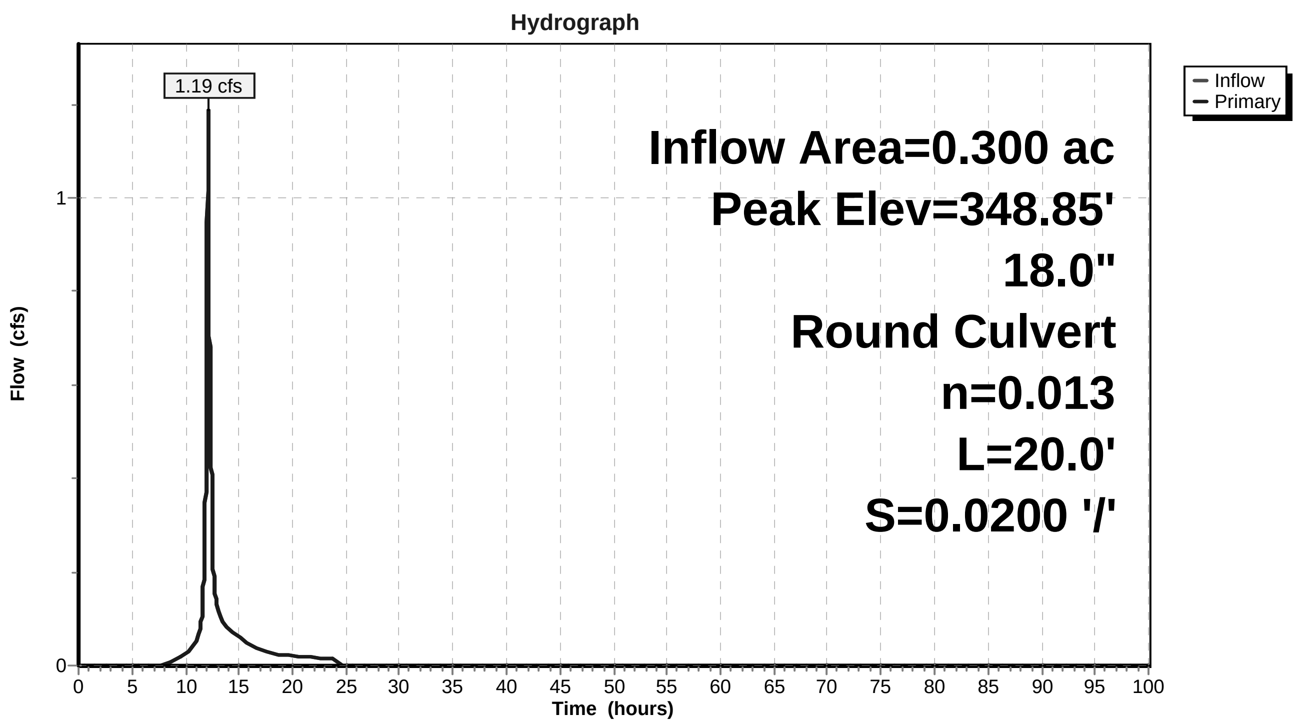
Inflow Area = 0.300 ac, 16.67% Impervious, Inflow Depth = 3.58" for 25 yr event
Inflow = 1.19 cfs @ 12.11 hrs, Volume= 0.089 af
Outflow = 1.19 cfs @ 12.11 hrs, Volume= 0.089 af, Atten= 0%, Lag= 0.0 min
Primary = 1.19 cfs @ 12.11 hrs, Volume= 0.089 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.85' @ 12.27 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.81'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.81' / 347.41' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.19 cfs @ 12.11 hrs HW=348.63' TW=348.54' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.19 cfs @ 1.73 fps)

Pond CB-11A:



Summary for Pond CB-11B:

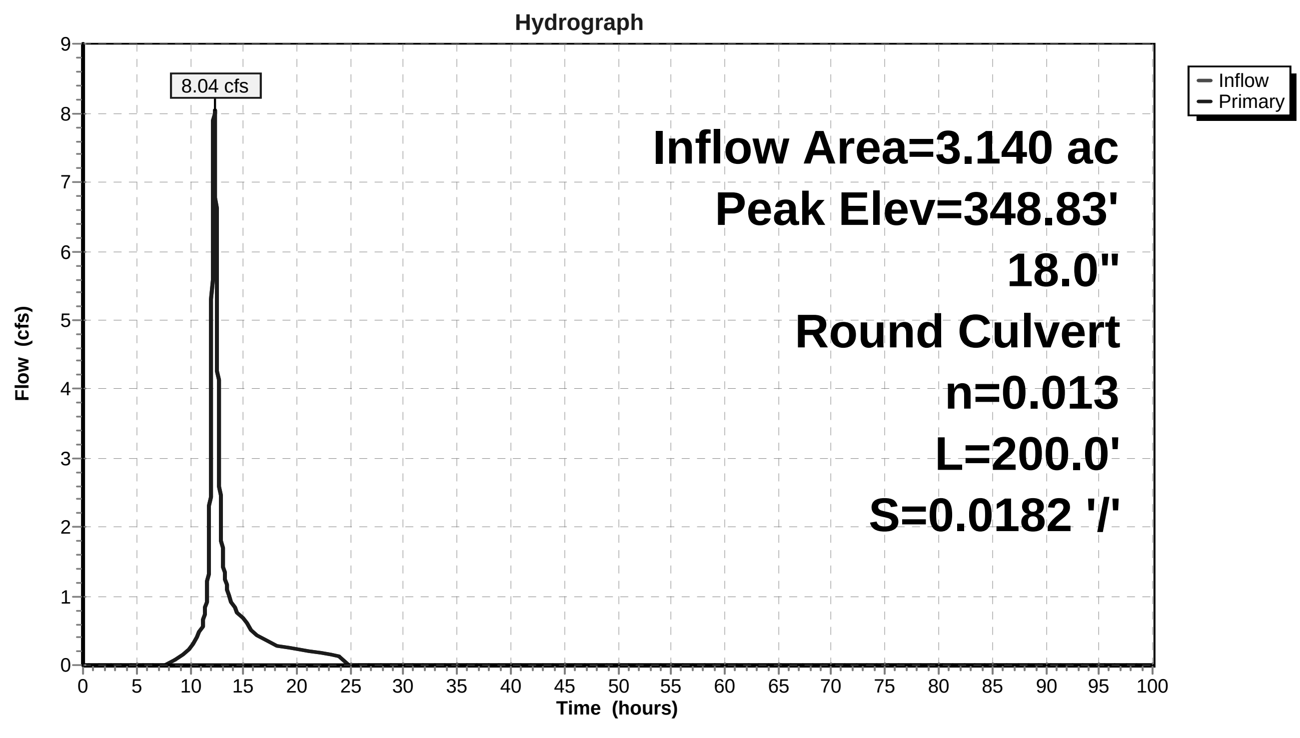
Inflow Area = 3.140 ac, 17.83% Impervious, Inflow Depth = 3.58" for 25 yr event
Inflow = 8.04 cfs @ 12.28 hrs, Volume= 0.937 af
Outflow = 8.04 cfs @ 12.28 hrs, Volume= 0.937 af, Atten= 0%, Lag= 0.0 min
Primary = 8.04 cfs @ 12.28 hrs, Volume= 0.937 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.83' @ 12.28 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.19'	**18.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.19' / 343.55' S= 0.0182 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=8.04 cfs @ 12.28 hrs HW=348.83' TW=345.38' (Dynamic Tailwater)
1=Culvert (Inlet Controls 8.04 cfs @ 4.55 fps)

Pond CB-11B:



Summary for Pond CB-12A:

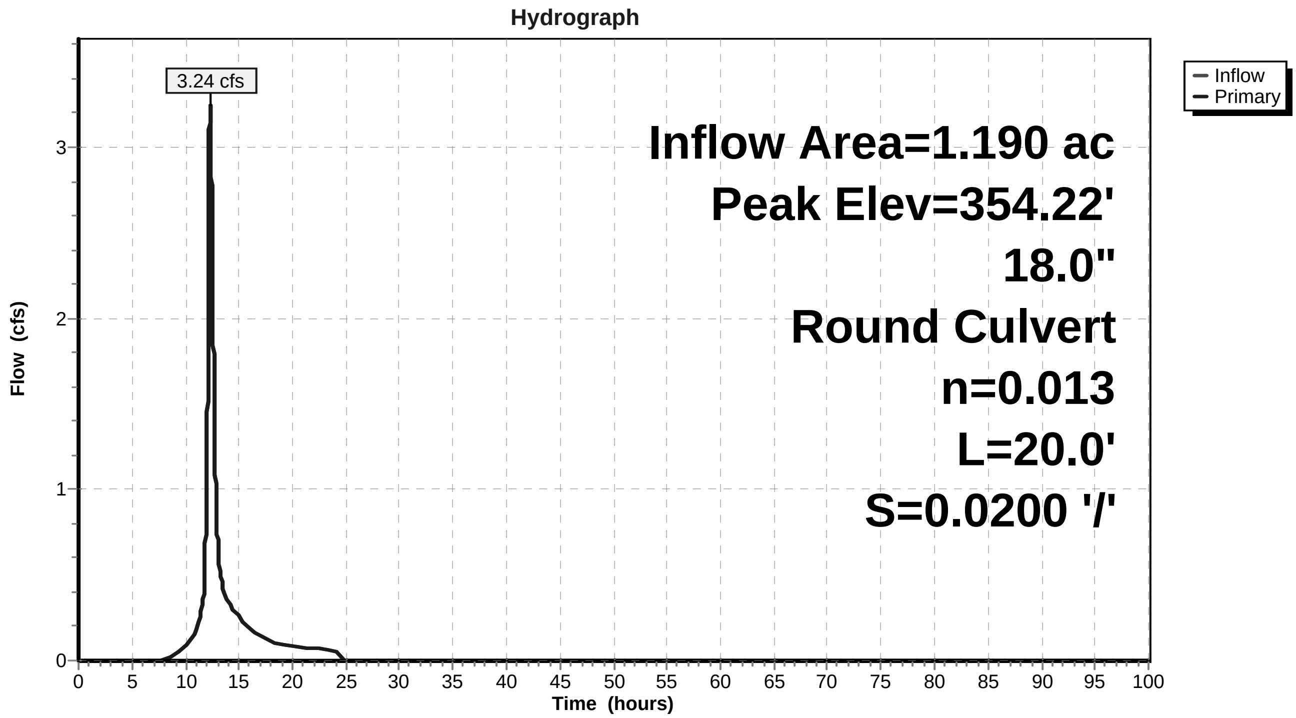
Inflow Area =	1.190 ac, 16.81% Impervious, Inflow Depth = 3.58"	for 25 yr event	
Inflow =	3.24 cfs @ 12.30 hrs, Volume=	0.355 af	
Outflow =	3.24 cfs @ 12.30 hrs, Volume=	0.355 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.24 cfs @ 12.30 hrs, Volume=	0.355 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 354.22' @ 12.29 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	353.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 353.00' / 352.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.24 cfs @ 12.30 hrs HW=354.22' TW=353.98' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.24 cfs @ 2.88 fps)

Pond CB-12A:



Summary for Pond CB-12B:

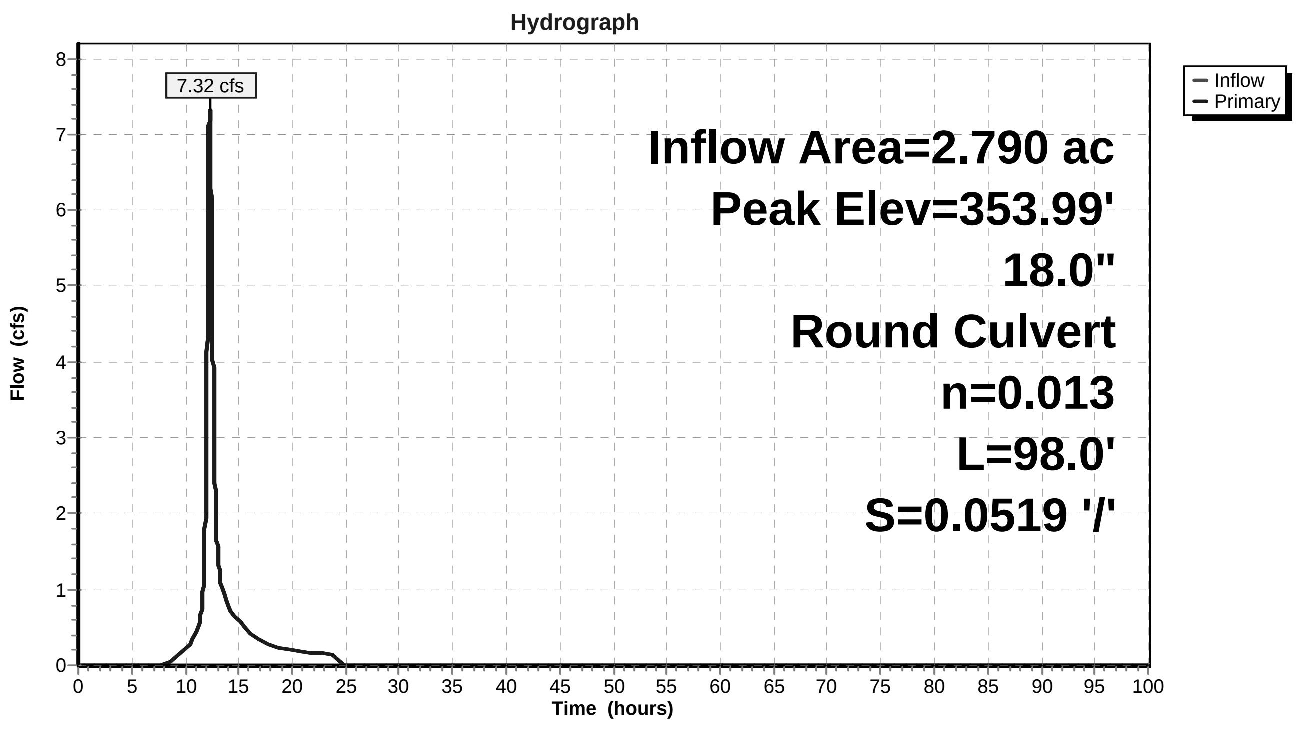
Inflow Area = 2.790 ac, 17.56% Impervious, Inflow Depth = 3.57" for 25 yr event
Inflow = 7.32 cfs @ 12.29 hrs, Volume= 0.830 af
Outflow = 7.32 cfs @ 12.29 hrs, Volume= 0.830 af, Atten= 0%, Lag= 0.0 min
Primary = 7.32 cfs @ 12.29 hrs, Volume= 0.830 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 353.99' @ 12.29 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	352.50'	**18.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 352.50' / 347.41' S= 0.0519 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.32 cfs @ 12.29 hrs HW=353.98' TW=348.83' (Dynamic Tailwater)
1=Culvert (Inlet Controls 7.32 cfs @ 4.15 fps)

Pond CB-12B:



Summary for Pond CB-13A:

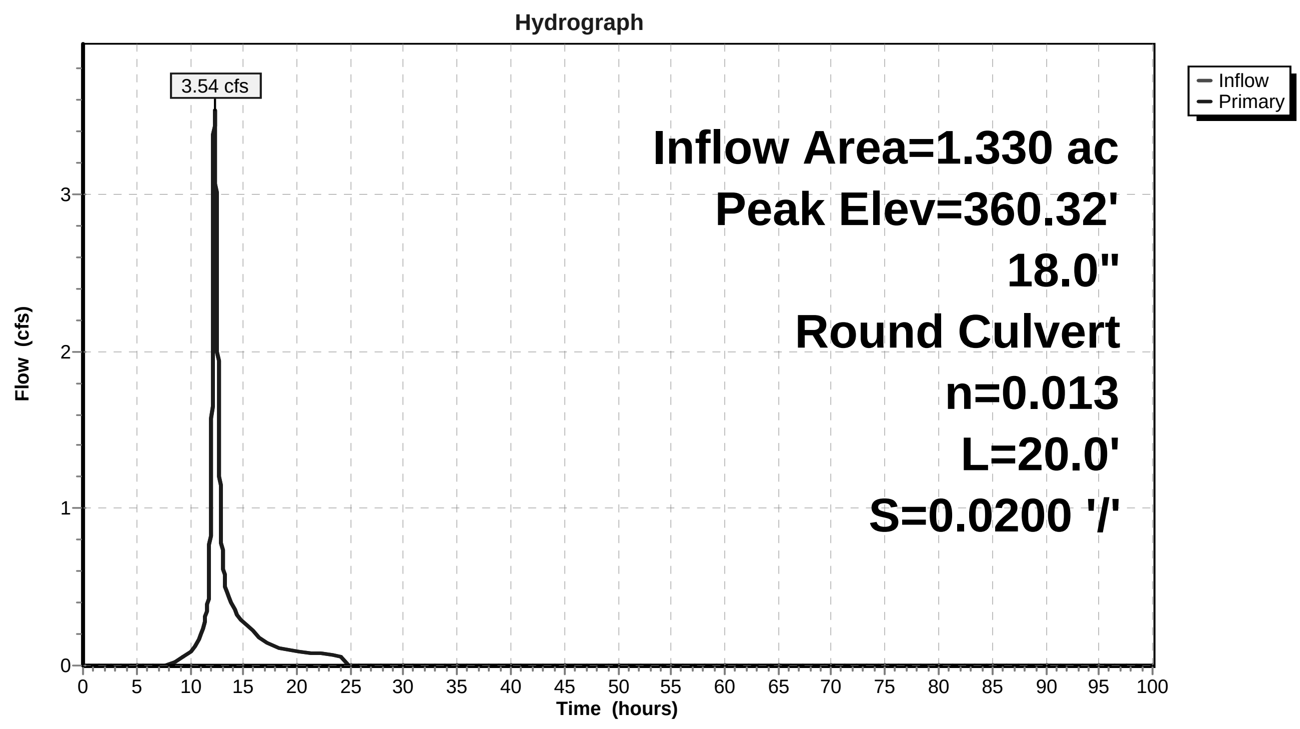
Inflow Area = 1.330 ac, 15.04% Impervious, Inflow Depth = 3.48" for 25 yr event
Inflow = 3.54 cfs @ 12.30 hrs, Volume= 0.386 af
Outflow = 3.54 cfs @ 12.30 hrs, Volume= 0.386 af, Atten= 0%, Lag= 0.0 min
Primary = 3.54 cfs @ 12.30 hrs, Volume= 0.386 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 360.32' @ 12.29 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	359.35'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 359.35' / 358.95' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.54 cfs @ 12.30 hrs HW=360.31' TW=359.80' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.54 cfs @ 4.20 fps)

Pond CB-13A:



Summary for Pond CB-13B:

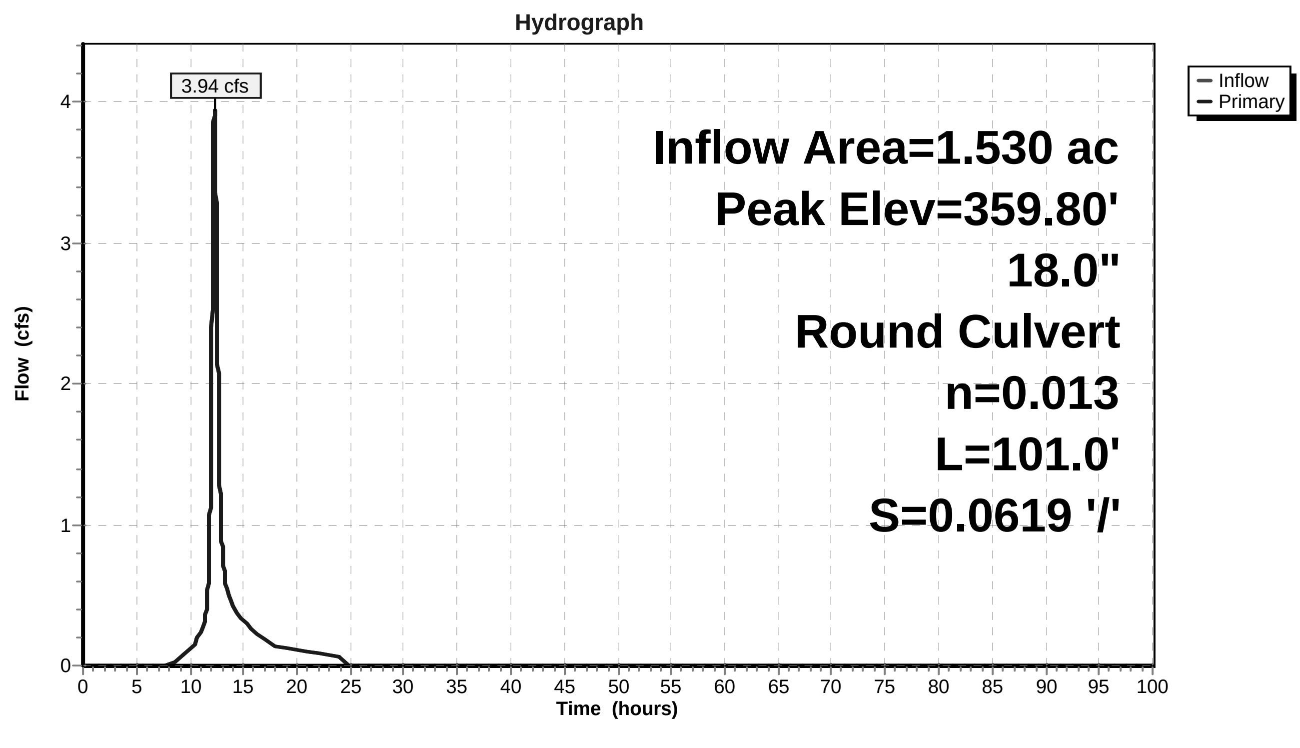
Inflow Area =	1.530 ac, 17.65% Impervious,	Inflow Depth = 3.55"	for 25 yr event	
Inflow =	3.94 cfs @	12.29 hrs, Volume=	0.452 af	
Outflow =	3.94 cfs @	12.29 hrs, Volume=	0.452 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.94 cfs @	12.29 hrs, Volume=	0.452 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 359.80' @ 12.29 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.85'	**18.0" Round Culvert** L= 101.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 358.85' / 352.60' S= 0.0619 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.94 cfs @ 12.29 hrs HW=359.80' TW=353.98' (Dynamic Tailwater)
1=Culvert (Inlet Controls 3.94 cfs @ 3.32 fps)

Pond CB-13B:



Summary for Pond CB-14A:

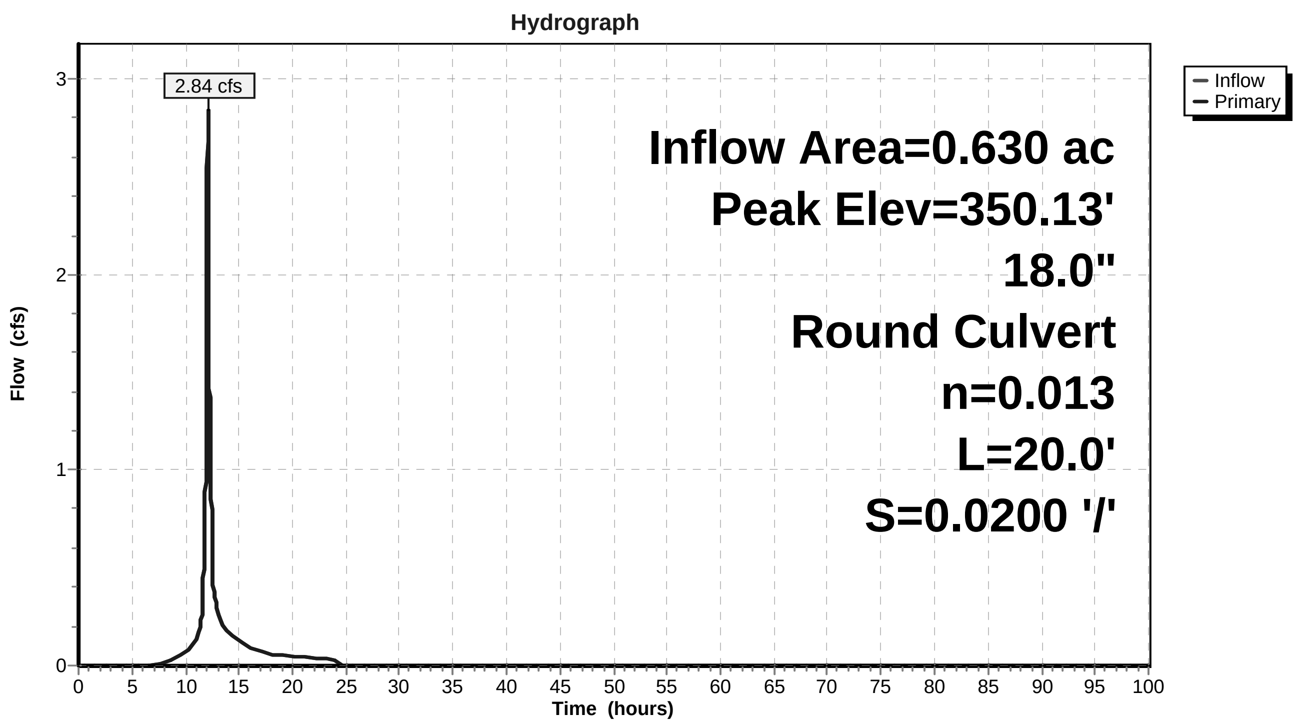
Inflow Area = 0.630 ac, 30.16% Impervious, Inflow Depth = 3.89" for 25 yr event
Inflow = 2.84 cfs @ 12.09 hrs, Volume= 0.204 af
Outflow = 2.84 cfs @ 12.09 hrs, Volume= 0.204 af, Atten= 0%, Lag= 0.0 min
Primary = 2.84 cfs @ 12.09 hrs, Volume= 0.204 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.13' @ 12.10 hrs
Flood Elev= 364.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.08'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.08' / 348.68' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.84 cfs @ 12.09 hrs HW=350.12' TW=349.85' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.84 cfs @ 3.05 fps)

Pond CB-14A:



Summary for Pond CB-14B:

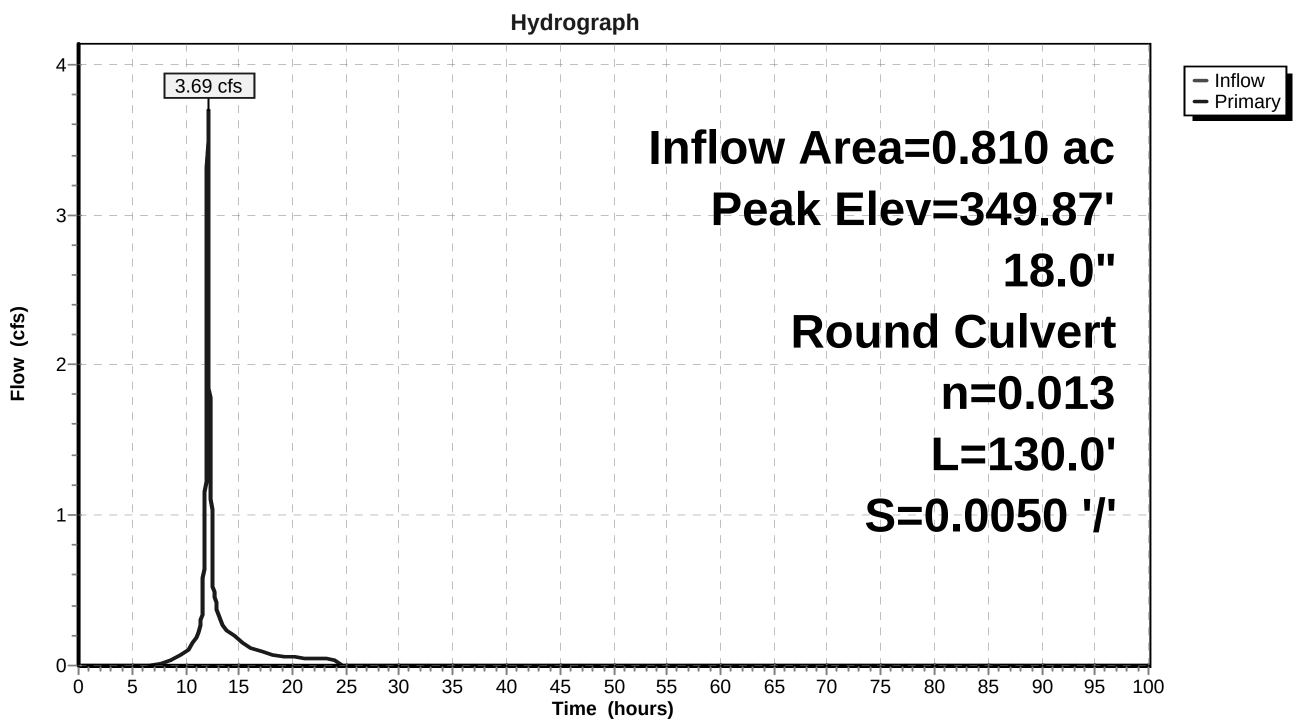
Inflow Area = 0.810 ac, 32.10% Impervious, Inflow Depth = 3.93" for 25 yr event
Inflow = 3.69 cfs @ 12.09 hrs, Volume= 0.265 af
Outflow = 3.69 cfs @ 12.09 hrs, Volume= 0.265 af, Atten= 0%, Lag= 0.0 min
Primary = 3.69 cfs @ 12.09 hrs, Volume= 0.265 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.87' @ 12.10 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.58'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.58' / 347.93' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.69 cfs @ 12.09 hrs HW=349.85' TW=349.33' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.69 cfs @ 3.11 fps)

Pond CB-14B:



Summary for Pond CB-15A:

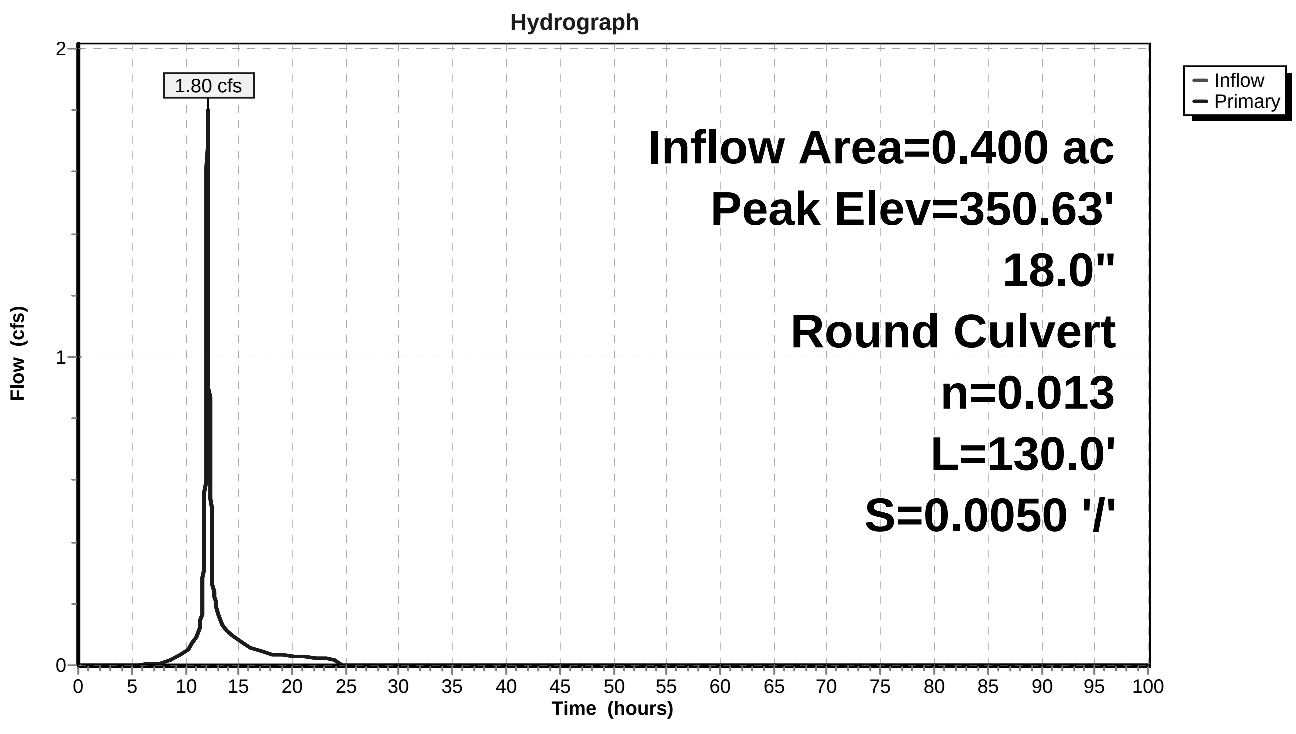
Inflow Area =	0.400 ac, 30.00% Impervious, Inflow Depth = 3.89" for 25 yr event			
Inflow =	1.80 cfs @	12.09 hrs, Volume=	0.130 af	
Outflow =	1.80 cfs @	12.09 hrs, Volume=	0.130 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.80 cfs @	12.09 hrs, Volume=	0.130 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.63' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.83'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.83' / 349.18' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.77 cfs @ 12.09 hrs HW=350.63' TW=350.12' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.77 cfs @ 2.70 fps)

Pond CB-15A:



Summary for Pond CB-15B:

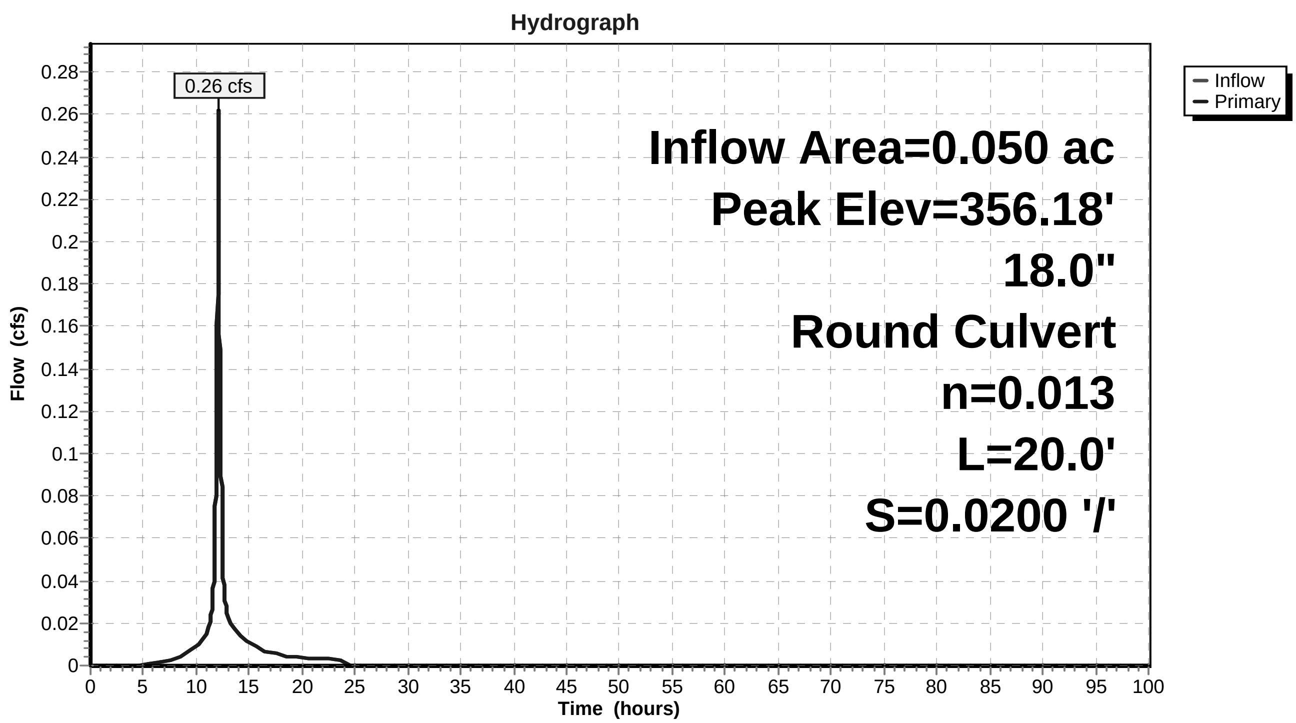
Inflow Area =	0.050 ac,	60.00% Impervious,	Inflow Depth = 4.63"	for 25 yr event
Inflow =	0.26 cfs @	12.09 hrs, Volume=	0.019 af	
Outflow =	0.26 cfs @	12.09 hrs, Volume=	0.019 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.26 cfs @	12.09 hrs, Volume=	0.019 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 356.18' @ 12.09 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	355.96'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 355.96' / 355.56' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.26 cfs @ 12.09 hrs HW=356.18' TW=350.62' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.26 cfs @ 1.60 fps)

Pond CB-15B:



Summary for Pond CB-16A:

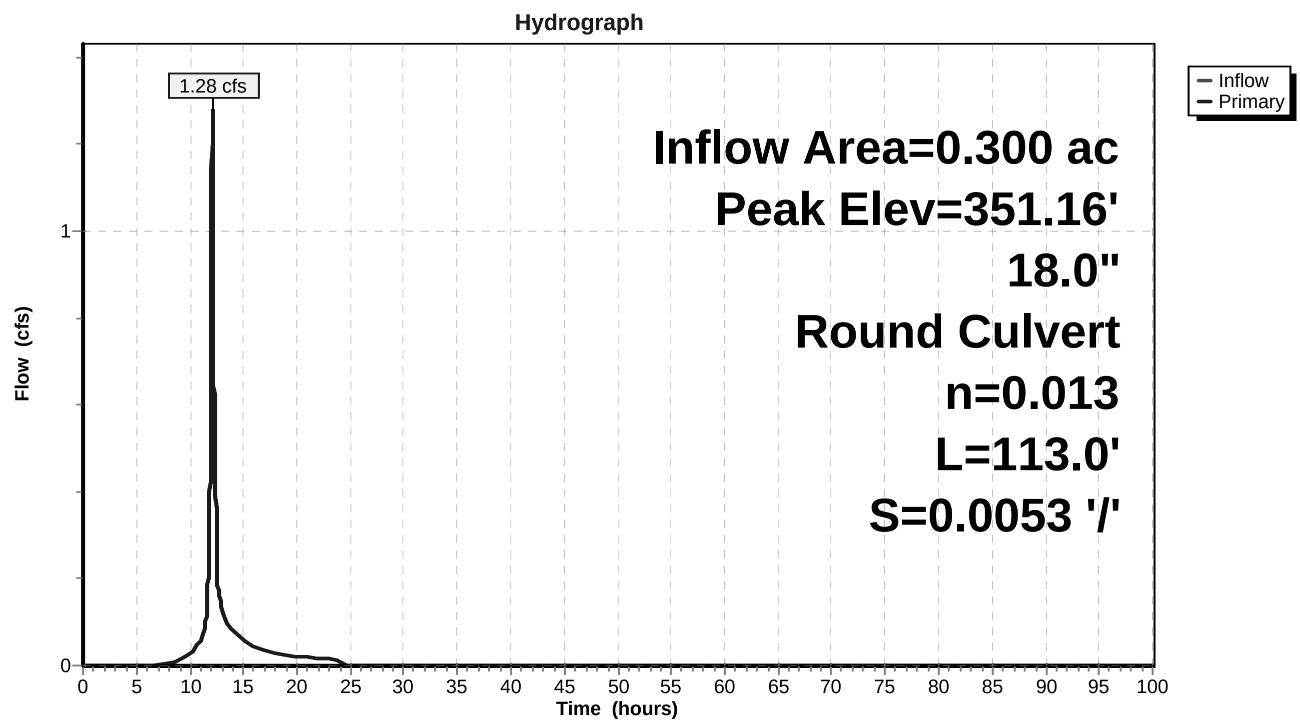
Inflow Area =	0.300 ac, 20.00% Impervious,	Inflow Depth = 3.64"	for 25 yr event
Inflow =	1.28 cfs @ 12.09 hrs,	Volume=	0.091 af
Outflow =	1.28 cfs @ 12.09 hrs,	Volume=	0.091 af, Atten= 0%, Lag= 0.0 min
Primary =	1.28 cfs @ 12.09 hrs,	Volume=	0.091 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.16' @ 12.09 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	350.53'	**18.0" Round Culvert** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 350.53' / 349.93' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.27 cfs @ 12.09 hrs HW=351.16' TW=350.63' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.27 cfs @ 2.68 fps)

Pond CB-16A:



Summary for Pond CB-16B:

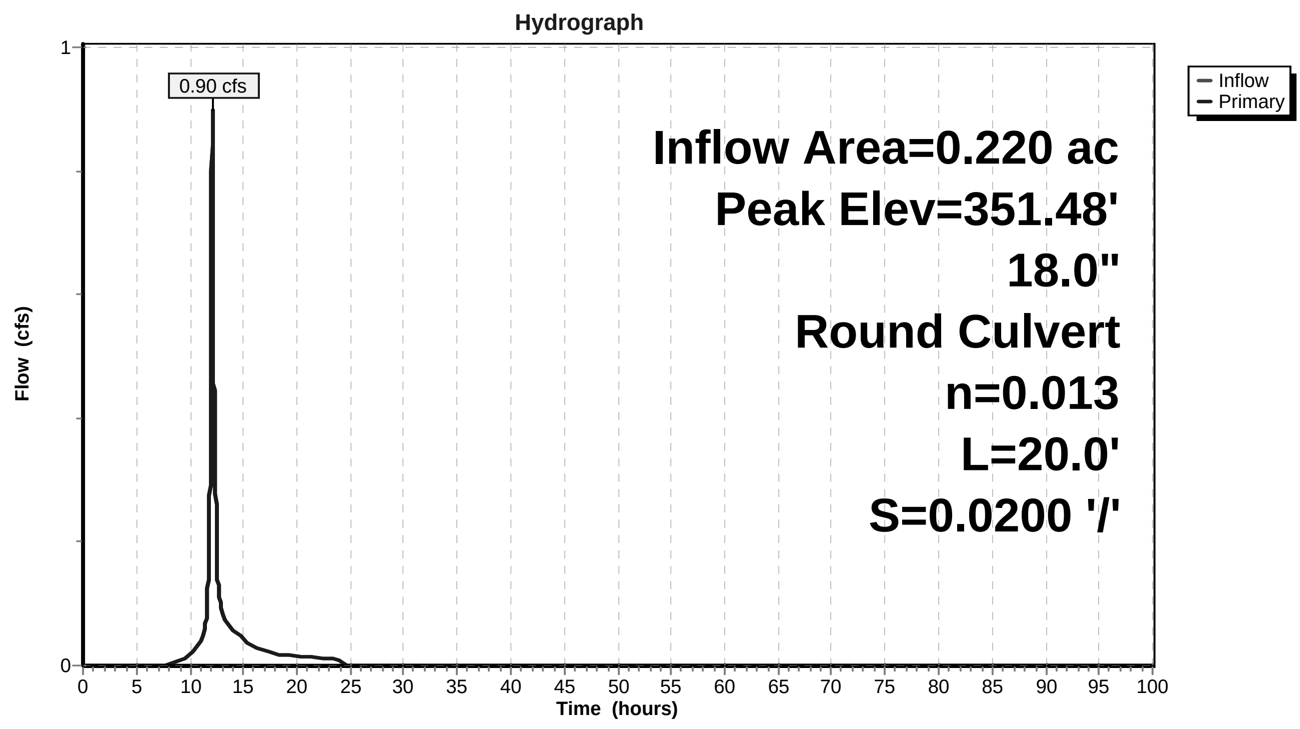
Inflow Area = 0.220 ac, 13.64% Impervious, Inflow Depth = 3.48" for 25 yr event
Inflow = 0.90 cfs @ 12.09 hrs, Volume= 0.064 af
Outflow = 0.90 cfs @ 12.09 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.09 hrs, Volume= 0.064 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.48' @ 12.09 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	351.03'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 351.03' / 350.63' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.90 cfs @ 12.09 hrs HW=351.48' TW=351.16' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.90 cfs @ 2.99 fps)

Pond CB-16B:



Summary for Pond CB-17A:

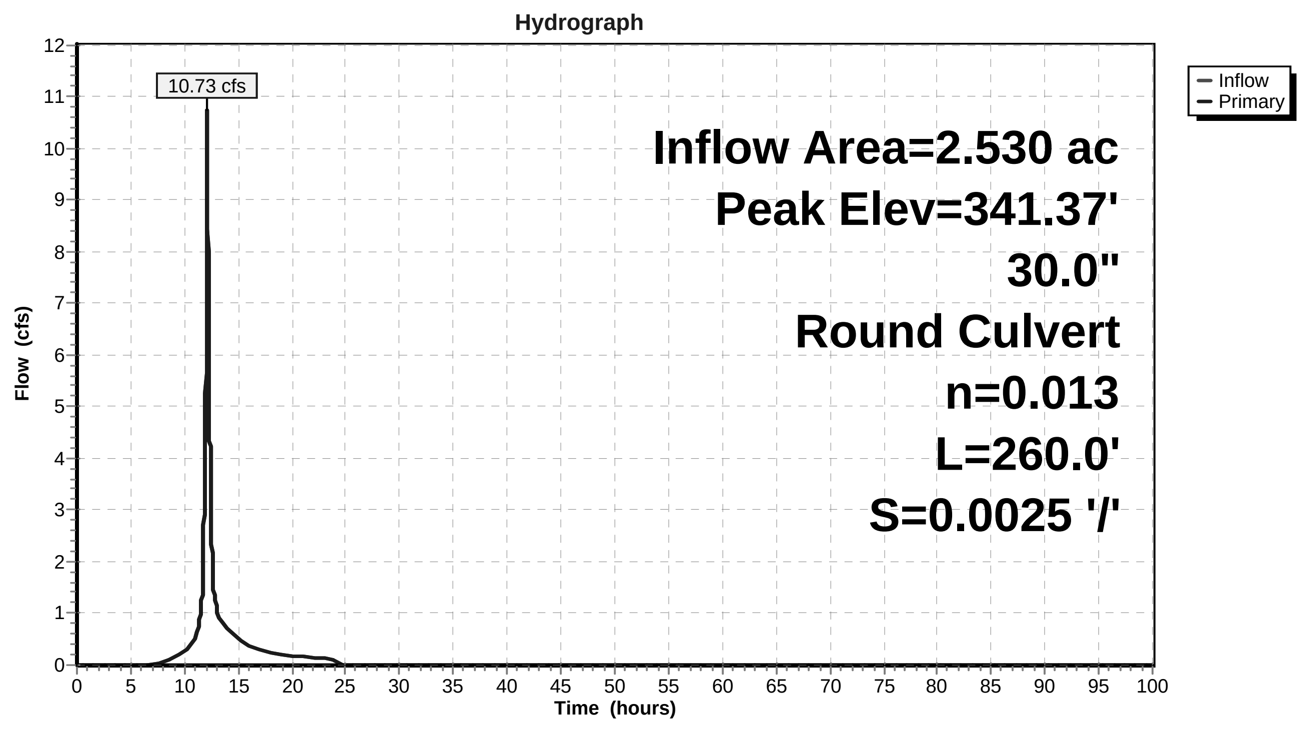
Inflow Area =	2.530 ac,	28.26% Impervious,	Inflow Depth = 3.84"	for 25 yr event	
Inflow =	10.73 cfs @	12.10 hrs,	Volume=	0.810 af	
Outflow =	10.73 cfs @	12.10 hrs,	Volume=	0.810 af,	Atten= 0%, Lag= 0.0 min
Primary =	10.73 cfs @	12.10 hrs,	Volume=	0.810 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.37' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	339.57'	**30.0" Round Culvert** L= 260.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 339.57' / 338.92' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=10.73 cfs @ 12.10 hrs HW=341.37' TW=340.44' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 10.73 cfs @ 3.98 fps)

Pond CB-17A:



Summary for Pond CB-17B:

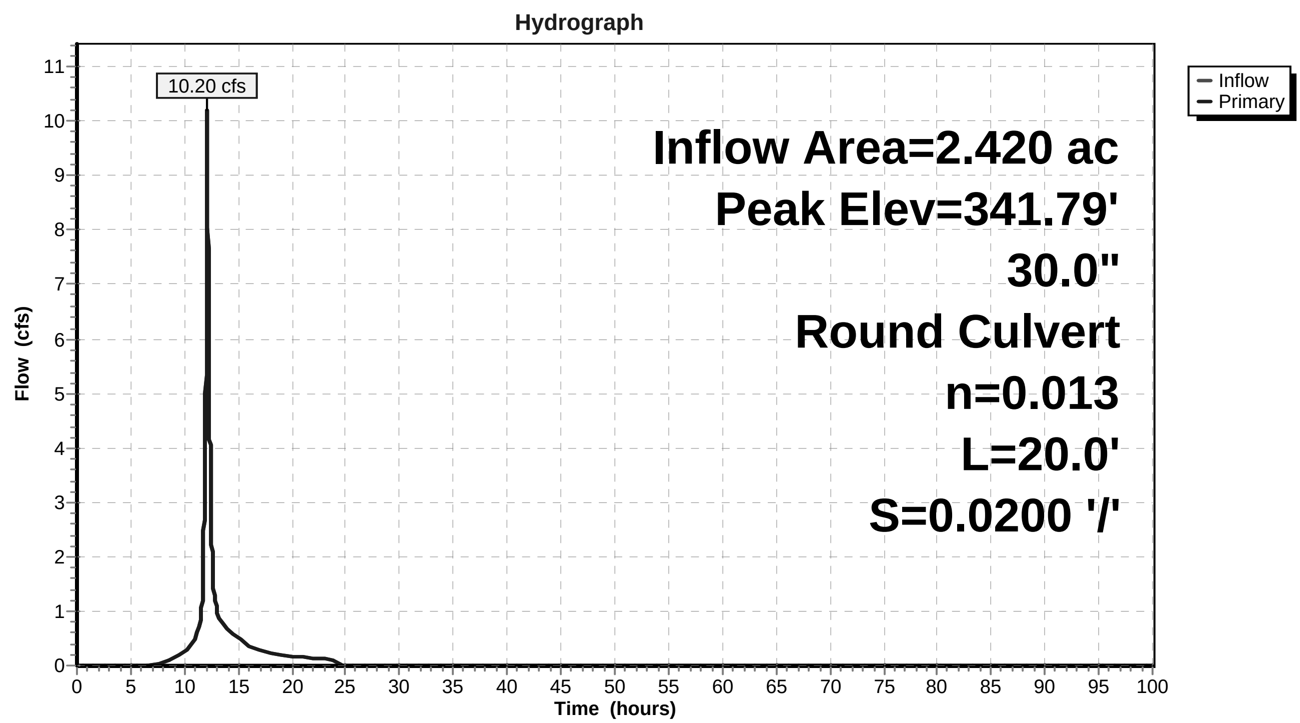
Inflow Area = 2.420 ac, 27.48% Impervious, Inflow Depth = 3.82" for 25 yr event
Inflow = 10.20 cfs @ 12.10 hrs, Volume= 0.771 af
Outflow = 10.20 cfs @ 12.10 hrs, Volume= 0.771 af, Atten= 0%, Lag= 0.0 min
Primary = 10.20 cfs @ 12.10 hrs, Volume= 0.771 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.79' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.07'	**30.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.07' / 339.67' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=10.20 cfs @ 12.10 hrs HW=341.79' TW=341.37' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 10.20 cfs @ 4.01 fps)

Pond CB-17B:



Summary for Pond CB-18B:

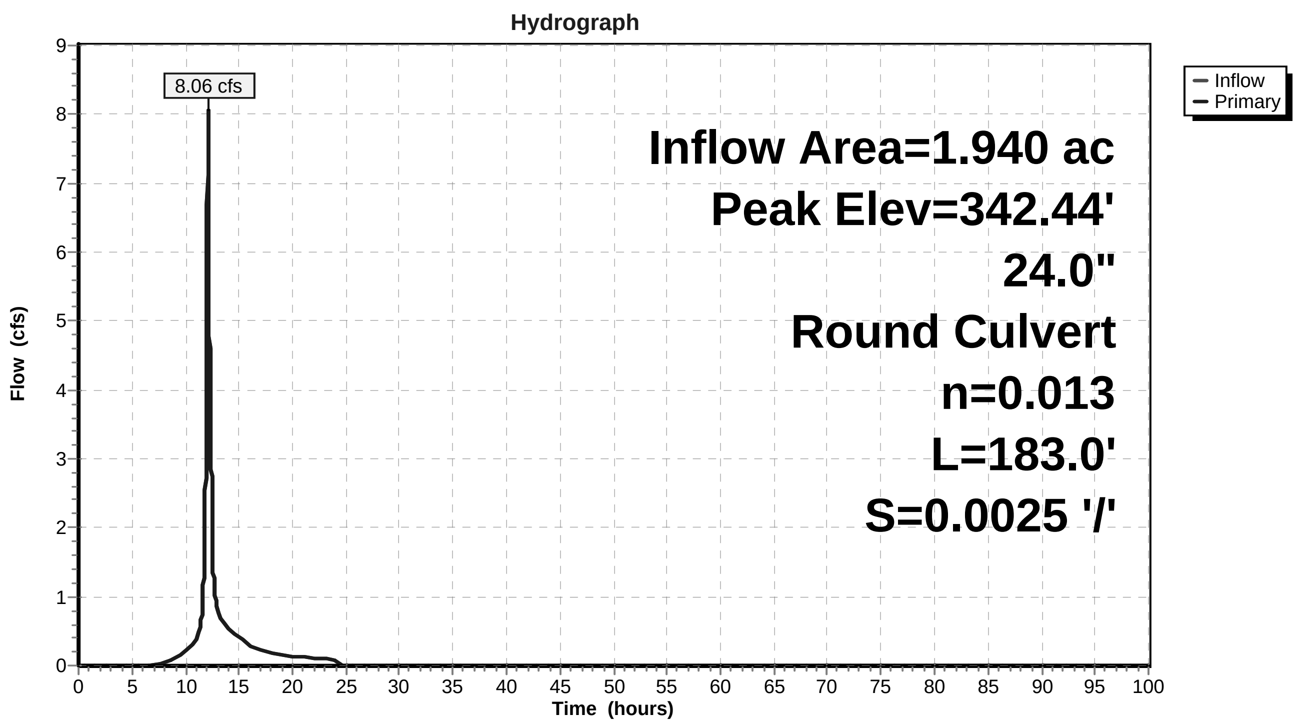
Inflow Area =	1.940 ac, 27.06% Impervious, Inflow Depth = 3.81" for 25 yr event			
Inflow =	8.06 cfs @	12.10 hrs, Volume=	0.615 af	
Outflow =	8.06 cfs @	12.10 hrs, Volume=	0.615 af,	Atten= 0%, Lag= 0.0 min
Primary =	8.06 cfs @	12.10 hrs, Volume=	0.615 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.44' @ 12.10 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.63'	**24.0" Round Culvert** L= 183.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.63' / 340.17' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=8.05 cfs @ 12.10 hrs HW=342.44' TW=341.78' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 8.05 cfs @ 3.55 fps)

Pond CB-18B:



Summary for Pond CB-1A:

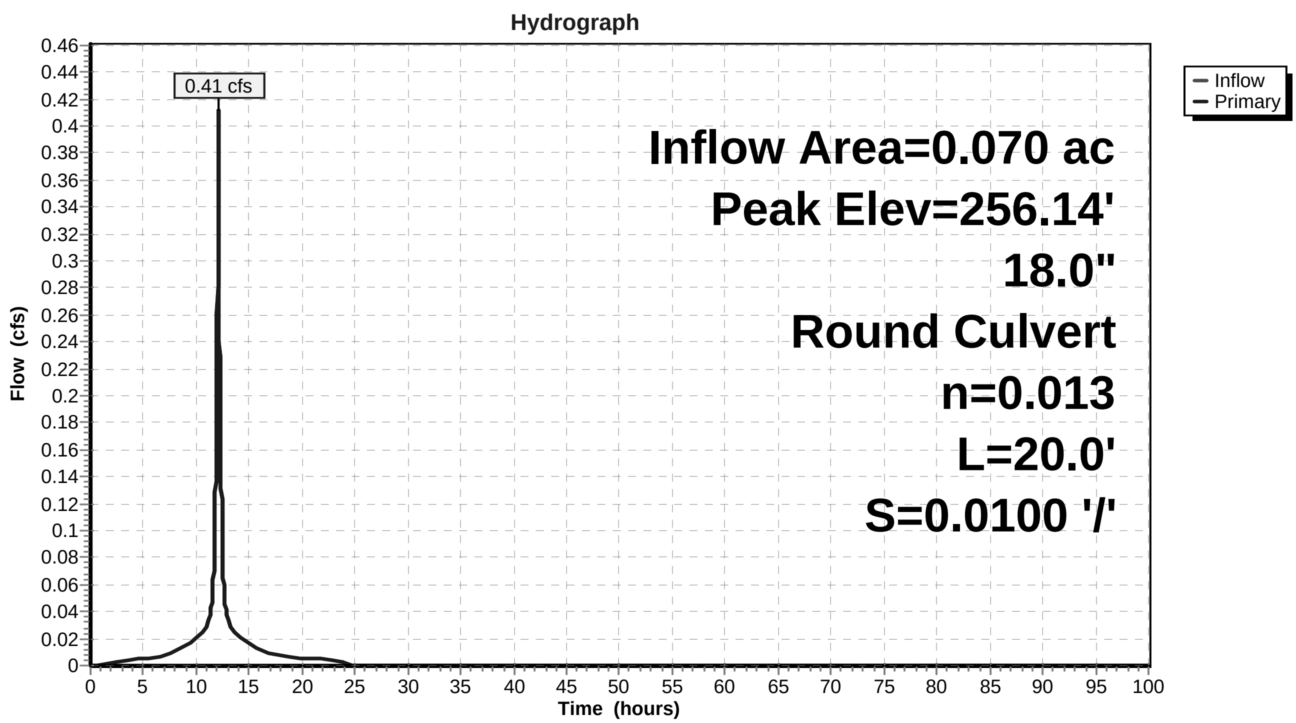
Inflow Area = 0.070 ac,100.00% Impervious, Inflow Depth = 5.76" for 25 yr event
Inflow = 0.41 cfs @ 12.08 hrs, Volume= 0.034 af
Outflow = 0.41 cfs @ 12.08 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 12.08 hrs, Volume= 0.034 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.14' @ 12.24 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.50' / 255.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.41 cfs @ 12.08 hrs HW=255.92' TW=255.84' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.41 cfs @ 1.51 fps)

Pond CB-1A:



Summary for Pond CB-1B:

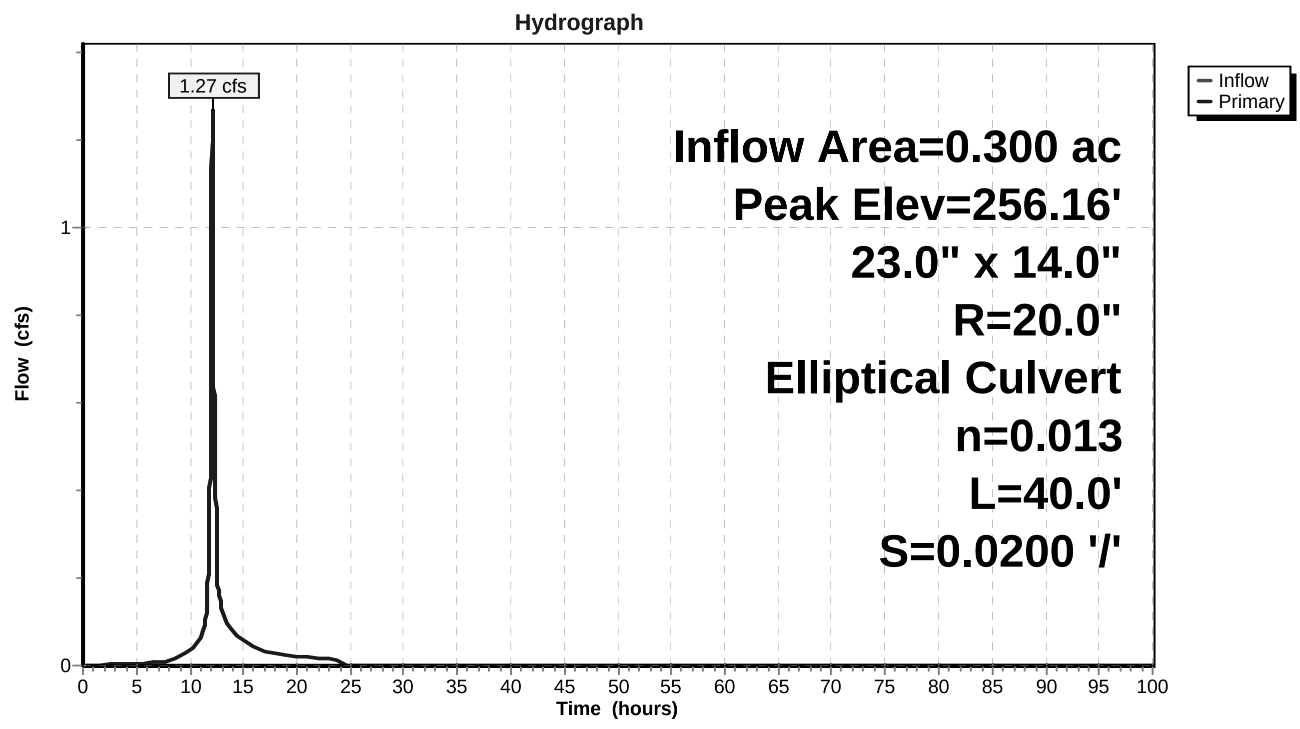
Inflow Area = 0.300 ac, 23.33% Impervious, Inflow Depth = 3.79" for 25 yr event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af
Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.095 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.16' @ 12.23 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.42'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.42' / 254.62' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.27 cfs @ 12.09 hrs HW=256.01' TW=255.85' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.27 cfs @ 1.99 fps)

Pond CB-1B:



Summary for Pond CB-1C:

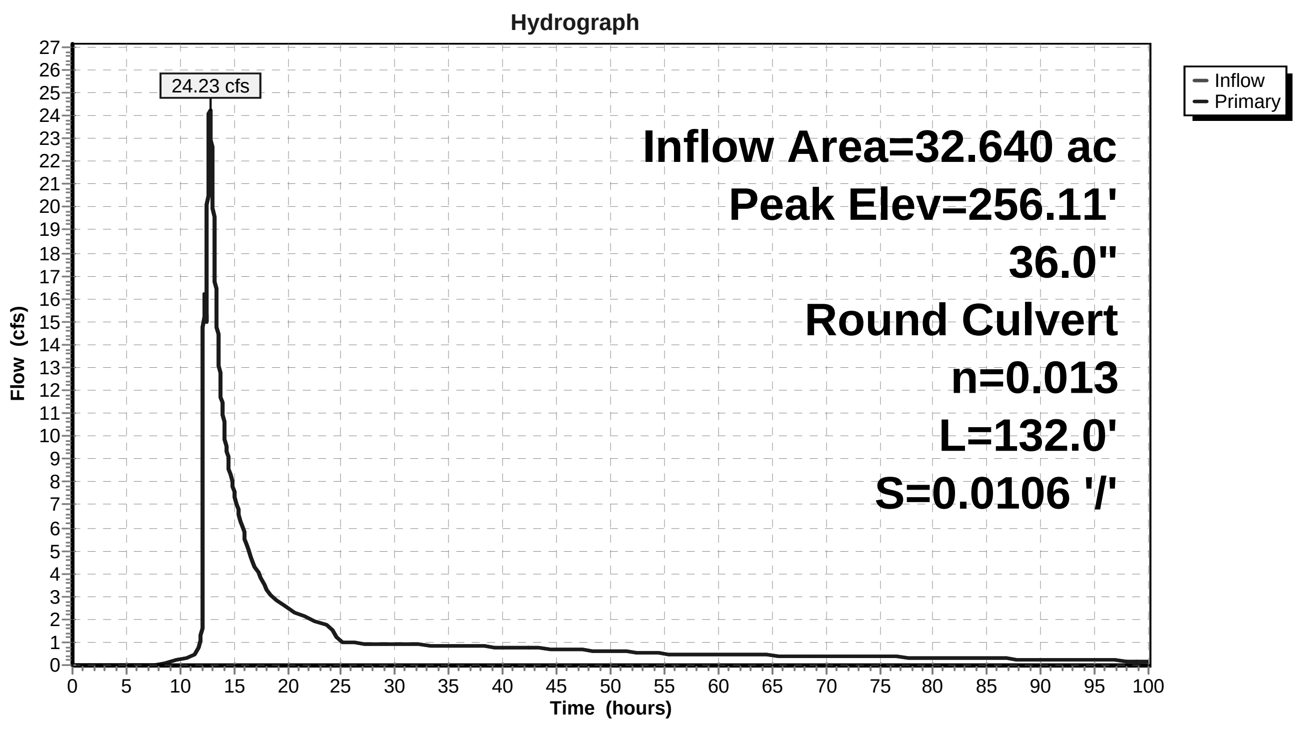
Inflow Area = 32.640 ac, 11.90% Impervious, Inflow Depth > 3.38" for 25 yr event
Inflow = 24.23 cfs @ 12.75 hrs, Volume= 9.194 af
Outflow = 24.23 cfs @ 12.75 hrs, Volume= 9.194 af, Atten= 0%, Lag= 0.0 min
Primary = 24.23 cfs @ 12.75 hrs, Volume= 9.194 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.11' @ 12.75 hrs
Flood Elev= 259.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	254.10'	**36.0" Round Culvert** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 254.10' / 252.70' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=24.23 cfs @ 12.75 hrs HW=256.11' TW=254.05' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 24.23 cfs @ 4.82 fps)

Pond CB-1C:



Summary for Pond CB-1D:

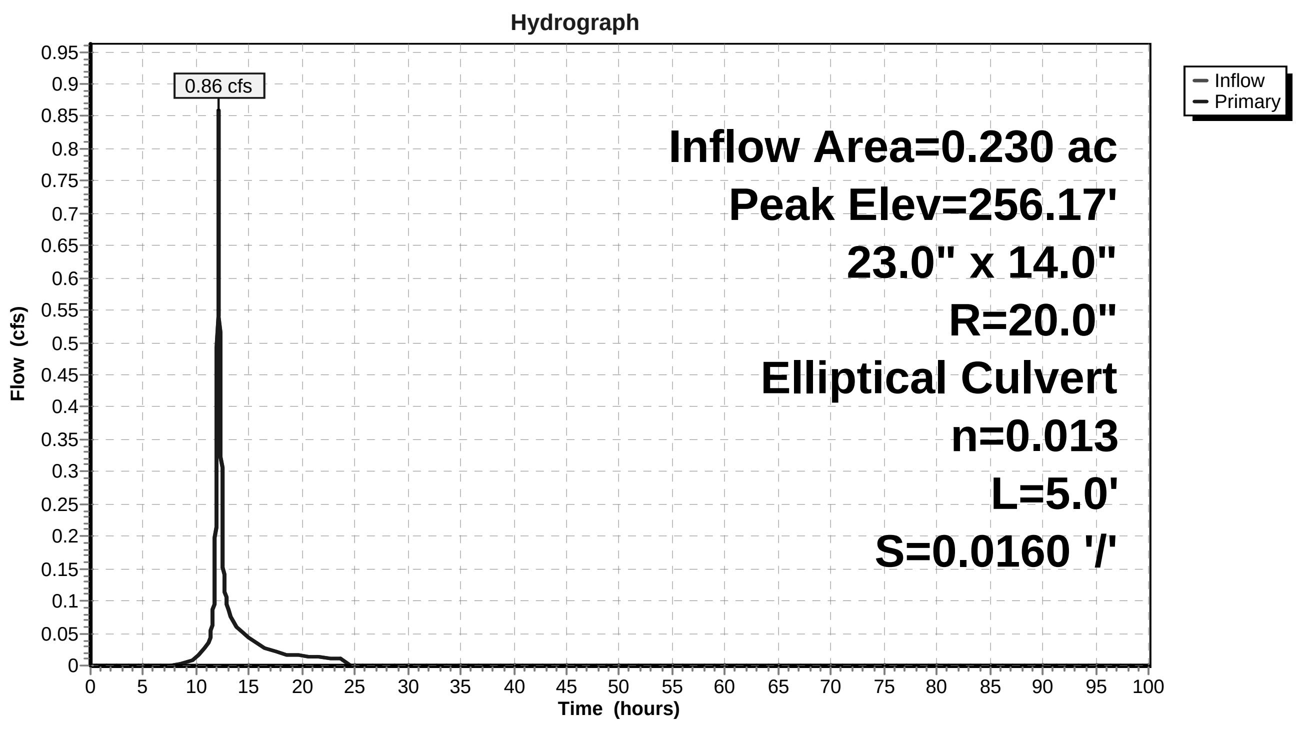
Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth = 3.18" for 25 yr event
Inflow = 0.86 cfs @ 12.09 hrs, Volume= 0.061 af
Outflow = 0.86 cfs @ 12.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86 cfs @ 12.09 hrs, Volume= 0.061 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.17' @ 12.22 hrs
Flood Elev= 257.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.60'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 5.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.60' / 255.52' S= 0.0160 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.86 cfs @ 12.09 hrs HW=256.09' TW=256.02' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.86 cfs @ 1.72 fps)

Pond CB-1D:



Summary for Pond CB-2A:

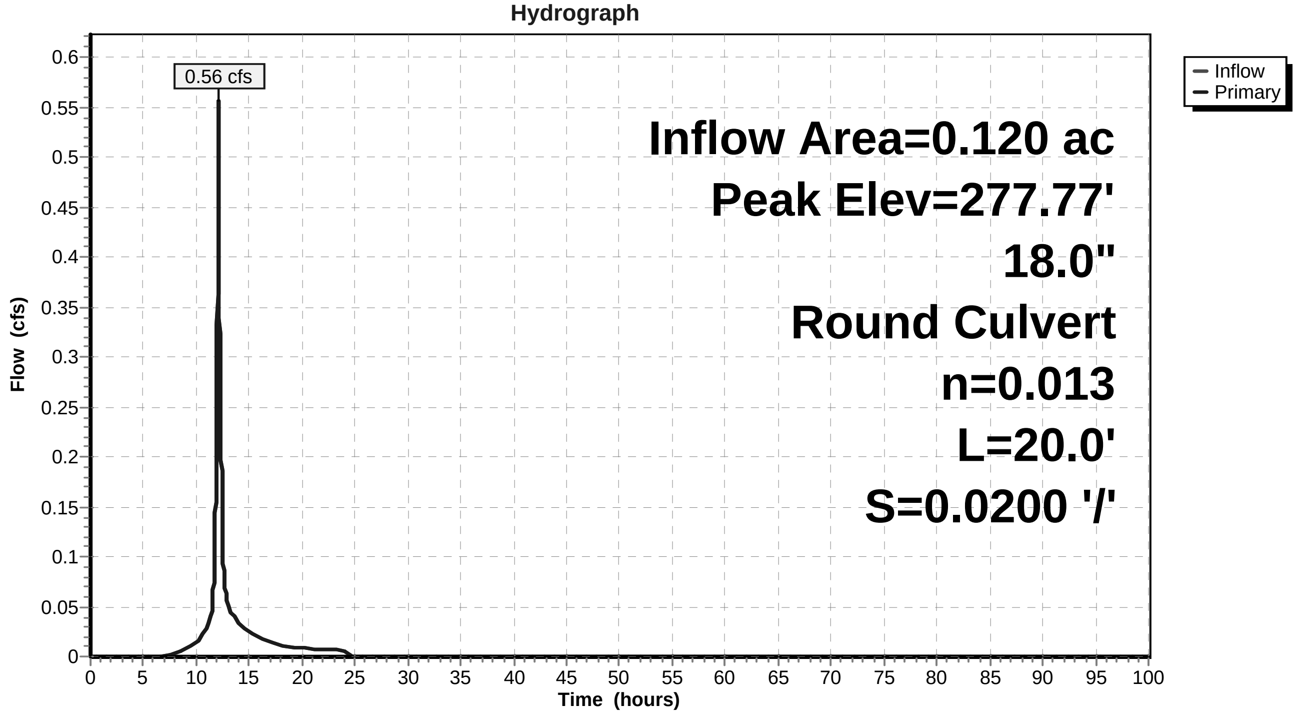
Inflow Area = 0.120 ac, 33.33% Impervious, Inflow Depth = 3.99" for 25 yr event
Inflow = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af
Outflow = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.56 cfs @ 12.09 hrs, Volume= 0.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 277.77' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.04' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.56 cfs @ 12.09 hrs HW=277.77' TW=273.40' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.56 cfs @ 1.95 fps)

Pond CB-2A:



Summary for Pond CB-2B:

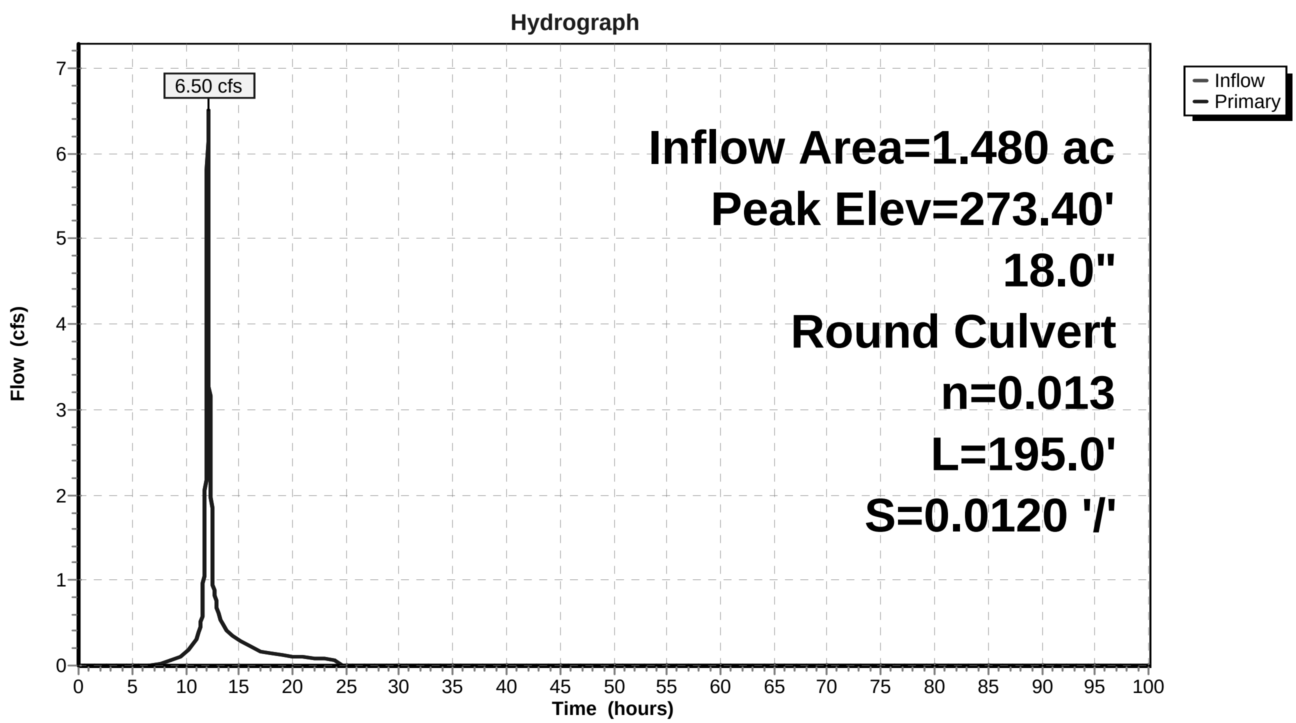
Inflow Area =	1.480 ac,	24.32% Impervious,	Inflow Depth = 3.76"	for 25 yr event	
Inflow =	6.50 cfs @	12.09 hrs,	Volume=	0.464 af	
Outflow =	6.50 cfs @	12.09 hrs,	Volume=	0.464 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.50 cfs @	12.09 hrs,	Volume=	0.464 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 273.40' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.07'	**18.0" Round Culvert** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 272.07' / 269.73' S= 0.0120 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.50 cfs @ 12.09 hrs HW=273.40' TW=271.36' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.50 cfs @ 3.92 fps)

Pond CB-2B:



Summary for Pond CB-3A:

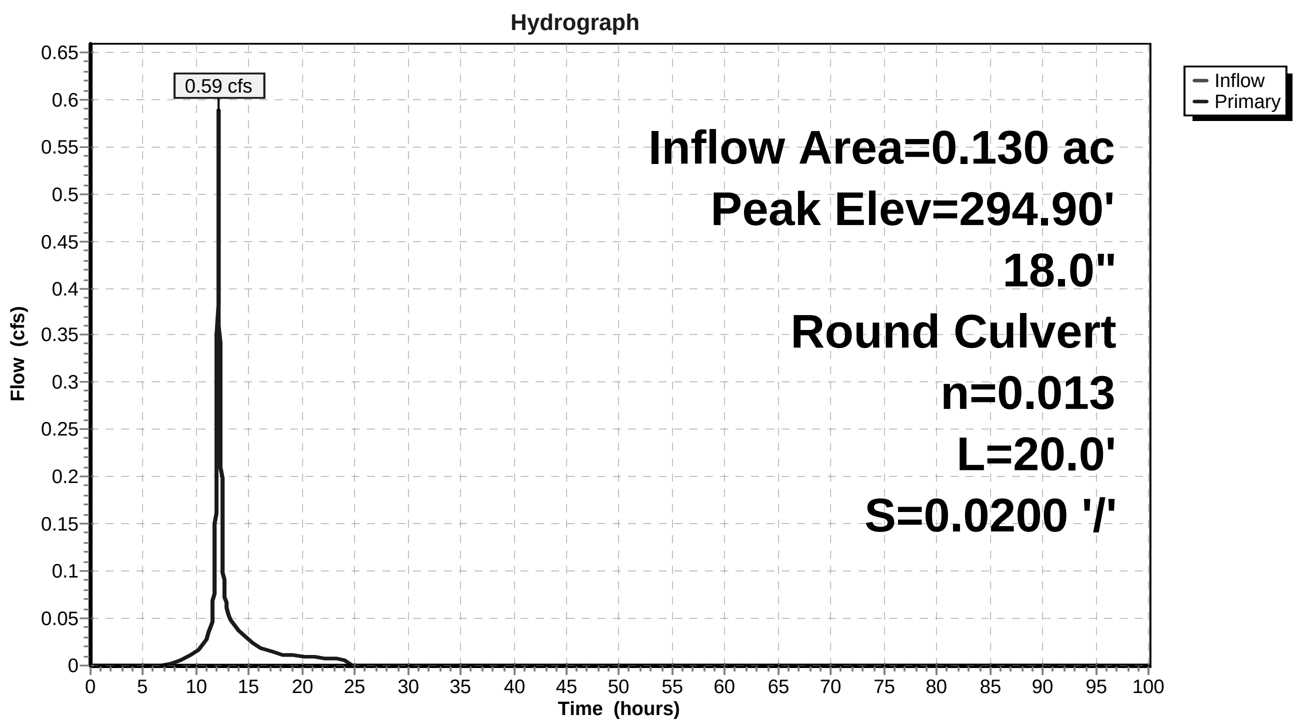
Inflow Area = 0.130 ac, 30.77% Impervious, Inflow Depth = 3.88" for 25 yr event
Inflow = 0.59 cfs @ 12.09 hrs, Volume= 0.042 af
Outflow = 0.59 cfs @ 12.09 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.59 cfs @ 12.09 hrs, Volume= 0.042 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.90' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 294.50' / 294.10' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.59 cfs @ 12.09 hrs HW=294.90' TW=294.68' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.59 cfs @ 2.37 fps)

Pond CB-3A:



Summary for Pond CB-3B:

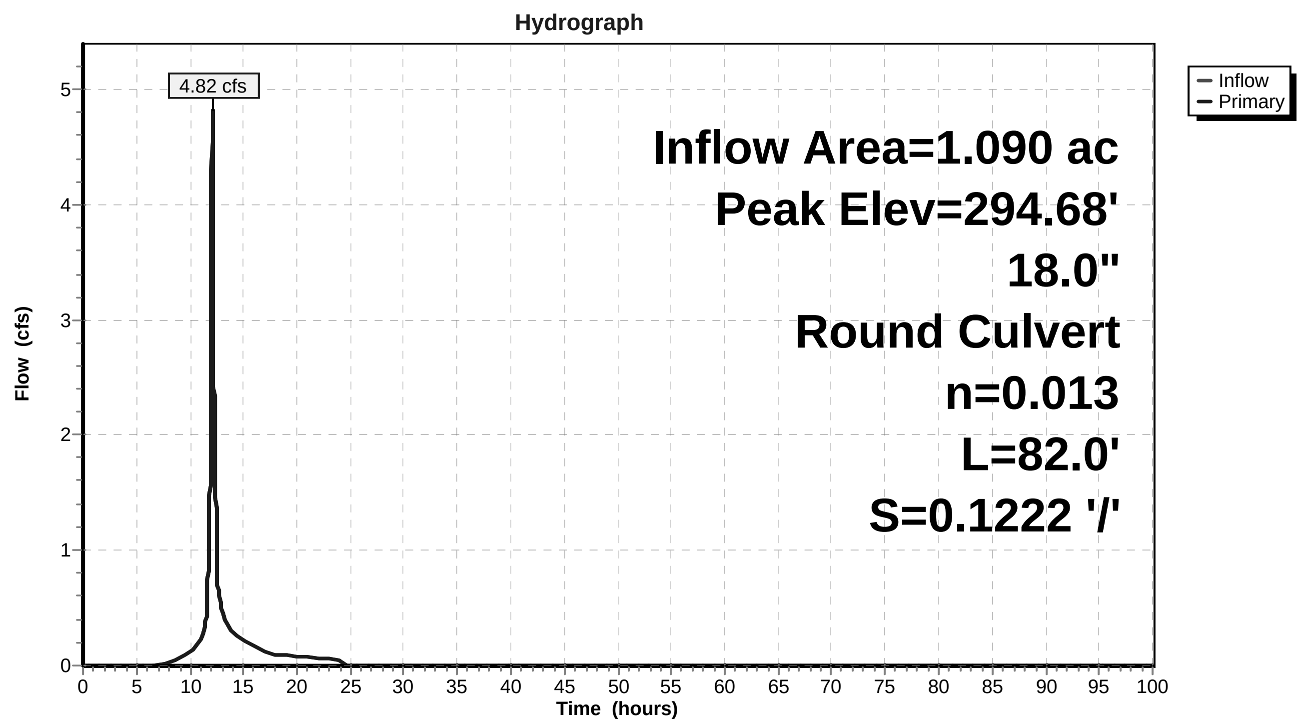
Inflow Area =	1.090 ac,	25.69% Impervious,	Inflow Depth = 3.78"	for 25 yr event
Inflow =	4.82 cfs @	12.09 hrs,	Volume=	0.344 af
Outflow =	4.82 cfs @	12.09 hrs,	Volume=	0.344 af, Atten= 0%, Lag= 0.0 min
Primary =	4.82 cfs @	12.09 hrs,	Volume=	0.344 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.68' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	293.60'	**18.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 293.60' / 283.58' S= 0.1222 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.81 cfs @ 12.09 hrs HW=294.68' TW=284.27' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.81 cfs @ 3.54 fps)

Pond CB-3B:



Summary for Pond CB-4A:

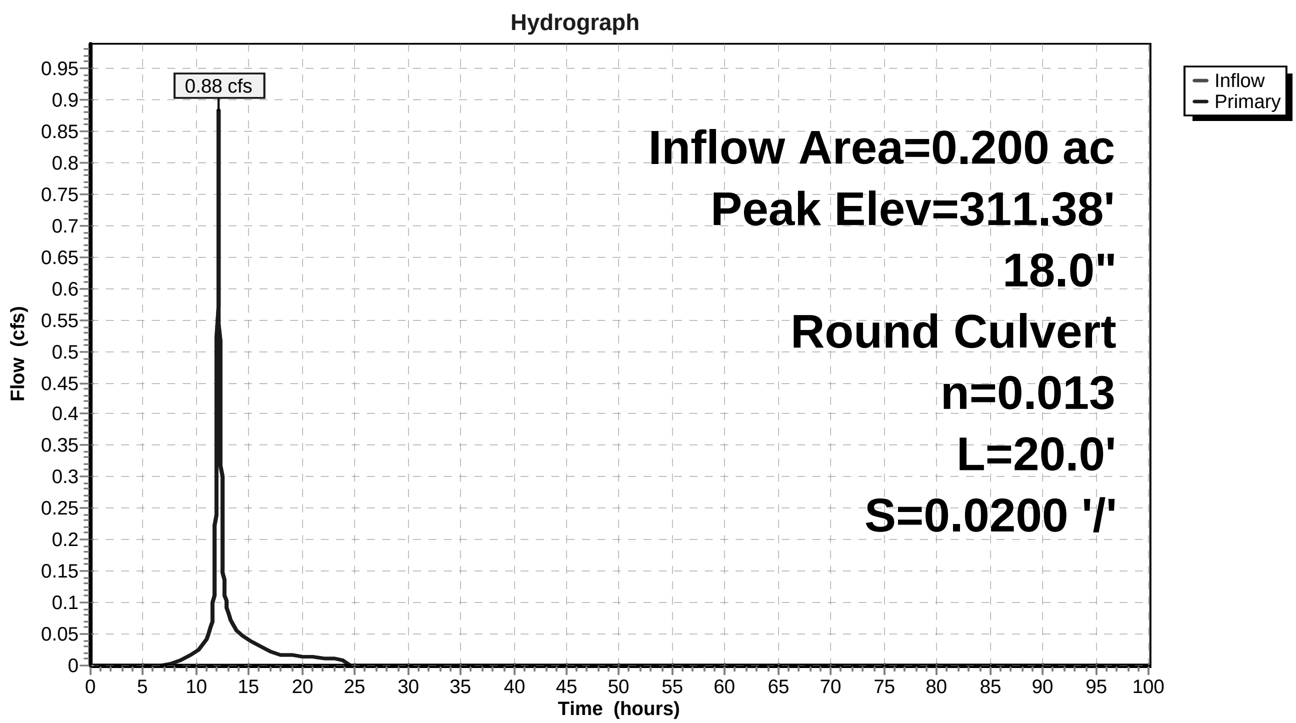
Inflow Area = 0.200 ac, 25.00% Impervious, Inflow Depth = 3.78" for 25 yr event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 0.063 af
Outflow = 0.88 cfs @ 12.09 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
Primary = 0.88 cfs @ 12.09 hrs, Volume= 0.063 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.38' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.95' / 310.55' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.88 cfs @ 12.09 hrs HW=311.38' TW=311.01' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.88 cfs @ 3.16 fps)

Pond CB-4A:



Summary for Pond CB-4B:

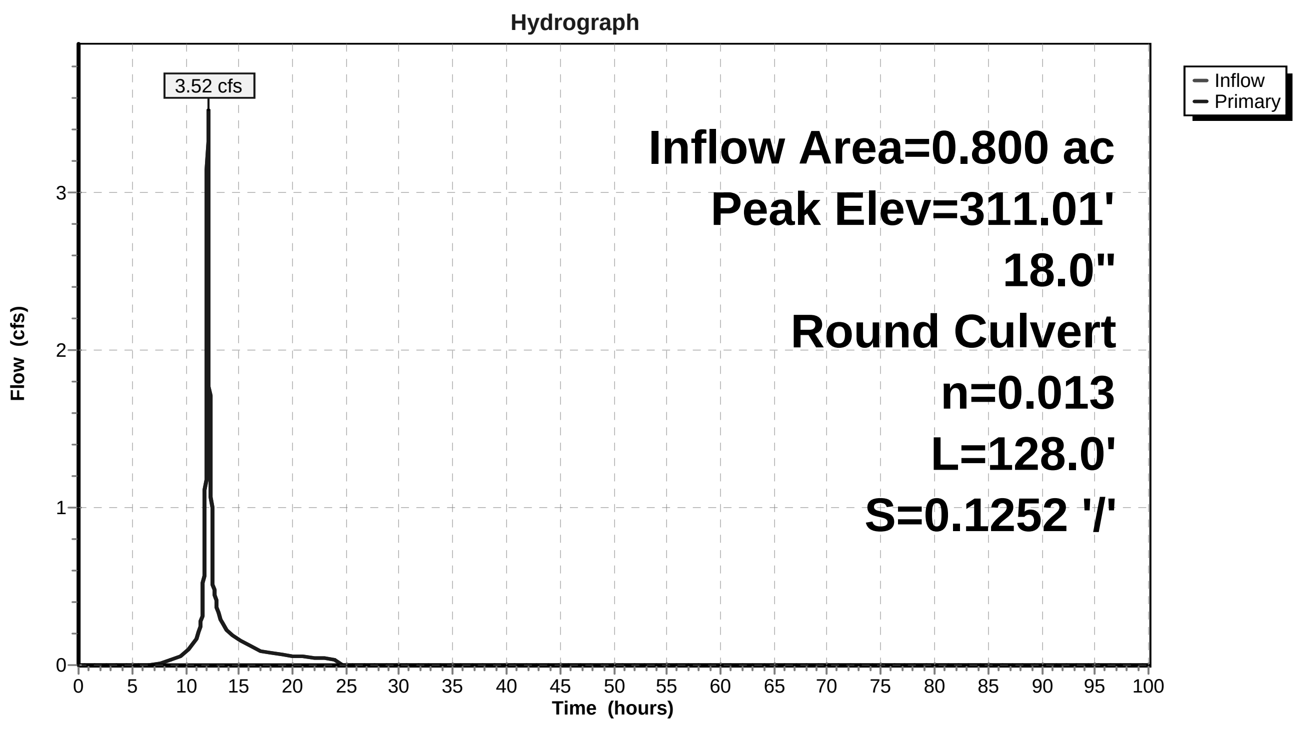
Inflow Area = 0.800 ac, 25.00% Impervious, Inflow Depth = 3.77" for 25 yr event
Inflow = 3.52 cfs @ 12.09 hrs, Volume= 0.251 af
Outflow = 3.52 cfs @ 12.09 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min
Primary = 3.52 cfs @ 12.09 hrs, Volume= 0.251 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.01' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.12'	**18.0" Round Culvert** L= 128.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.12' / 294.10' S= 0.1252 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.52 cfs @ 12.09 hrs HW=311.01' TW=294.68' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.52 cfs @ 3.21 fps)

Pond CB-4B:



Summary for Pond CB-5A:

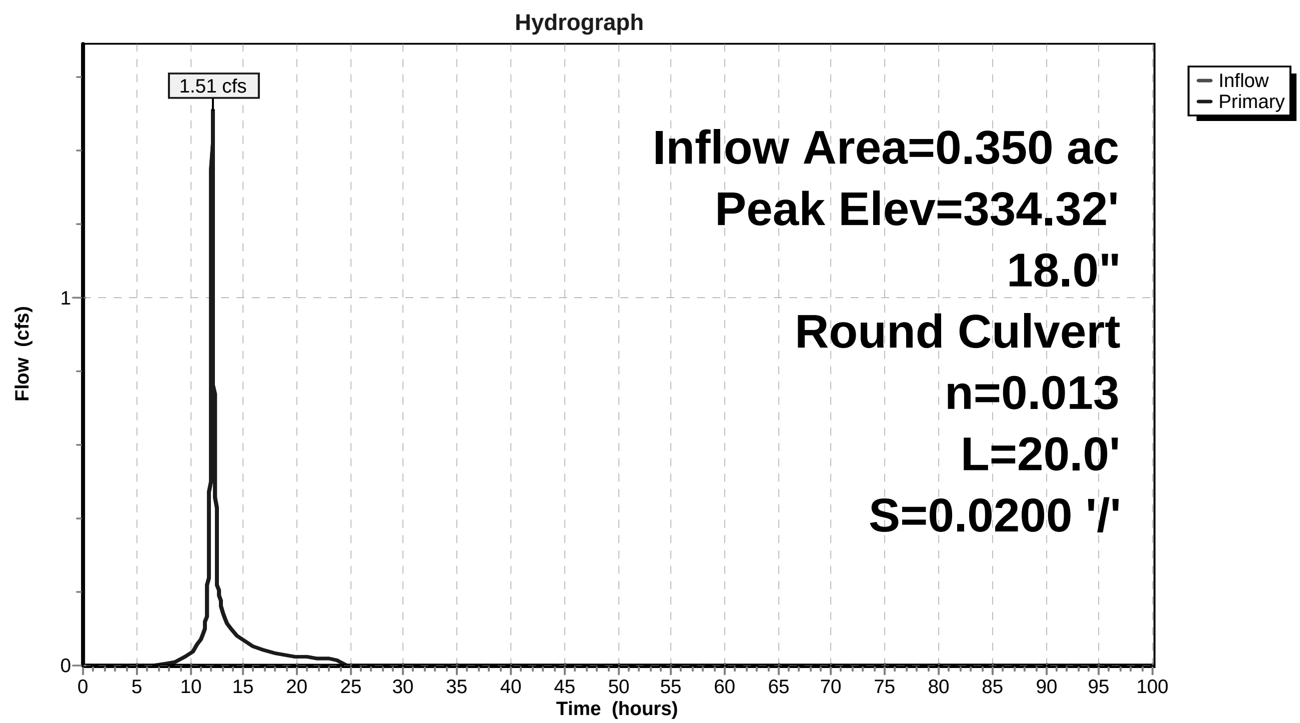
Inflow Area = 0.350 ac, 22.86% Impervious, Inflow Depth = 3.68" for 25 yr event
Inflow = 1.51 cfs @ 12.09 hrs, Volume= 0.107 af
Outflow = 1.51 cfs @ 12.09 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min
Primary = 1.51 cfs @ 12.09 hrs, Volume= 0.107 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.32' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.75' / 333.35' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.50 cfs @ 12.09 hrs HW=334.31' TW=333.86' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.50 cfs @ 3.67 fps)

Pond CB-5A:



Summary for Pond CB-5B:

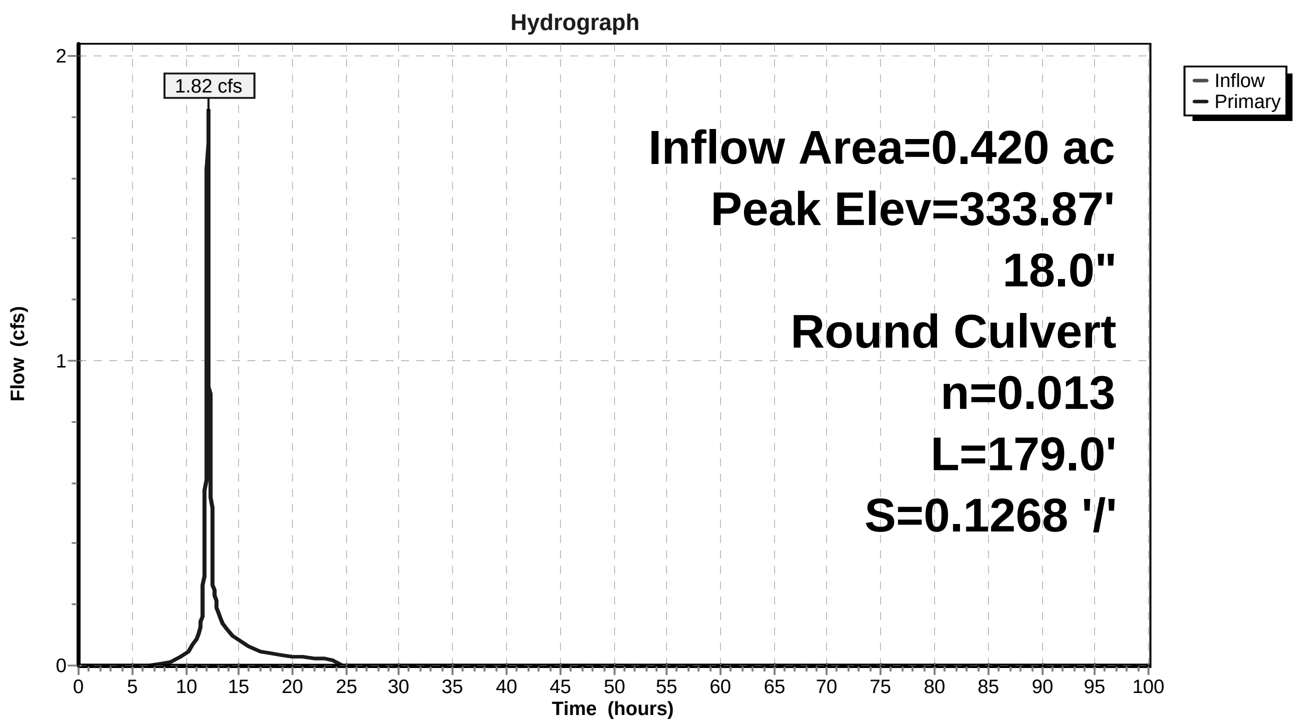
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 3.71" for 25 yr event
Inflow = 1.82 cfs @ 12.09 hrs, Volume= 0.130 af
Outflow = 1.82 cfs @ 12.09 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
Primary = 1.82 cfs @ 12.09 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.87' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.25'	**18.0" Round Culvert** L= 179.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.25' / 310.55' S= 0.1268 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.82 cfs @ 12.09 hrs HW=333.86' TW=322.65' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.82 cfs @ 2.67 fps)

Pond CB-5B:



Summary for Pond CB-6A:

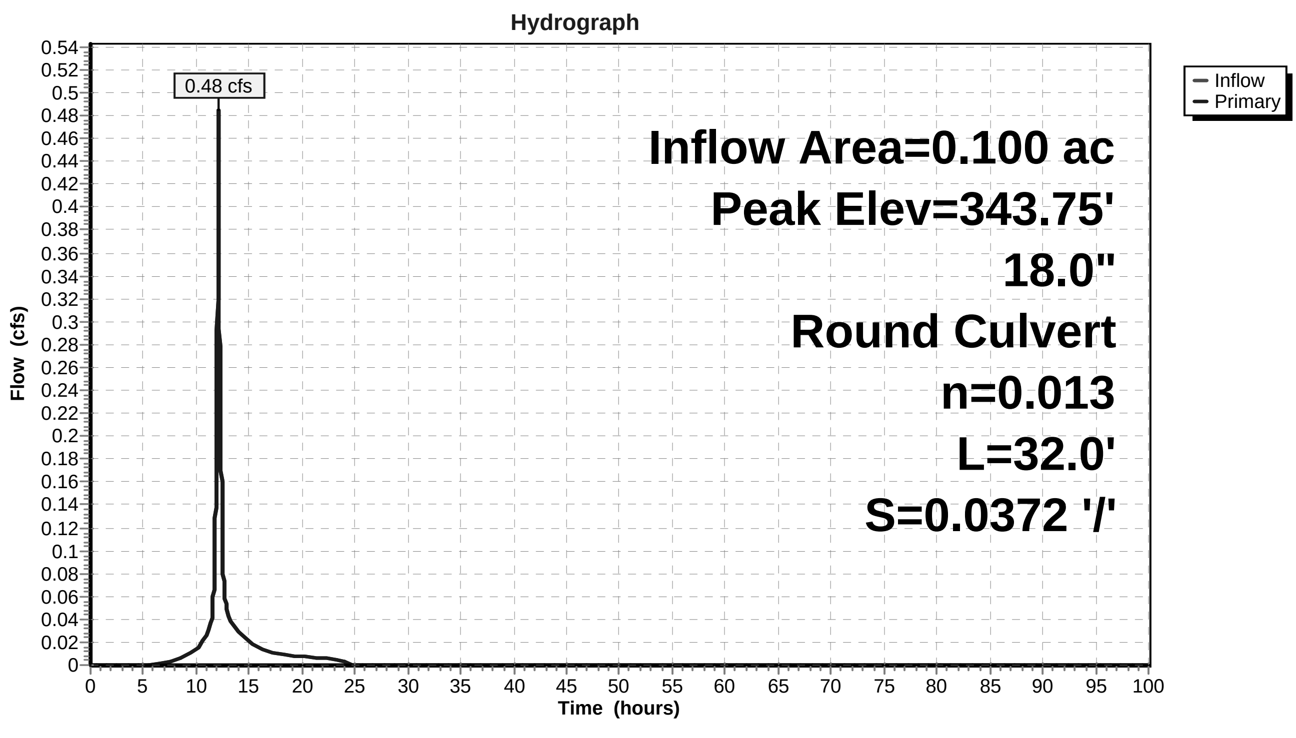
Inflow Area = 0.100 ac, 40.00% Impervious, Inflow Depth = 4.20" for 25 yr event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af
Outflow = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 12.09 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.75' @ 12.09 hrs
Flood Elev= 346.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.44'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.44' / 342.25' S= 0.0372 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.48 cfs @ 12.09 hrs HW=343.74' TW=342.64' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.48 cfs @ 1.88 fps)

Pond CB-6A:



Summary for Pond CB-6B:

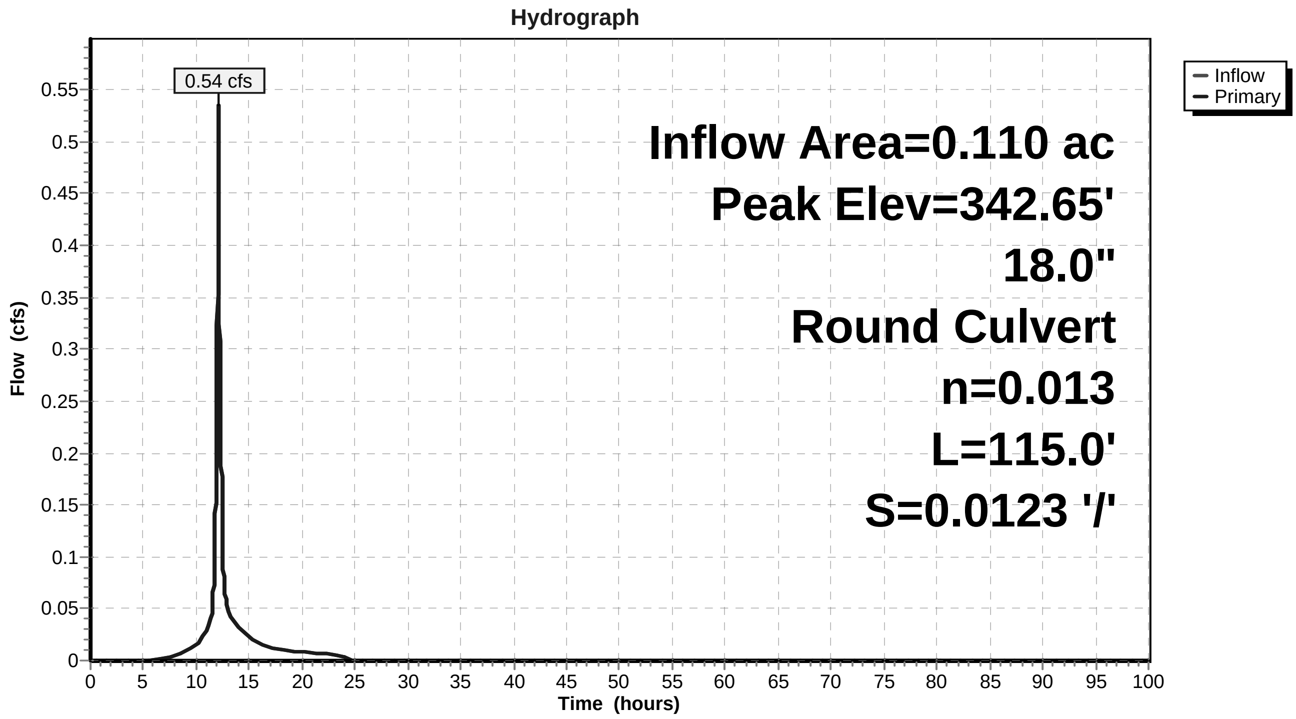
Inflow Area = 0.110 ac, 40.91% Impervious, Inflow Depth = 4.22" for 25 yr event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.65' @ 12.10 hrs
Flood Elev= 345.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	342.15'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 342.15' / 340.73' S= 0.0123 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.53 cfs @ 12.09 hrs HW=342.64' TW=342.41' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.53 cfs @ 1.57 fps)

Pond CB-6B:



Summary for Pond CB-7A:

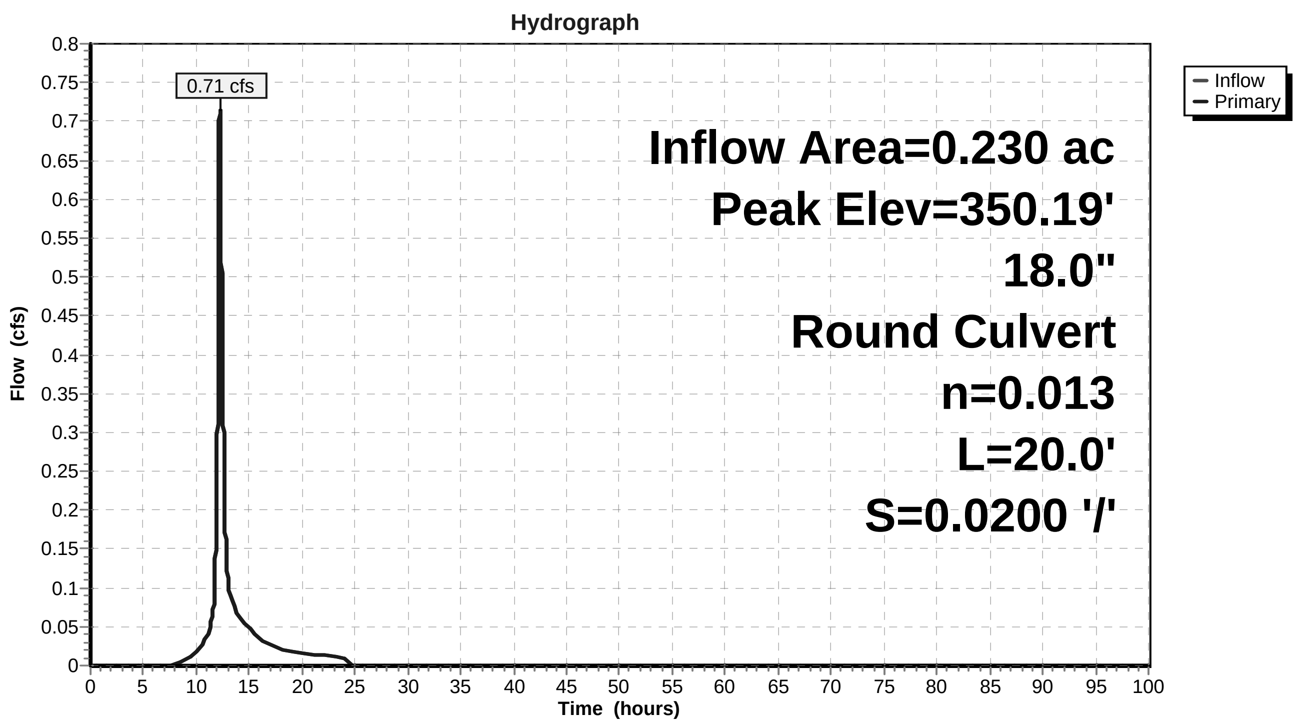
Inflow Area = 0.230 ac, 17.39% Impervious, Inflow Depth = 3.58" for 25 yr event
Inflow = 0.71 cfs @ 12.21 hrs, Volume= 0.069 af
Outflow = 0.71 cfs @ 12.21 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 0.71 cfs @ 12.21 hrs, Volume= 0.069 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.19' @ 12.21 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.82'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.82' / 349.42' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.71 cfs @ 12.21 hrs HW=350.19' TW=349.75' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.71 cfs @ 2.08 fps)

Pond CB-7A:



Summary for Pond CB-7B:

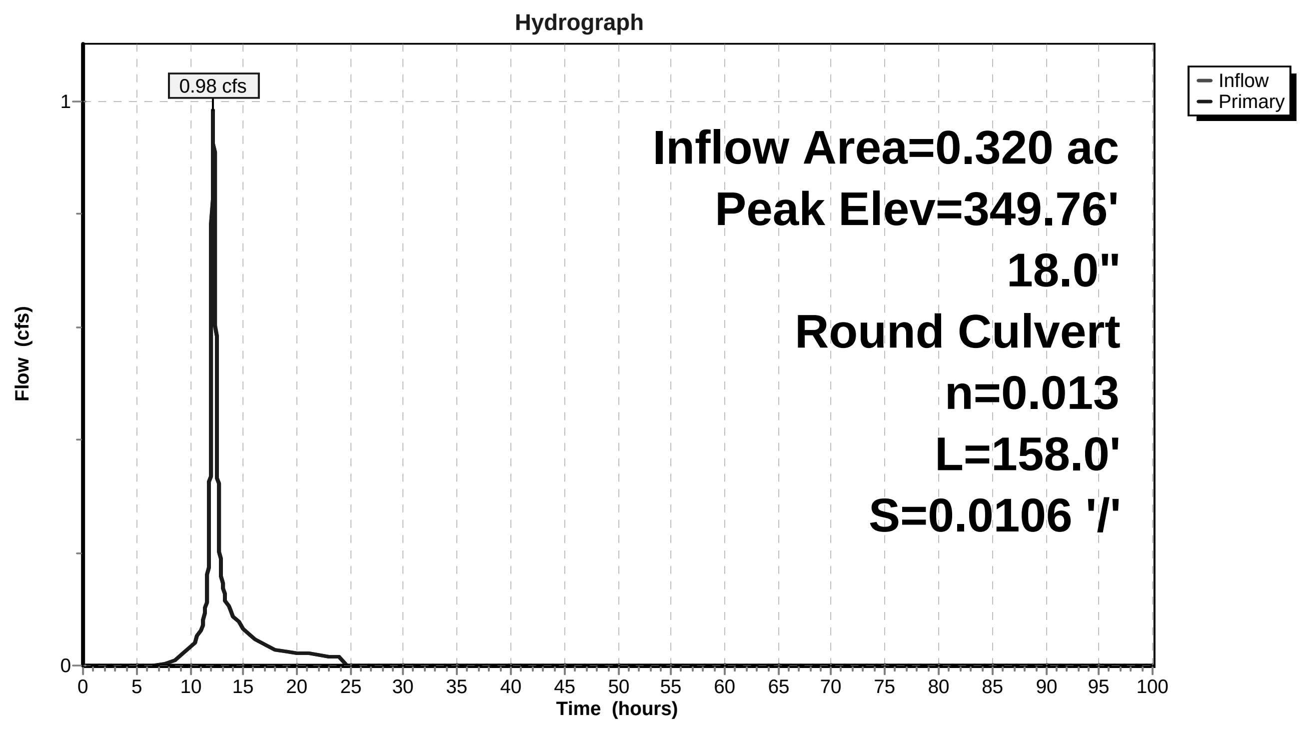
Inflow Area = 0.320 ac, 25.00% Impervious, Inflow Depth = 3.78" for 25 yr event
Inflow = 0.98 cfs @ 12.14 hrs, Volume= 0.101 af
Outflow = 0.98 cfs @ 12.14 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.14 hrs, Volume= 0.101 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.76' @ 12.14 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.32'	**18.0" Round Culvert** L= 158.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.32' / 347.65' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.98 cfs @ 12.14 hrs HW=349.76' TW=348.16' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.98 cfs @ 2.26 fps)

Pond CB-7B:



Summary for Pond CB-8A:

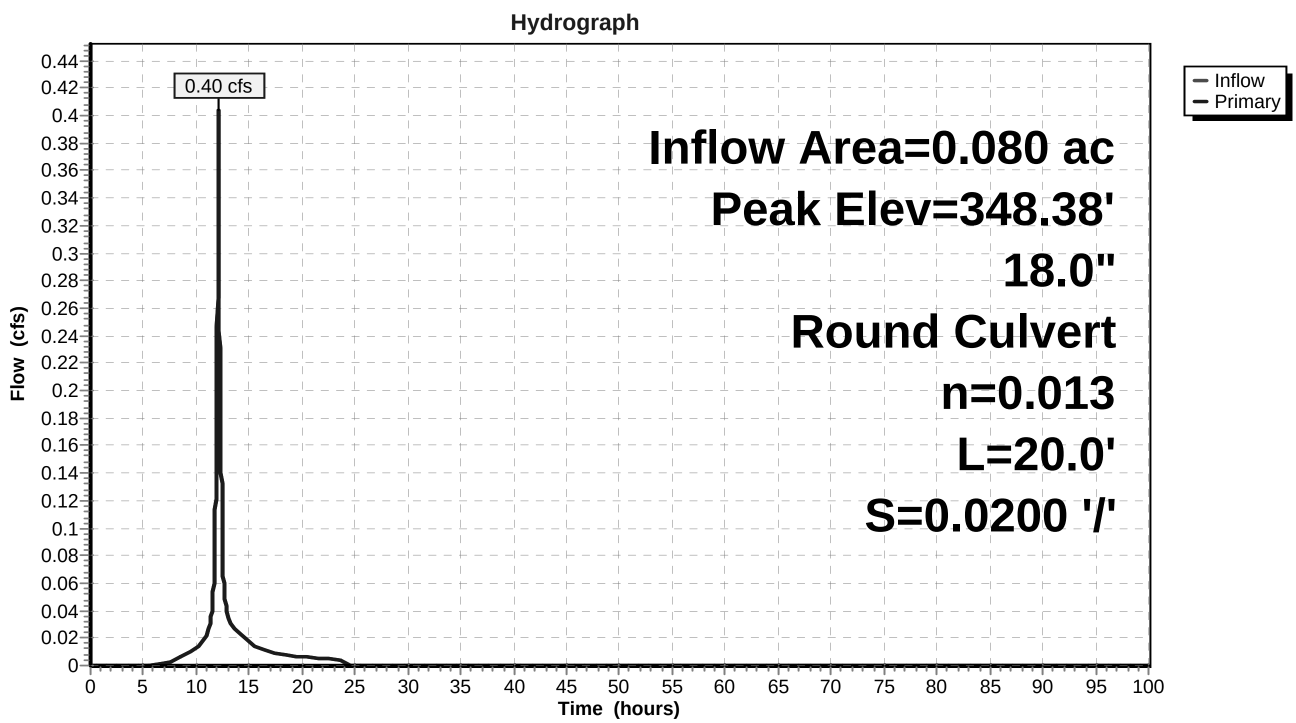
Inflow Area = 0.080 ac, 50.00% Impervious, Inflow Depth = 4.41" for 25 yr event
Inflow = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af
Outflow = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.09 hrs, Volume= 0.029 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.38' @ 12.09 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.05'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.05' / 347.65' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.40 cfs @ 12.09 hrs HW=348.38' TW=348.18' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.40 cfs @ 2.14 fps)

Pond CB-8A:



Summary for Pond CB-8B:

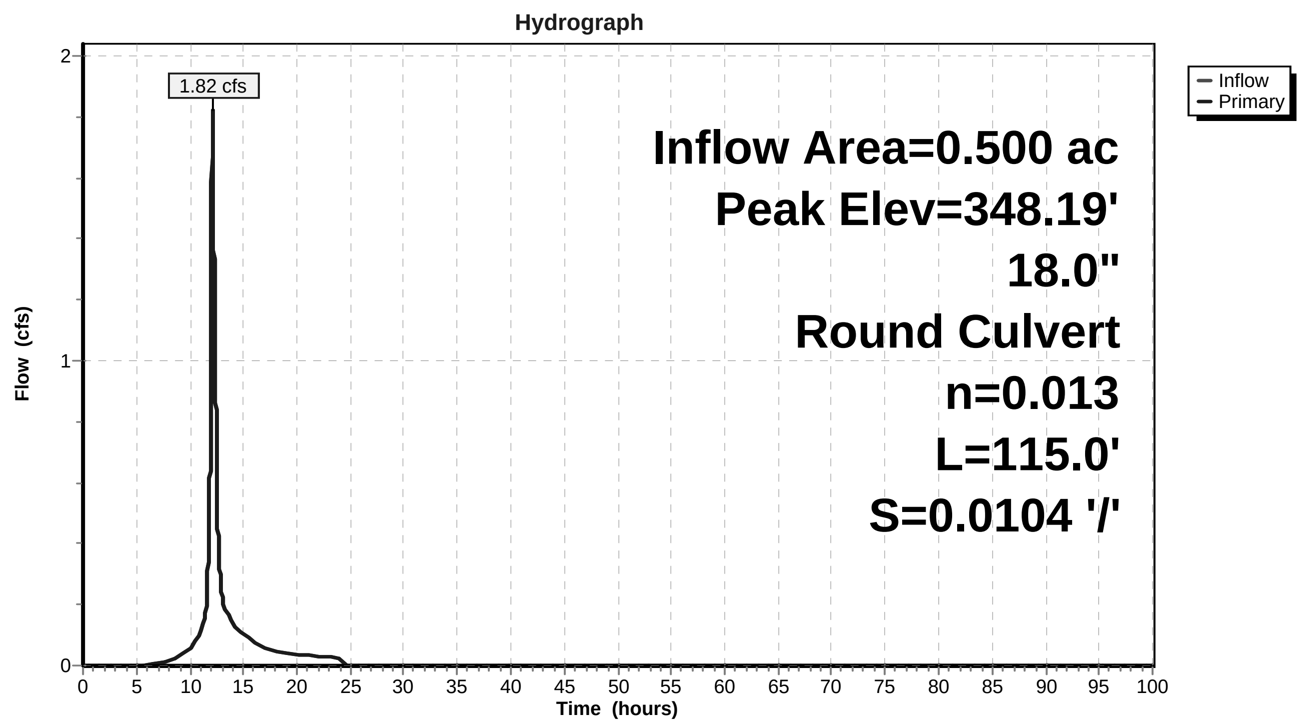
Inflow Area =	0.500 ac, 32.00% Impervious, Inflow Depth = 3.97" for 25 yr event			
Inflow =	1.82 cfs @	12.10 hrs, Volume=	0.165 af	
Outflow =	1.82 cfs @	12.10 hrs, Volume=	0.165 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.82 cfs @	12.10 hrs, Volume=	0.165 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.19' @ 12.10 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.55'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.55' / 346.35' S= 0.0104 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.82 cfs @ 12.10 hrs HW=348.19' TW=347.14' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.82 cfs @ 3.76 fps)

Pond CB-8B:



Summary for Pond CB-9A:

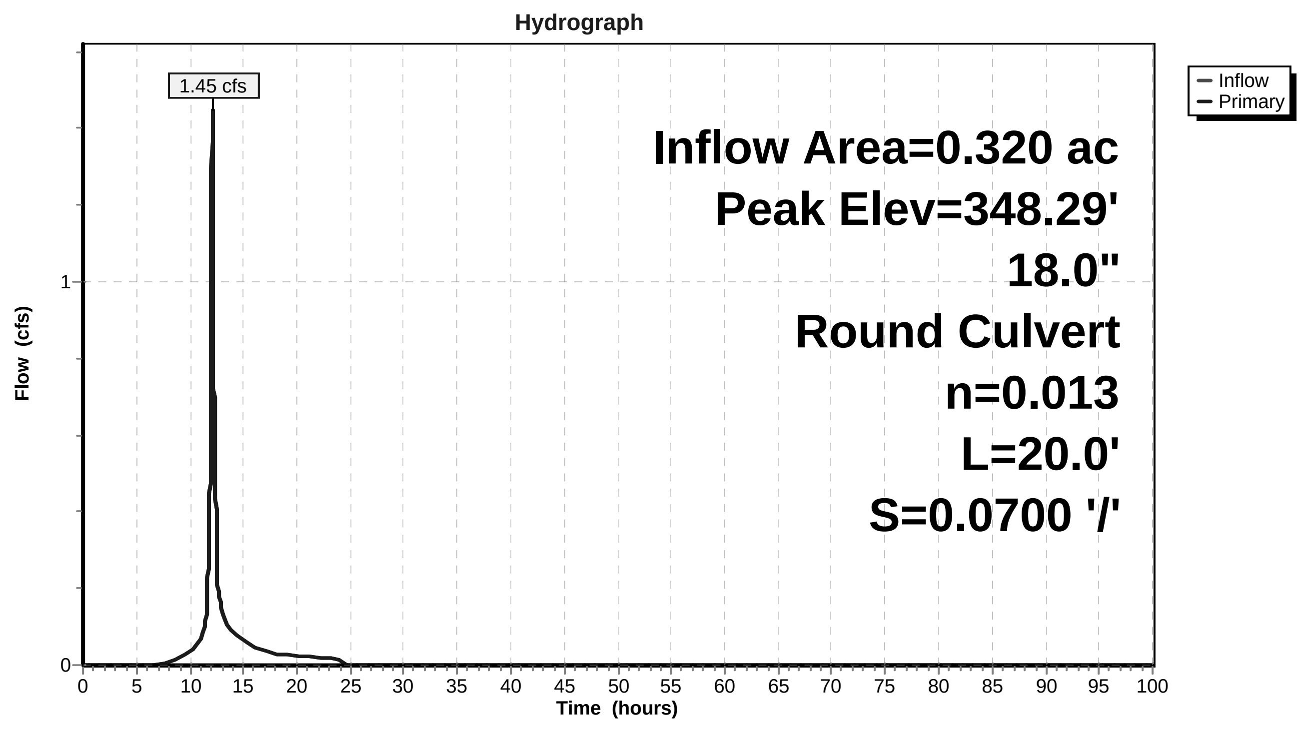
Inflow Area = 0.320 ac, 31.25% Impervious, Inflow Depth = 3.88" for 25 yr event
Inflow = 1.45 cfs @ 12.09 hrs, Volume= 0.104 af
Outflow = 1.45 cfs @ 12.09 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min
Primary = 1.45 cfs @ 12.09 hrs, Volume= 0.104 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.29' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.75' / 346.35' S= 0.0700 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.45 cfs @ 12.09 hrs HW=348.29' TW=347.14' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.45 cfs @ 2.51 fps)

Pond CB-9A:



Summary for Pond CB-9B:

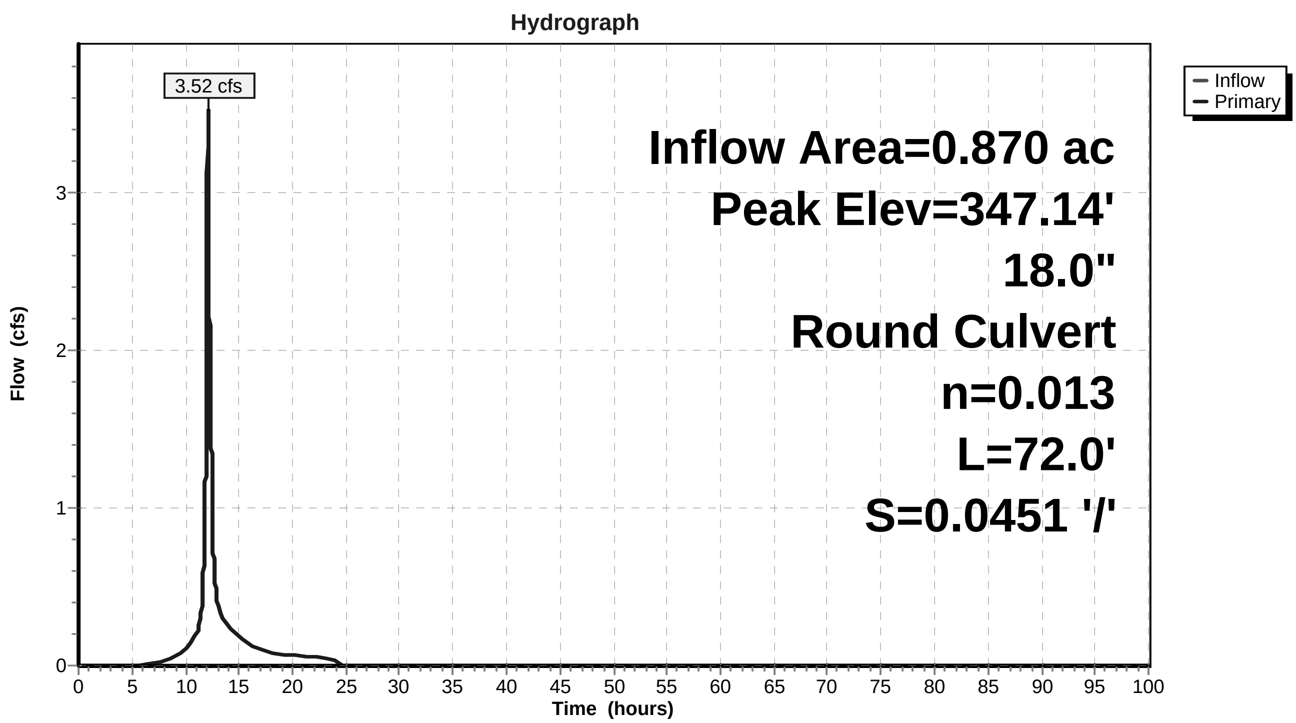
Inflow Area =	0.870 ac, 33.33% Impervious, Inflow Depth = 3.97" for 25 yr event		
Inflow =	3.52 cfs @ 12.09 hrs, Volume=	0.288 af	
Outflow =	3.52 cfs @ 12.09 hrs, Volume=	0.288 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.52 cfs @ 12.09 hrs, Volume=	0.288 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 347.14' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	346.25'	**18.0" Round Culvert** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 346.25' / 343.00' S= 0.0451 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=3.52 cfs @ 12.09 hrs HW=347.14' TW=335.69' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 3.52 cfs @ 3.21 fps)

Pond CB-9B:



Summary for Pond CB18-A:

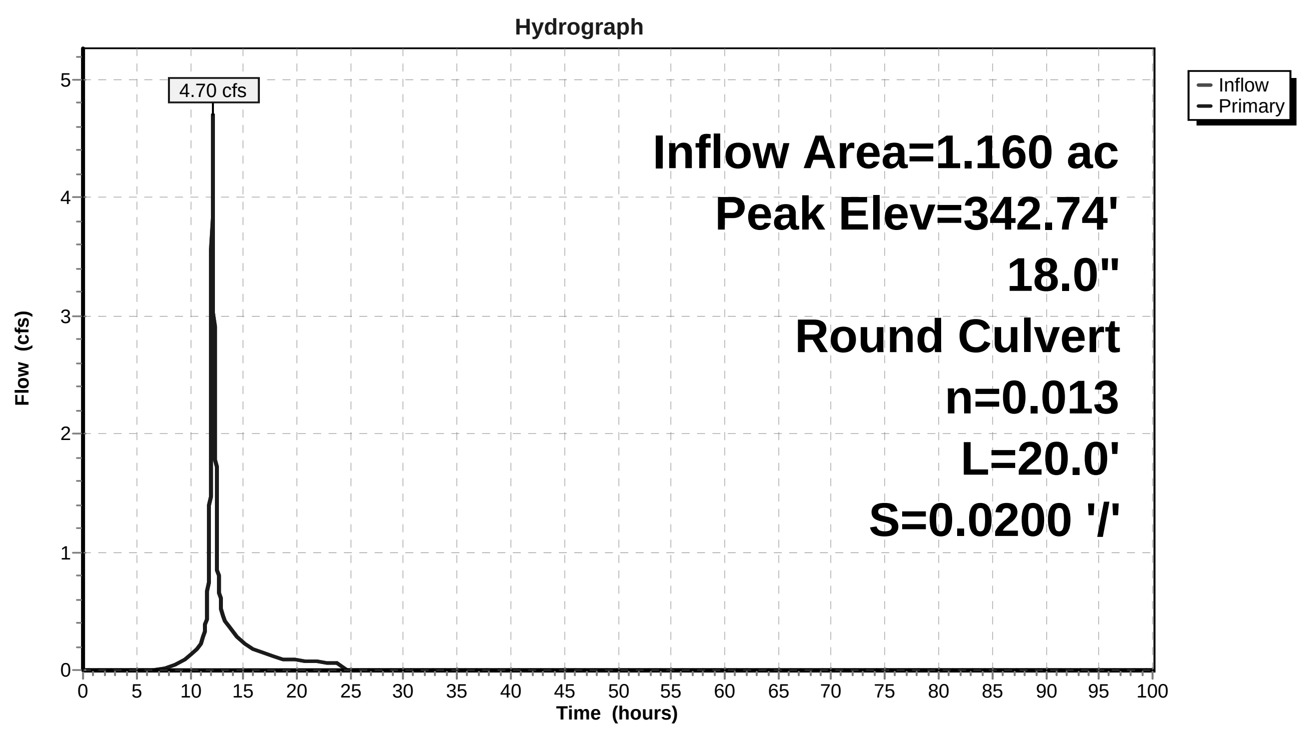
Inflow Area = 1.160 ac, 26.72% Impervious, Inflow Depth = 3.78" for 25 yr event
Inflow = 4.70 cfs @ 12.12 hrs, Volume= 0.366 af
Outflow = 4.70 cfs @ 12.12 hrs, Volume= 0.366 af, Atten= 0%, Lag= 0.0 min
Primary = 4.70 cfs @ 12.12 hrs, Volume= 0.366 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.74' @ 12.11 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	341.13'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 341.13' / 340.73' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.73 cfs @ 12.12 hrs HW=342.73' TW=342.42' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 4.73 cfs @ 2.68 fps)

Pond CB18-A:



Summary for Pond DMH#1:

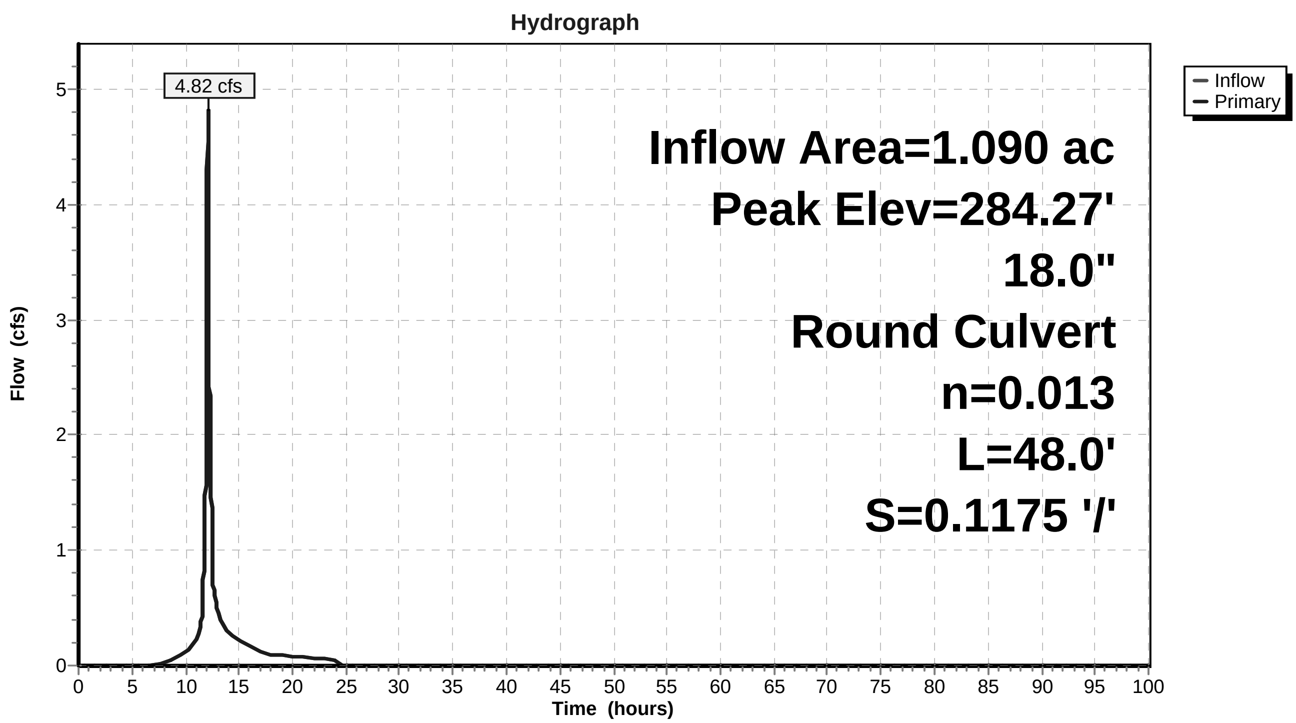
Inflow Area =	1.090 ac, 25.69% Impervious, Inflow Depth = 3.78" for 25 yr event		
Inflow =	4.82 cfs @ 12.09 hrs, Volume=	0.344 af	
Outflow =	4.82 cfs @ 12.09 hrs, Volume=	0.344 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.82 cfs @ 12.09 hrs, Volume=	0.344 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 284.27' @ 12.09 hrs
Flood Elev= 288.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	283.19'	**18.0" Round Culvert** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 283.19' / 277.55' S= 0.1175 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=4.81 cfs @ 12.09 hrs HW=284.27' TW=273.40' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.81 cfs @ 3.54 fps)

Pond DMH#1:



Summary for Pond DMH#2:

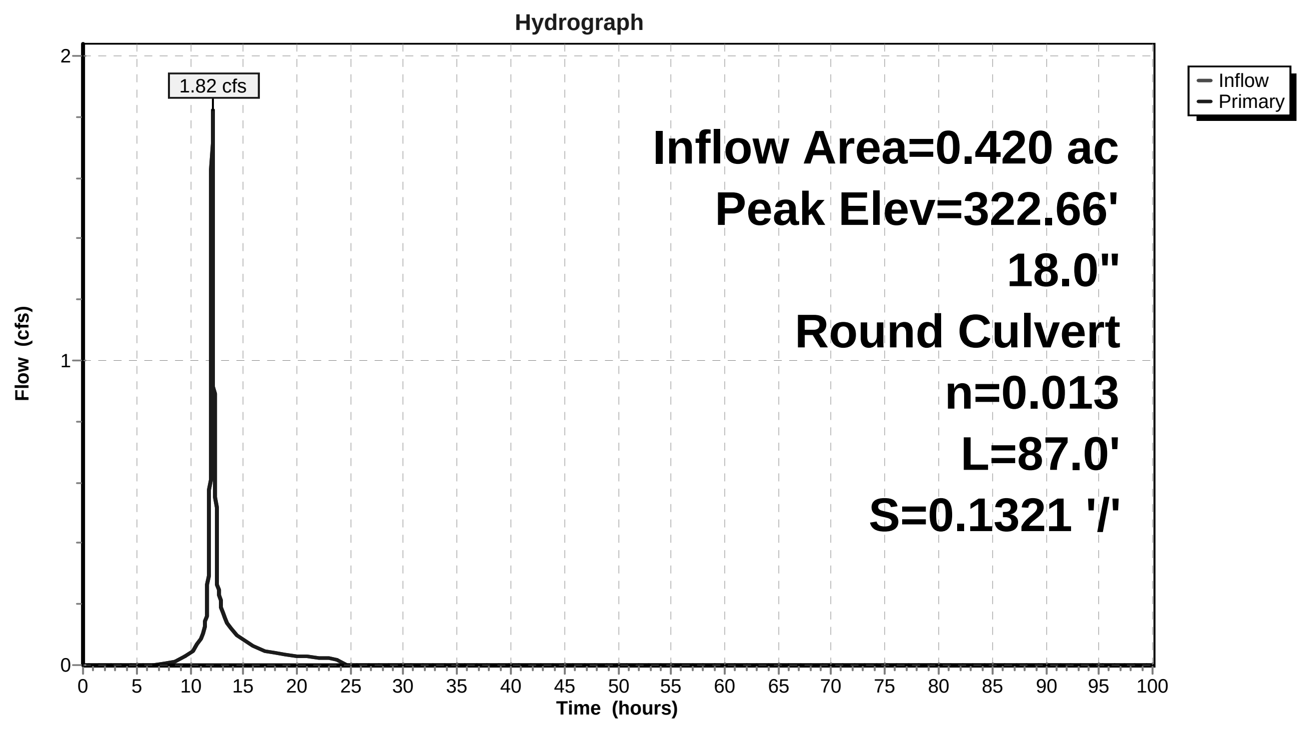
Inflow Area =	0.420 ac,	23.81% Impervious,	Inflow Depth = 3.71"	for 25 yr event
Inflow =	1.82 cfs @	12.09 hrs, Volume=	0.130 af	
Outflow =	1.82 cfs @	12.09 hrs, Volume=	0.130 af, Atten= 0%, Lag= 0.0 min	
Primary =	1.82 cfs @	12.09 hrs, Volume=	0.130 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 322.66' @ 12.09 hrs
Flood Elev= 326.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	322.04'	**18.0" Round Culvert** L= 87.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 322.04' / 310.55' S= 0.1321 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=1.82 cfs @ 12.09 hrs HW=322.65' TW=311.01' (Dynamic Tailwater)
└─1=Culvert (Inlet Controls 1.82 cfs @ 2.67 fps)

Pond DMH#2:



Summary for Pond DMHA:

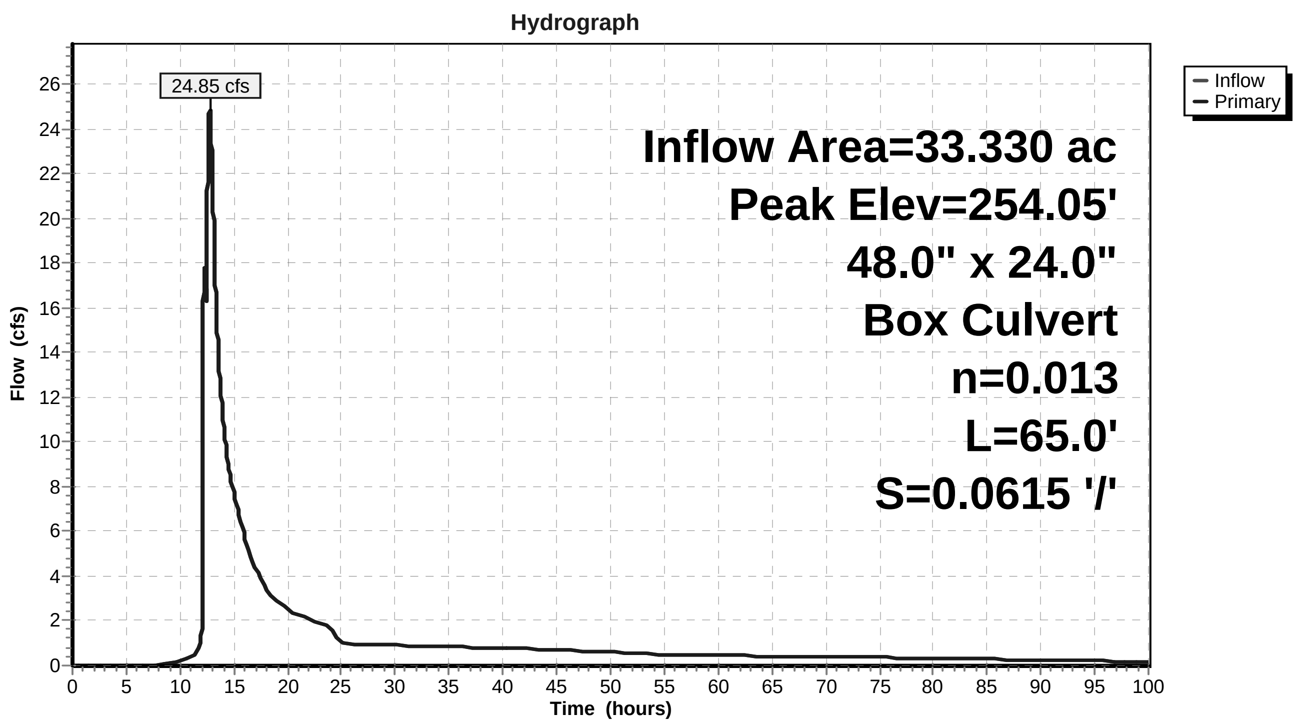
Inflow Area =	33.330 ac, 12.08% Impervious, Inflow Depth > 3.37" for 25 yr event		
Inflow =	24.85 cfs @ 12.74 hrs, Volume=	9.360 af	
Outflow =	24.85 cfs @ 12.74 hrs, Volume=	9.360 af,	Atten= 0%, Lag= 0.0 min
Primary =	24.85 cfs @ 12.74 hrs, Volume=	9.360 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 254.05' @ 12.74 hrs
Flood Elev= 256.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.50'	**48.0" W x 24.0" H Box Culvert** L= 65.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 252.50' / 248.50' S= 0.0615 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=24.85 cfs @ 12.74 hrs HW=254.05' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 24.85 cfs @ 4.00 fps)

Pond DMHA:



Summary for Pond P:

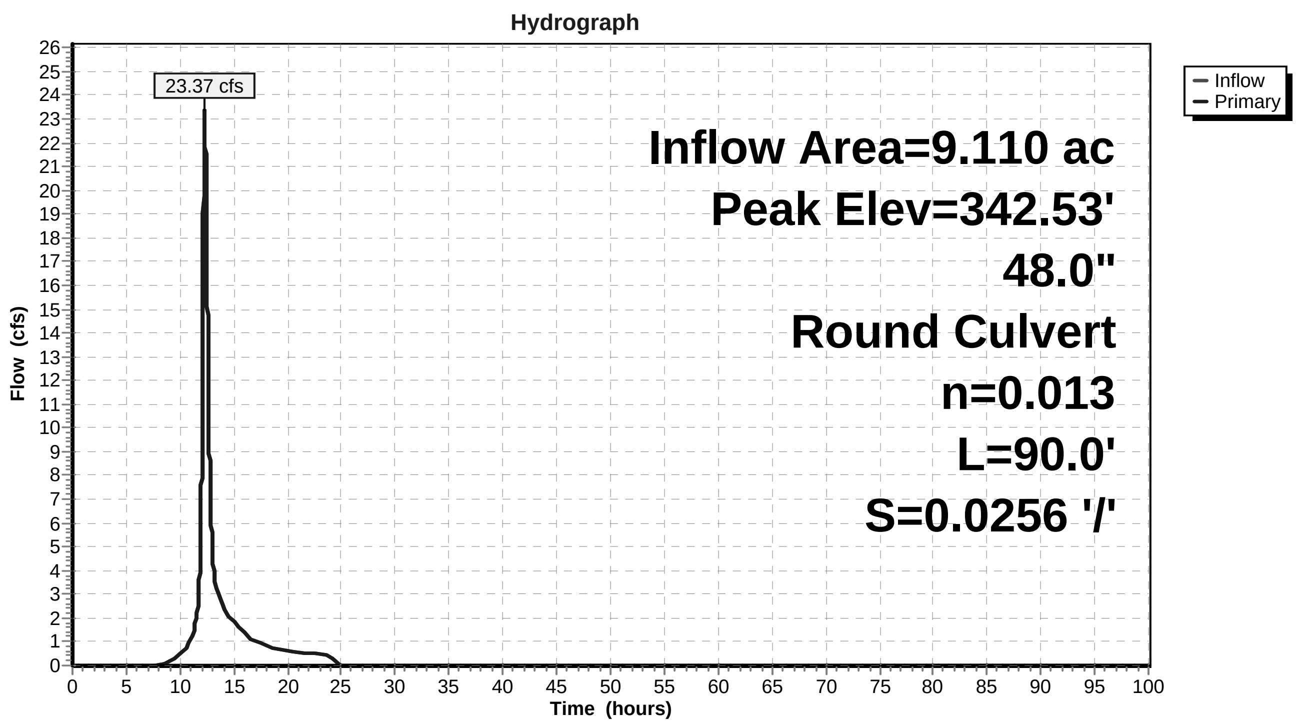
Inflow Area =	9.110 ac,	6.26% Impervious,	Inflow Depth = 3.28"	for 25 yr event
Inflow =	23.37 cfs @	12.28 hrs, Volume=	2.492 af	
Outflow =	23.37 cfs @	12.28 hrs, Volume=	2.492 af, Atten= 0%, Lag= 0.0 min	
Primary =	23.37 cfs @	12.28 hrs, Volume=	2.492 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.53' @ 12.28 hrs
Flood Elev= 345.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.80'	**48.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 340.80' / 338.50' S= 0.0256 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=23.37 cfs @ 12.28 hrs HW=342.53' TW=336.85' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 23.37 cfs @ 4.48 fps)

Pond P:



Summary for Pond P-1:

Inflow Area = 5.780 ac, 9.52% Impervious, Inflow Depth = 3.41" for 25 yr event
Inflow = 16.27 cfs @ 12.17 hrs, Volume= 1.640 af
Outflow = 7.35 cfs @ 12.53 hrs, Volume= 1.639 af, Atten= 55%, Lag= 21.6 min
Primary = 7.35 cfs @ 12.53 hrs, Volume= 1.639 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 268.55' Surf.Area= 1,982 sf Storage= 2,439 cf
Peak Elev= 272.77' @ 12.53 hrs Surf.Area= 9,434 sf Storage= 30,016 cf (27,576 cf above start)

Plug-Flow detention time= 563.4 min calculated for 1.583 af (96% of inflow)
Center-of-Mass det. time= 521.3 min (1,350.7 - 829.4)

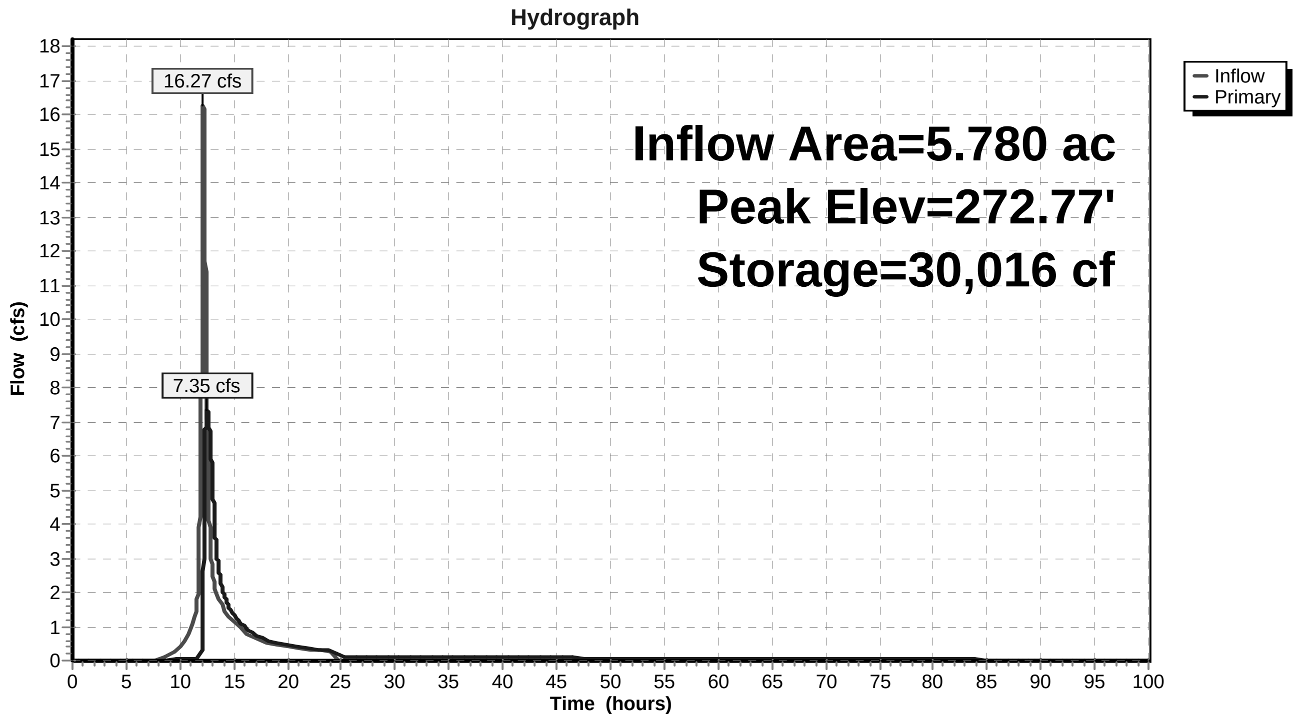
Volume	Invert	Avail.Storage	Storage Description
#1	264.55'	54,362 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
264.55	130	50.0	0	0	130
266.00	385	90.0	357	357	587
268.00	950	115.0	1,293	1,650	1,044
270.00	6,500	200.0	6,623	8,274	3,197
272.00	8,400	400.0	14,859	23,133	12,765
274.00	11,200	435.0	19,533	42,666	15,236
275.00	12,200	405.0	11,696	54,362	17,285

Device	Routing	Invert	Outlet Devices
#1	Primary	264.45'	**18.0" Round Culvert** L= 138.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 264.45' / 262.69' S= 0.0128 '/' Cc= 0.900 n= 0.013
#2	Device 1	268.55'	**1.5" Vert. Orifice** C= 0.600
#3	Device 1	271.25'	**18.0" W x 12.0" H Vert. Grate** C= 0.600
#4	Primary	274.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.35 cfs @ 12.53 hrs HW=272.77' TW=257.72' (Dynamic Tailwater)
1=Culvert (Passes 7.35 cfs of 20.71 cfs potential flow)
2=Orifice (Orifice Controls 0.12 cfs @ 9.82 fps)
3=Grate (Orifice Controls 7.23 cfs @ 4.82 fps)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P-1:


Hydrograph
16.27 cfs
7.35 cfs
Inflow Area=5.780 ac
Peak Elev=272.77'
Storage=30,016 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2:

Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth = 3.44" for 25 yr event
Inflow = 59.70 cfs @ 12.22 hrs, Volume= 6.556 af
Outflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af, Atten= 74%, Lag= 36.1 min
Primary = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 333.05' Surf.Area= 3,307 sf Storage= 6,206 cf
Peak Elev= 338.13' @ 12.82 hrs Surf.Area= 41,525 sf Storage= 151,011 cf (144,805 cf above start)
Flood Elev= 344.75' Surf.Area= 52,000 sf Storage= 259,185 cf (252,979 cf above start)

Plug-Flow detention time= 1,053.7 min calculated for 6.252 af (95% of inflow)
Center-of-Mass det. time= 1,002.4 min (1,834.4 - 832.0)

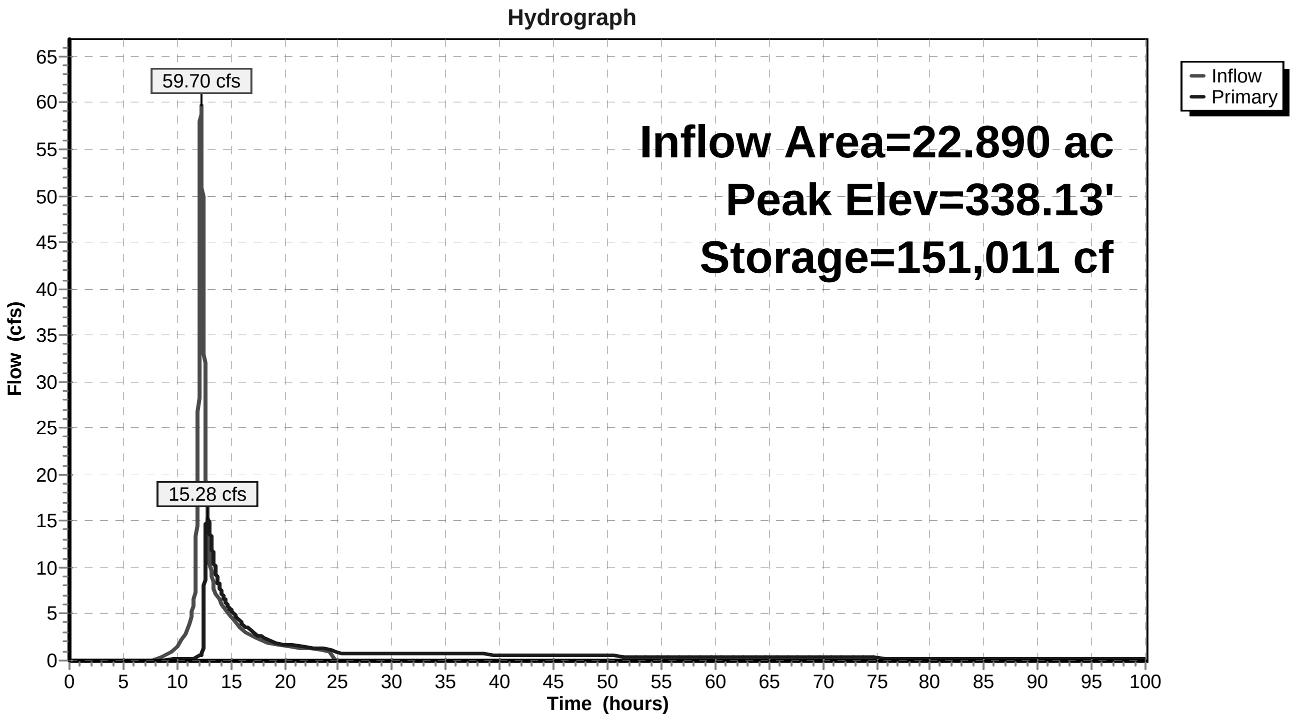
Volume	Invert	Avail.Storage	Storage Description
#1	329.05'	259,185 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
329.05	600	100.0	0	0	600
329.50	1,050	140.0	367	367	1,366
331.50	1,650	165.0	2,677	3,044	2,045
333.00	2,400	190.0	3,020	6,064	2,800
333.50	18,000	625.0	4,495	10,559	31,013
335.50	28,871	750.0	46,445	57,004	44,759
337.50	39,800	860.0	68,379	125,384	58,944
339.50	45,400	900.0	85,139	210,522	64,816
340.50	52,000	925.0	48,663	259,185	68,560

Device	Routing	Invert	Outlet Devices
#1	Primary	333.00'	**36.0" Round Culvert** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.00' / 332.87' S= 0.0050 '/' Cc= 0.900 n= 0.013
#2	Device 1	333.05'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	335.40'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	337.50'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=15.28 cfs @ 12.82 hrs HW=338.13' TW=334.55' (Dynamic Tailwater)
└─**1=Culvert** (Passes 15.28 cfs of 64.37 cfs potential flow)
  ├─**2=Orifice/Grate** (Orifice Controls 0.45 cfs @ 9.11 fps)
  ├─**3=Orifice/Grate** (Orifice Controls 0.38 cfs @ 7.77 fps)
  └─**4=Orifice/Grate** (Orifice Controls 14.45 cfs @ 2.55 fps)

Pond P2:


Hydrograph
59.70 cfs
15.28 cfs
Inflow Area=22.890 ac
Peak Elev=338.13'
Storage=151,011 cf
Inflow
Primary
Flow (cfs)
Time (hours)
65
60
55
50
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2-DMH1:

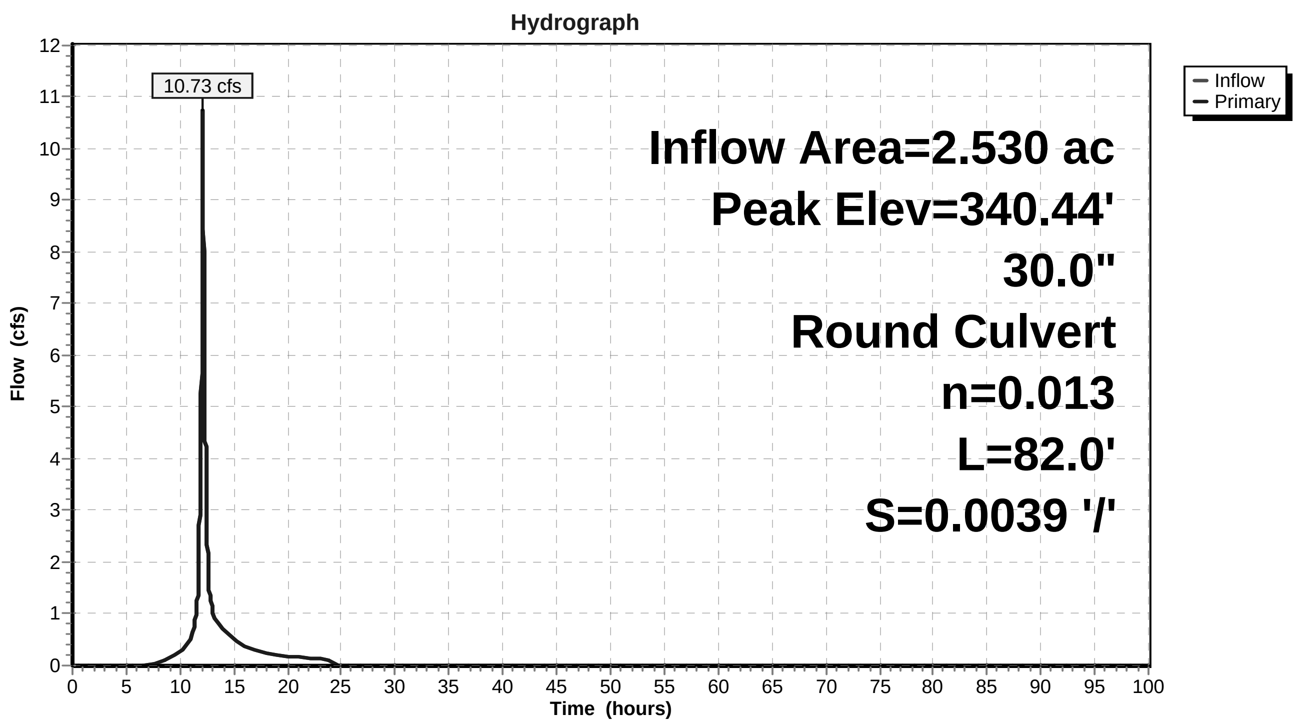
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 3.84" for 25 yr event
Inflow = 10.73 cfs @ 12.10 hrs, Volume= 0.810 af
Outflow = 10.73 cfs @ 12.10 hrs, Volume= 0.810 af, Atten= 0%, Lag= 0.0 min
Primary = 10.73 cfs @ 12.10 hrs, Volume= 0.810 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.44' @ 12.10 hrs
Flood Elev= 345.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	338.82'	**30.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 338.82' / 338.50' S= 0.0039 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=10.73 cfs @ 12.10 hrs HW=340.44' TW=335.73' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 10.73 cfs @ 4.53 fps)

Pond P2-DMH1:



Summary for Pond P2-DMH2:

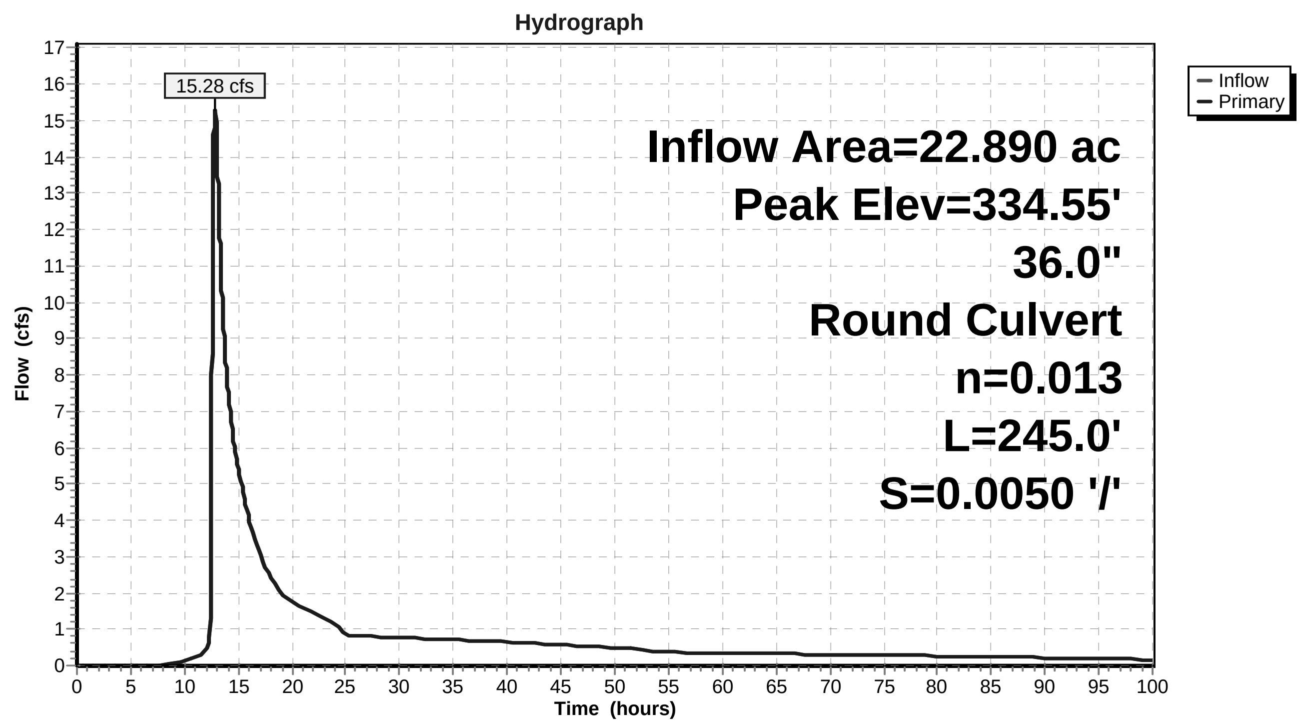
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 3.35" for 25 yr event
Inflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af
Outflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af, Atten= 0%, Lag= 0.0 min
Primary = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.55' @ 12.82 hrs
Flood Elev= 345.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	332.77'	**36.0" Round Culvert** L= 245.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 332.77' / 331.54' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.28 cfs @ 12.82 hrs HW=334.55' TW=333.20' (Dynamic Tailwater)
1=Culvert (Outlet Controls 15.28 cfs @ 5.01 fps)

Pond P2-DMH2:



Summary for Pond P2-DMH3:

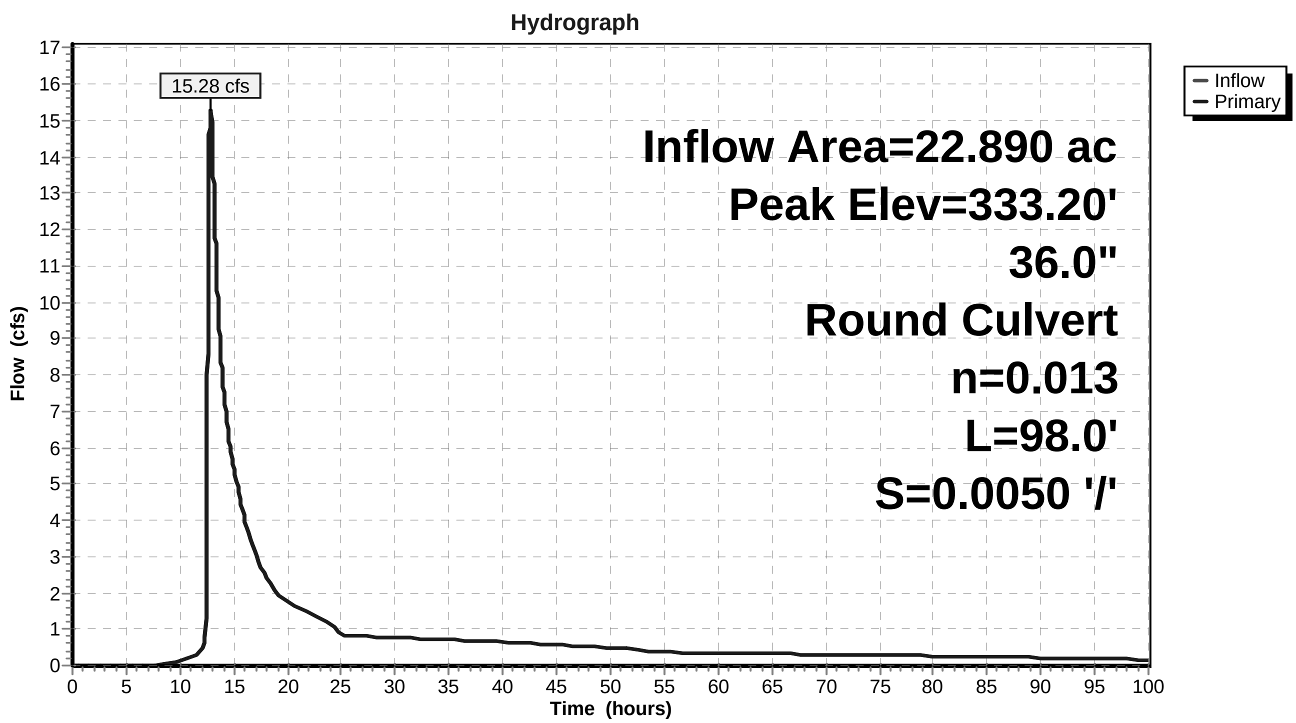
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 3.35" for 25 yr event
Inflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af
Outflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af, Atten= 0%, Lag= 0.0 min
Primary = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.20' @ 12.82 hrs
Flood Elev= 348.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	331.44'	**36.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 331.44' / 330.95' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.28 cfs @ 12.82 hrs HW=333.20' TW=331.38' (Dynamic Tailwater)
1=Culvert (Barrel Controls 15.28 cfs @ 5.10 fps)

Pond P2-DMH3:



Summary for Pond P2-DMH4:

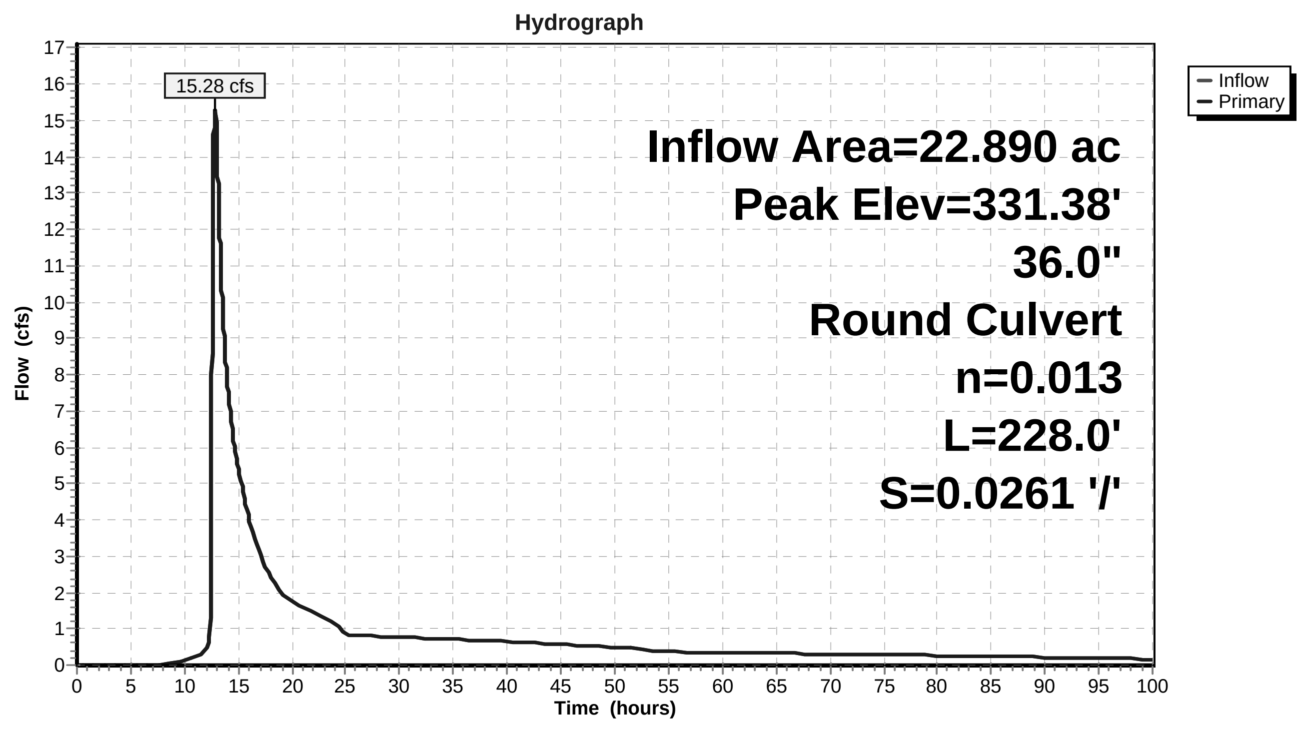
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 3.35" for 25 yr event
Inflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af
Outflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af, Atten= 0%, Lag= 0.0 min
Primary = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 331.38' @ 12.82 hrs
Flood Elev= 350.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	329.85'	**36.0" Round Culvert** L= 228.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 329.85' / 323.91' S= 0.0261 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.28 cfs @ 12.82 hrs HW=331.38' TW=315.34' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 15.28 cfs @ 4.21 fps)

Pond P2-DMH4:



Summary for Pond P2-DMH5:

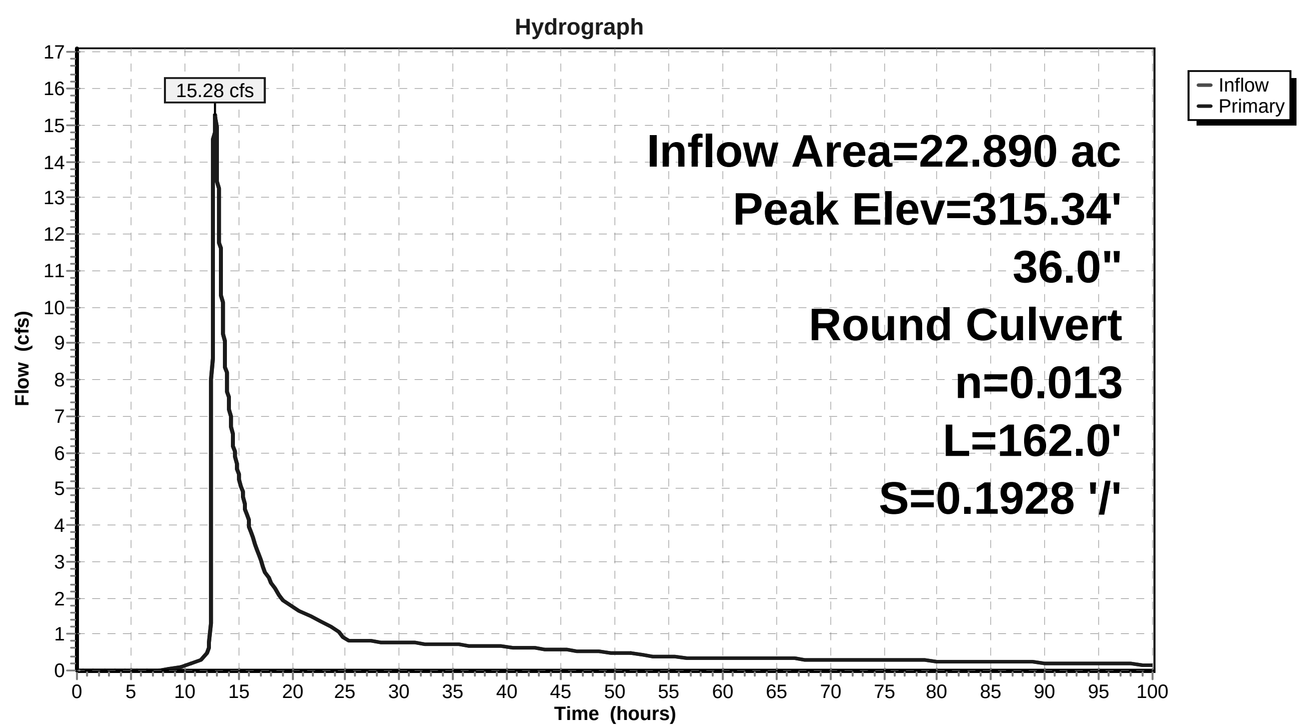
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 3.35" for 25 yr event
Inflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af
Outflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af, Atten= 0%, Lag= 0.0 min
Primary = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 315.34' @ 12.82 hrs
Flood Elev= 332.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	313.81'	**36.0" Round Culvert** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 313.81' / 282.58' S= 0.1928 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.28 cfs @ 12.82 hrs HW=315.34' TW=279.85' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 15.28 cfs @ 4.21 fps)

Pond P2-DMH5:



Summary for Pond P2-DMH6:

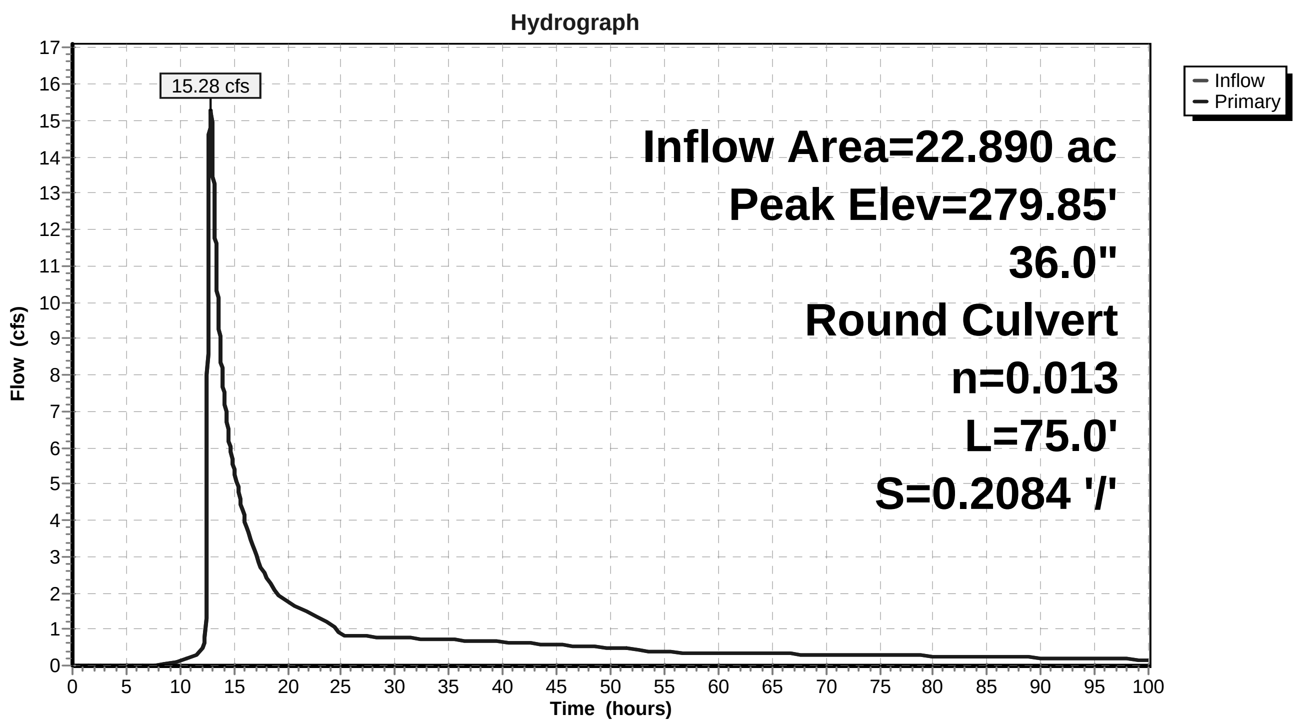
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 3.35" for 25 yr event
Inflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af
Outflow = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af, Atten= 0%, Lag= 0.0 min
Primary = 15.28 cfs @ 12.82 hrs, Volume= 6.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 279.85' @ 12.82 hrs
Flood Elev= 287.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.32'	**36.0" Round Culvert** L= 75.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 278.32' / 262.69' S= 0.2084 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.28 cfs @ 12.82 hrs HW=279.85' TW=258.18' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 15.28 cfs @ 4.21 fps)

Pond P2-DMH6:



Summary for Pond P2-DMH7:

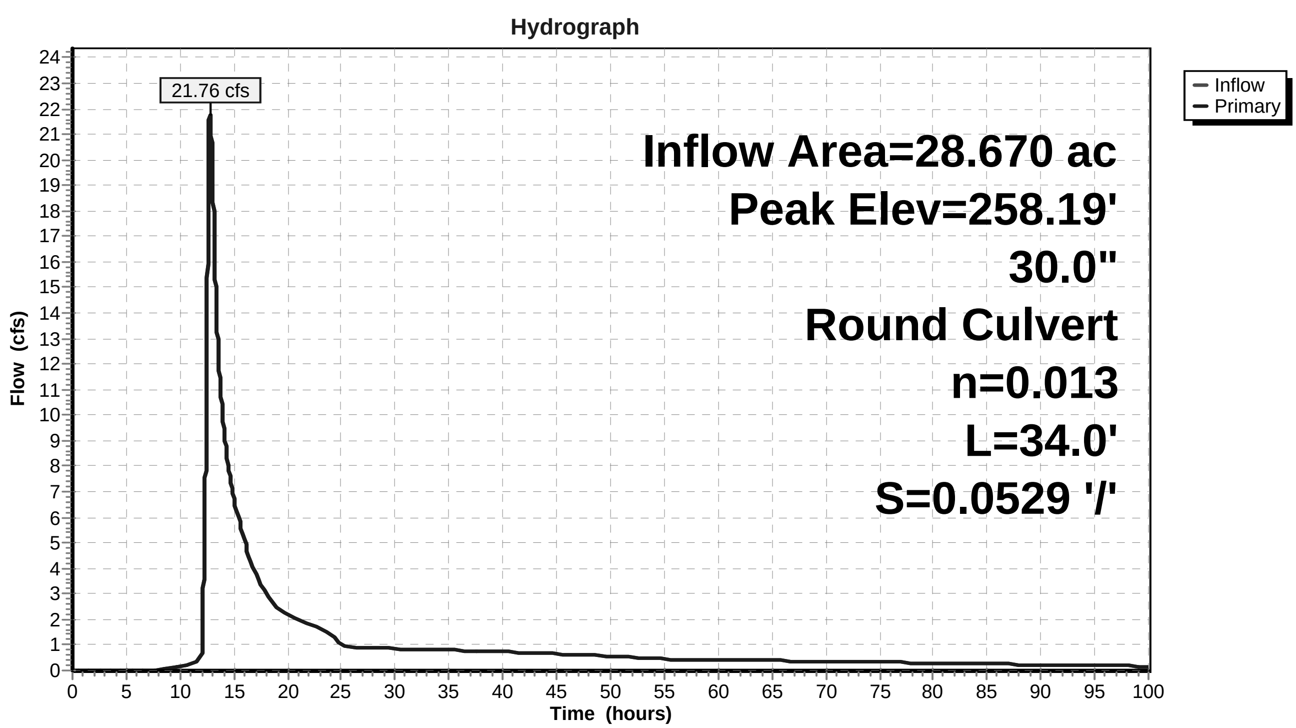
Inflow Area = 28.670 ac, 11.42% Impervious, Inflow Depth > 3.36" for 25 yr event
Inflow = 21.76 cfs @ 12.78 hrs, Volume= 8.034 af
Outflow = 21.76 cfs @ 12.78 hrs, Volume= 8.034 af, Atten= 0%, Lag= 0.0 min
Primary = 21.76 cfs @ 12.78 hrs, Volume= 8.034 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 258.19' @ 12.78 hrs
Flood Elev= 272.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	256.09'	**30.0" Round Culvert** L= 34.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 256.09' / 254.29' S= 0.0529 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=21.76 cfs @ 12.78 hrs HW=258.19' TW=256.10' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 21.76 cfs @ 4.94 fps)

Pond P2-DMH7:



Summary for Pond P3:

Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth = 3.51" for 25 yr event
Inflow = 12.12 cfs @ 12.11 hrs, Volume= 1.015 af
Outflow = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af, Atten= 16%, Lag= 4.7 min
Primary = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 298.76' Surf.Area= 1,250 sf Storage= 1,395 cf
Peak Elev= 302.50' @ 12.19 hrs Surf.Area= 4,898 sf Storage= 14,170 cf (12,775 cf above start)

Plug-Flow detention time= 657.1 min calculated for 0.979 af (96% of inflow)
Center-of-Mass det. time= 613.3 min (1,436.3 - 823.0)

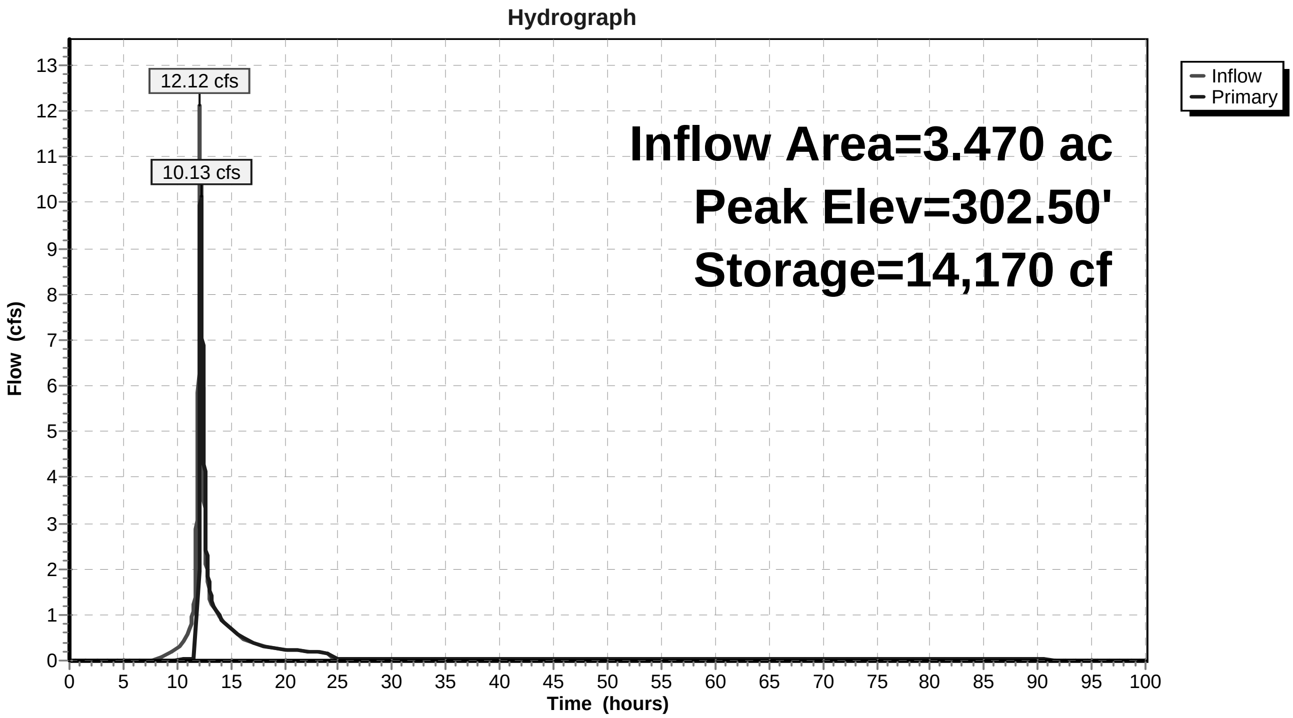
Volume	Invert	Avail.Storage	Storage Description
#1	295.50'	25,269 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
295.50	100	50.0	0	0	100
296.00	200	60.0	74	74	192
298.00	500	75.0	677	751	402
300.00	3,200	250.0	3,310	4,061	4,940
302.00	4,600	300.0	7,758	11,819	7,196
304.50	6,200	310.0	13,450	25,269	8,100

Device	Routing	Invert	Outlet Devices
#1	Primary	295.45'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 295.45' / 290.93' S= 0.0753 '/' Cc= 0.900 n= 0.013
#2	Device 1	298.76'	**1.1" Vert. Orifice** C= 0.600
#3	Device 1	302.00'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600
#4	Primary	303.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=10.12 cfs @ 12.19 hrs HW=302.49' TW=292.49' (Dynamic Tailwater)
1=Culvert (Passes 10.12 cfs of 21.35 cfs potential flow)
2=Orifice (Orifice Controls 0.06 cfs @ 9.25 fps)
3=Orifice/Grate (Orifice Controls 10.06 cfs @ 2.26 fps)
4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P3:


Hydrograph
12.12 cfs
10.13 cfs
Inflow Area=3.470 ac
Peak Elev=302.50'
Storage=14,170 cf
Inflow
Primary
Flow (cfs)
Time (hours)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P3-DMH1:

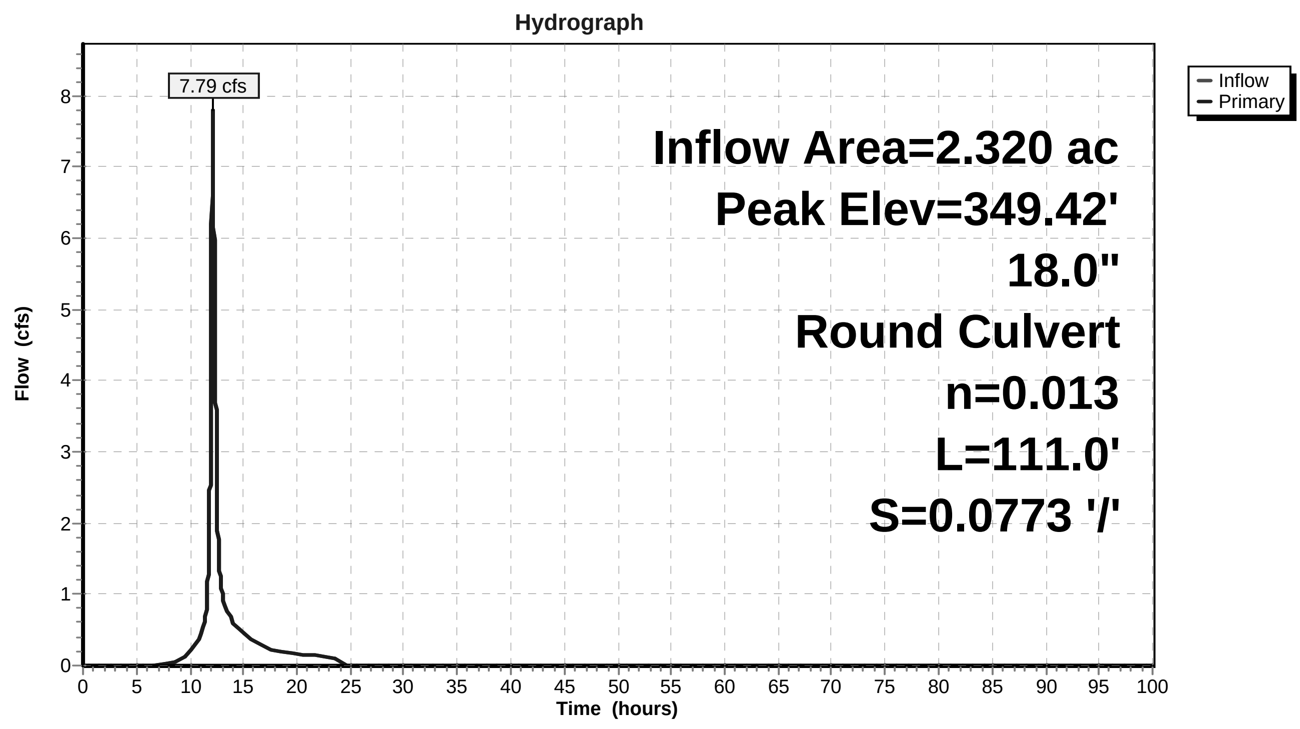
Inflow Area =	2.320 ac, 18.10% Impervious,	Inflow Depth = 3.57"	for 25 yr event	
Inflow =	7.79 cfs @	12.12 hrs, Volume=	0.691 af	
Outflow =	7.79 cfs @	12.12 hrs, Volume=	0.691 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.79 cfs @	12.12 hrs, Volume=	0.691 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.42' @ 12.12 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.83'	**18.0" Round Culvert** L= 111.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.83' / 339.25' S= 0.0773 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.78 cfs @ 12.12 hrs HW=349.42' TW=325.14' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 7.78 cfs @ 4.41 fps)

Pond P3-DMH1:



Summary for Pond P3-DMH2:

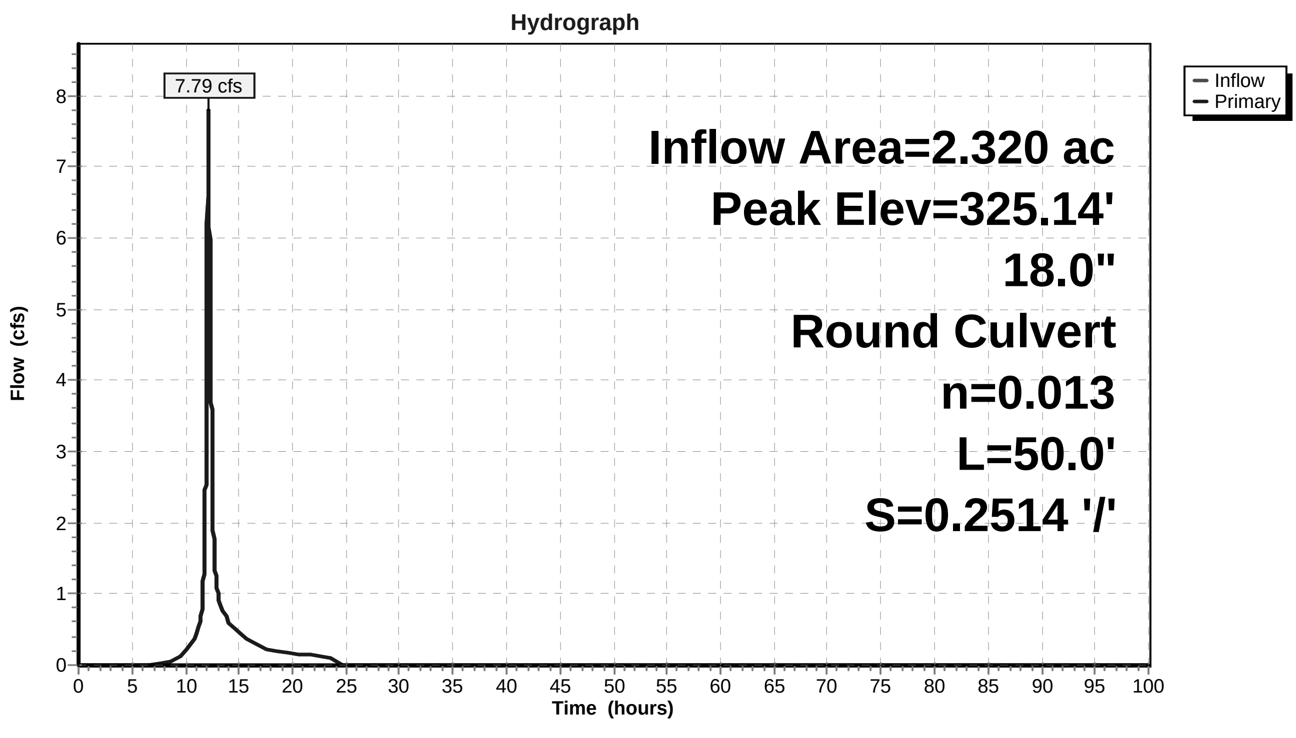
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 3.57" for 25 yr event
Inflow = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af
Outflow = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min
Primary = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 325.14' @ 12.12 hrs
Flood Elev= 342.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	323.55'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 323.55' / 310.98' S= 0.2514 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.78 cfs @ 12.12 hrs HW=325.14' TW=304.84' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 7.78 cfs @ 4.41 fps)

Pond P3-DMH2:



Summary for Pond P3-DMH3A:

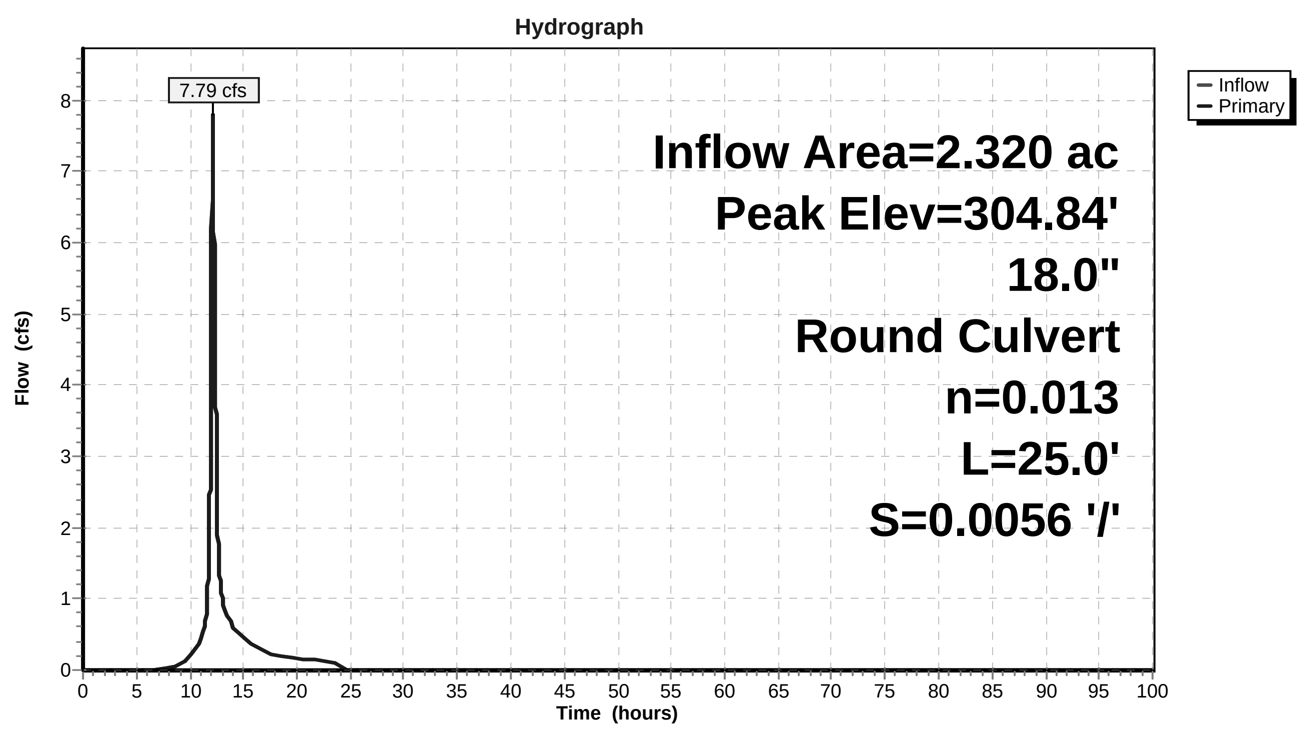
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 3.57" for 25 yr event
Inflow = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af
Outflow = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min
Primary = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 304.84' @ 12.12 hrs
Flood Elev= 321.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.64'	**18.0" Round Culvert** L= 25.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.64' / 302.50' S= 0.0056 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.78 cfs @ 12.12 hrs HW=304.84' TW=304.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 7.78 cfs @ 4.41 fps)

Pond P3-DMH3A:



Summary for Pond P3-DMH3B:

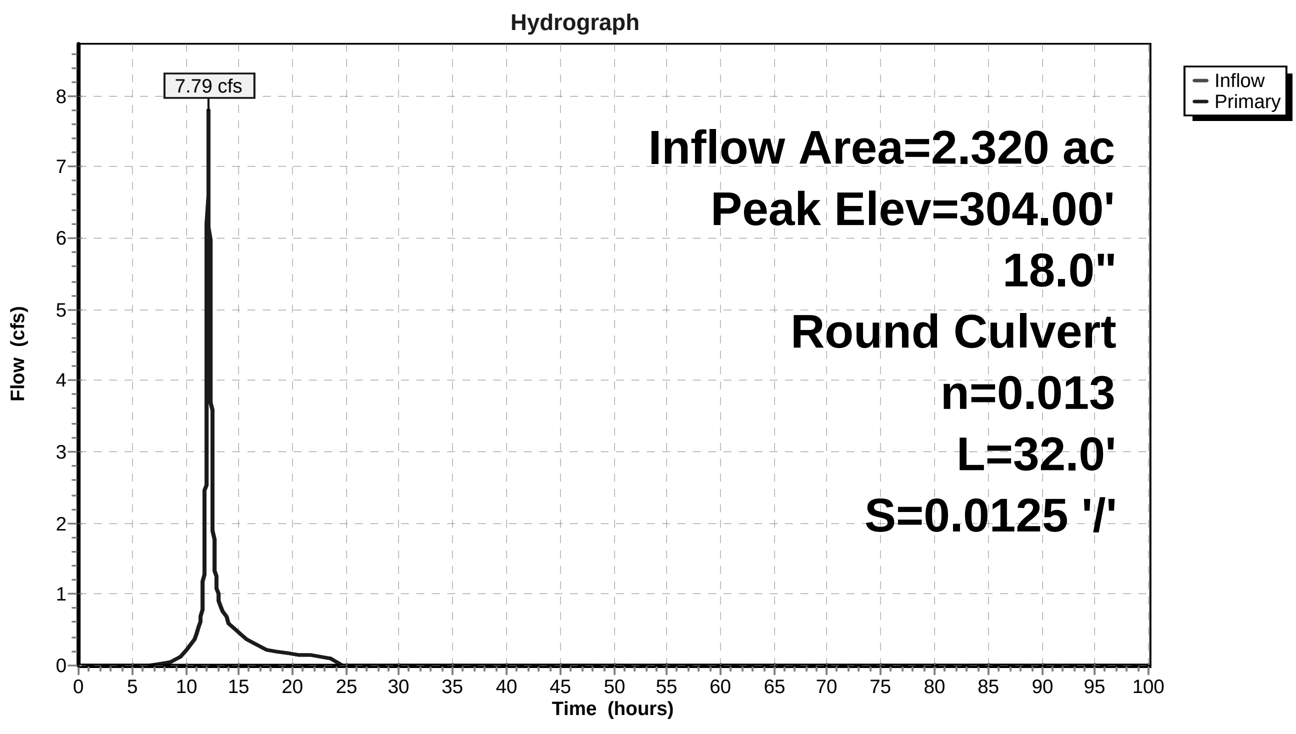
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 3.57" for 25 yr event
Inflow = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af
Outflow = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min
Primary = 7.79 cfs @ 12.12 hrs, Volume= 0.691 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 304.00' @ 12.12 hrs
Flood Elev= 305.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.40'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.40' / 302.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=7.78 cfs @ 12.12 hrs HW=304.00' TW=302.40' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 7.78 cfs @ 5.14 fps)

Pond P3-DMH3B:



Summary for Pond P3-DMH4:

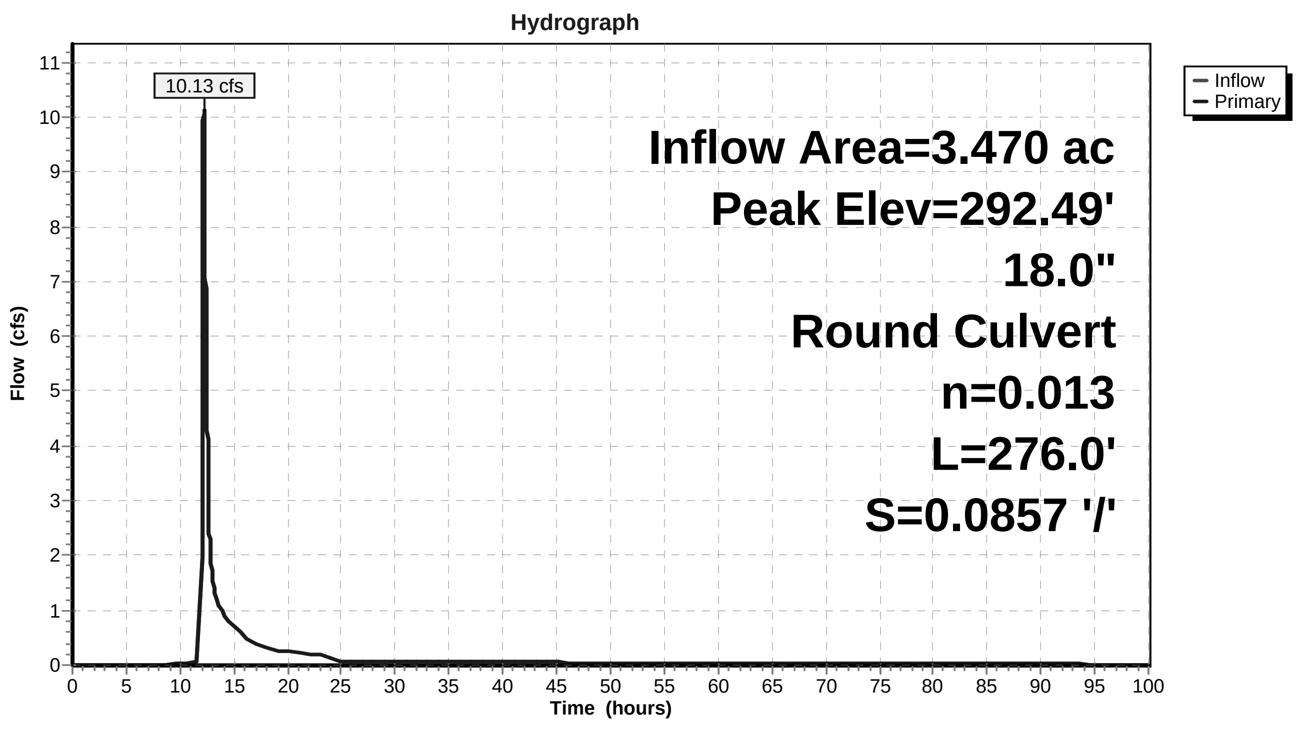
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 3.50" for 25 yr event
Inflow = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af
Outflow = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af, Atten= 0%, Lag= 0.0 min
Primary = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 292.49' @ 12.19 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	290.83'	**18.0" Round Culvert** L= 276.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 290.83' / 267.17' S= 0.0857 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=10.12 cfs @ 12.19 hrs HW=292.49' TW=265.16' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 10.12 cfs @ 5.73 fps)

Pond P3-DMH4:



Summary for Pond P3-DMH5:

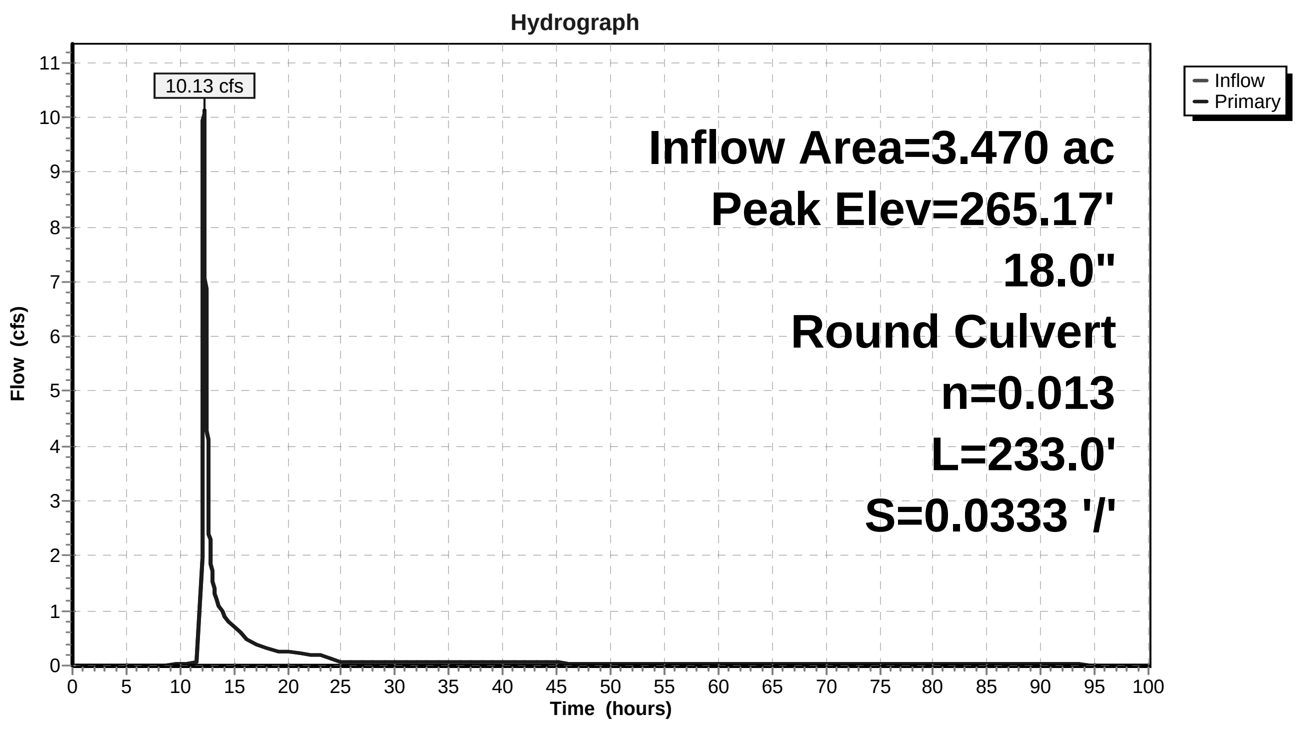
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 3.50" for 25 yr event
Inflow = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af
Outflow = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af, Atten= 0%, Lag= 0.0 min
Primary = 10.13 cfs @ 12.19 hrs, Volume= 1.011 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 265.17' @ 12.19 hrs
Flood Elev= 271.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	263.00'	**18.0" Round Culvert** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 263.00' / 255.25' S= 0.0333 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=10.12 cfs @ 12.19 hrs HW=265.16' TW=255.65' (Dynamic Tailwater)
1=Culvert (Inlet Controls 10.12 cfs @ 5.73 fps)

Pond P3-DMH5:



Summary for Pond WQV-P:

Inflow Area = 0.690 ac, 20.29% Impervious, Inflow Depth = 3.71" for 25 yr event
Inflow = 2.71 cfs @ 12.10 hrs, Volume= 0.213 af
Outflow = 1.56 cfs @ 12.24 hrs, Volume= 0.167 af, Atten= 42%, Lag= 8.5 min
Primary = 1.56 cfs @ 12.24 hrs, Volume= 0.167 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.14' @ 12.24 hrs Surf.Area= 1,541 sf Storage= 3,232 cf
Flood Elev= 258.00' Surf.Area= 2,100 sf Storage= 6,625 cf

Plug-Flow detention time= 157.6 min calculated for 0.167 af (78% of inflow)
Center-of-Mass det. time= 74.9 min (878.3 - 803.4)

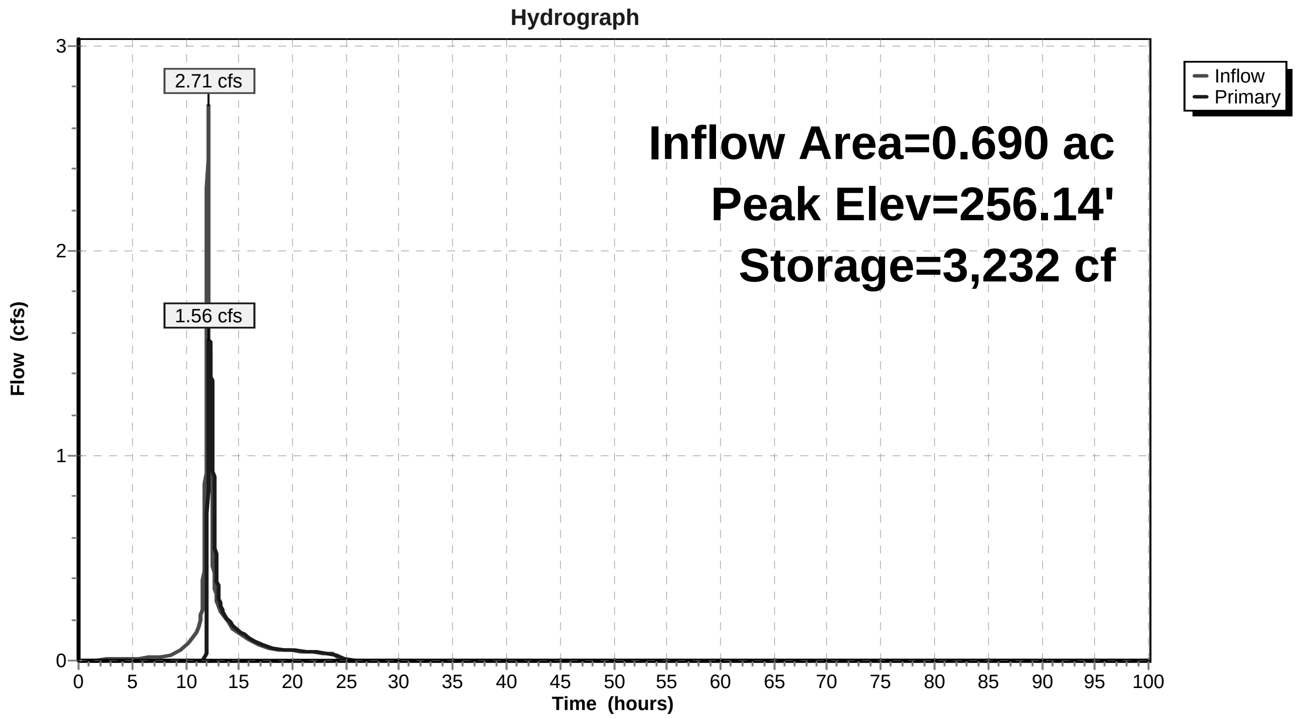
Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	6,625 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

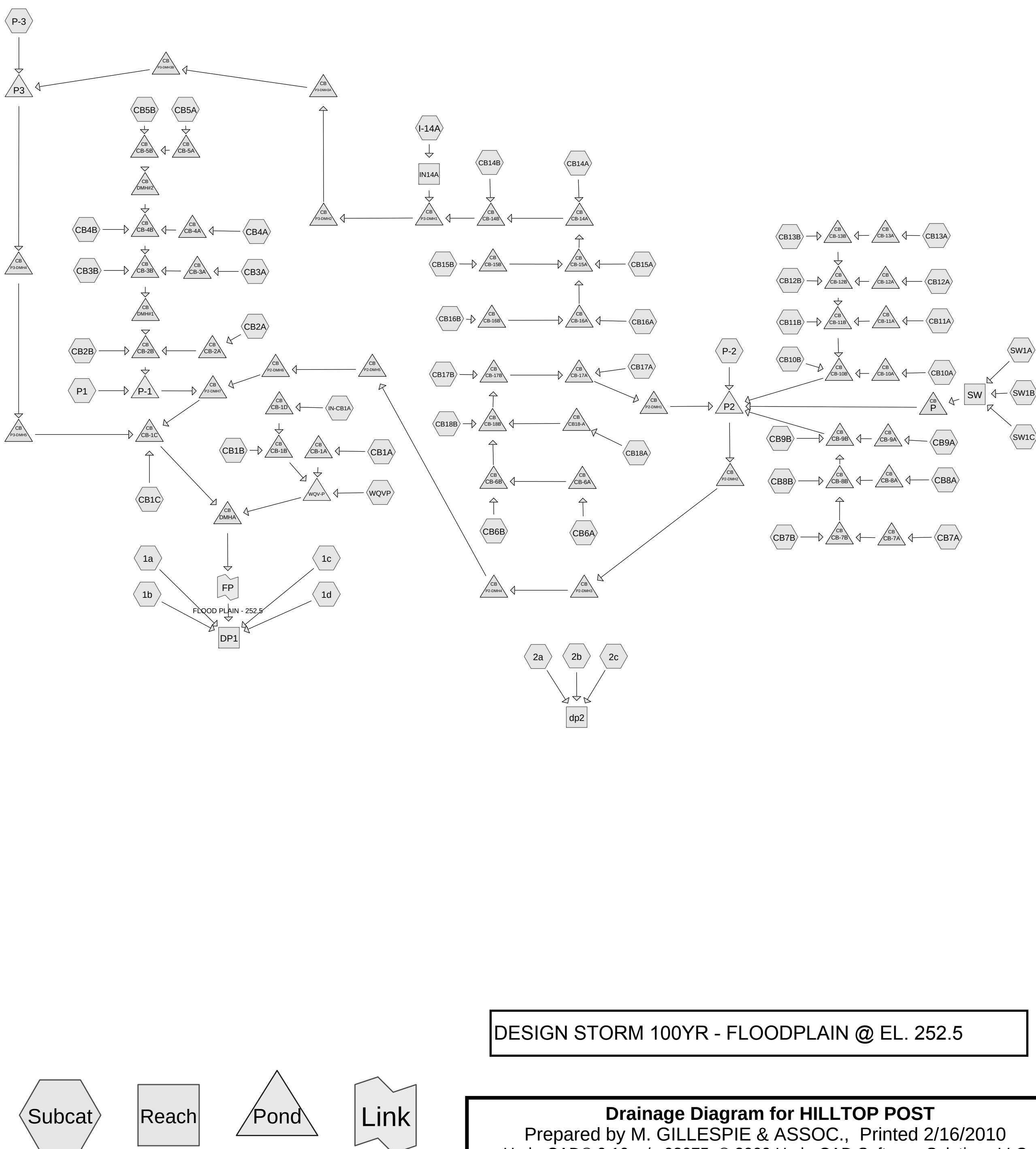
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	175	0	0
254.00	675	850	850
256.00	1,500	2,175	3,025
258.00	2,100	3,600	6,625

Device	Routing	Invert	Outlet Devices
#1	Primary	255.25'	**8.0" Round Culvert** L= 22.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 255.25' / 254.00' S= 0.0568 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	255.25'	**36.0" W x 24.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=1.56 cfs @ 12.24 hrs HW=256.14' TW=253.75' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.56 cfs @ 4.47 fps)
  └─**2=Orifice/Grate** (Passes 1.56 cfs of 16.06 cfs potential flow)

Pond WQV-P:


Hydrograph
2.71 cfs
1.56 cfs
Inflow
Primary
Inflow Area=0.690 ac
Peak Elev=256.14'
Storage=3,232 cf
Flow (cfs)
0
1
2
3
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
Time (hours)



DESIGN STORM 100YR - FLOODPLAIN @ EL. 252.5

Drainage Diagram for HILLTOP POST
Prepared by M. GILLESPIE & ASSOC., Printed 2/16/2010
HydroCAD® 9.10 s/n 03075 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment 1a:

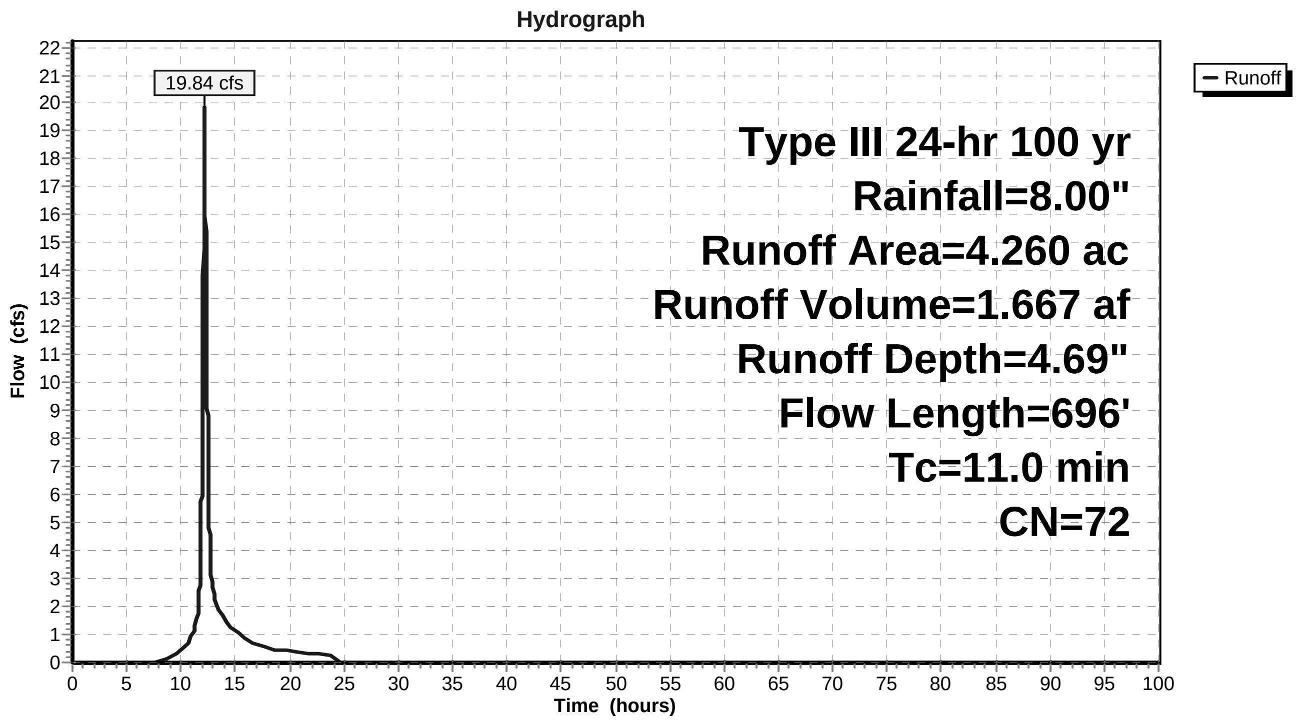
Runoff = 19.84 cfs @ 12.15 hrs, Volume= 1.667 af, Depth= 4.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
1.690	70	Brush, Fair, HSG C
2.530	73	Woods, Fair, HSG C
0.040	74	>75% Grass cover, Good, HSG C
4.260	72	Weighted Average
4.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.2	596	0.0780	4.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.0	696	Total			

Subcatchment 1a:



Summary for Subcatchment 1b:

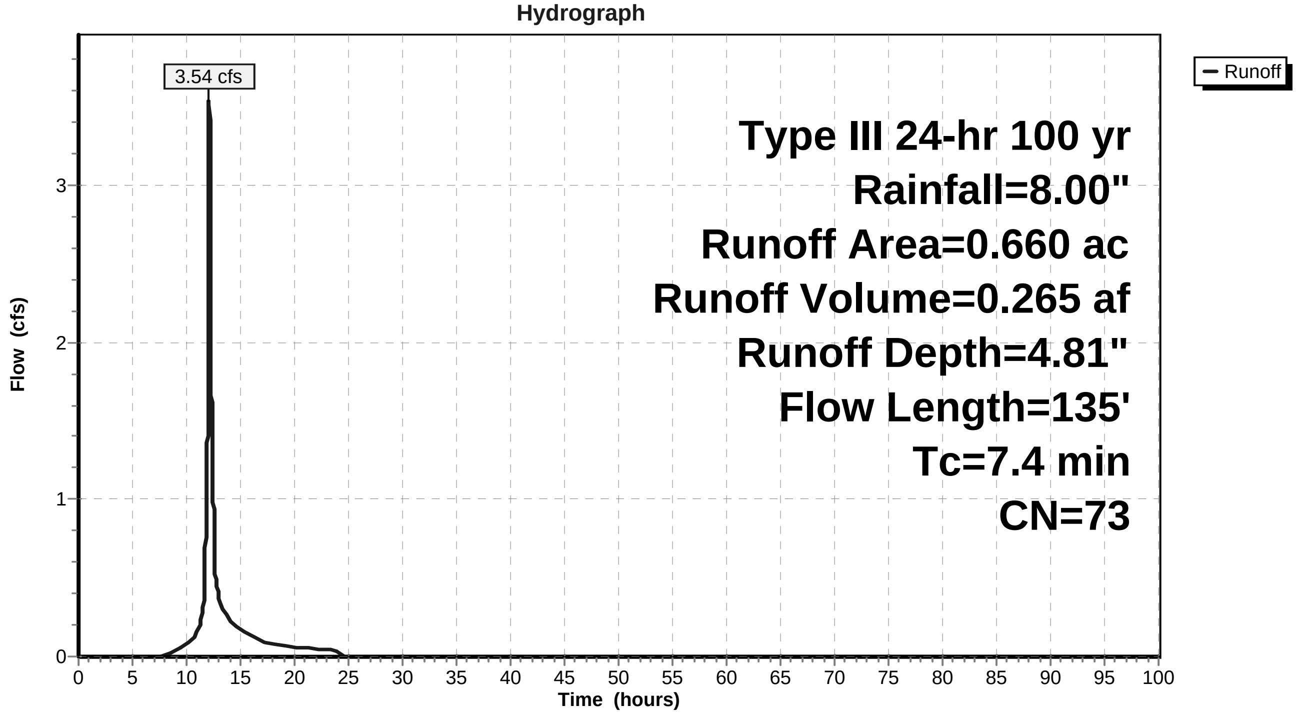
Runoff = 3.54 cfs @ 12.11 hrs, Volume= 0.265 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.350	73	Woods, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.060	70	Brush, Fair, HSG C
0.660	73	Weighted Average
0.660		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	10	0.3800	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
3.0	40	0.3800	0.22		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.9	15	0.3800	0.27		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	35	0.3800	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	35	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.4	135	Total			

Subcatchment 1b:



Summary for Subcatchment 1c:

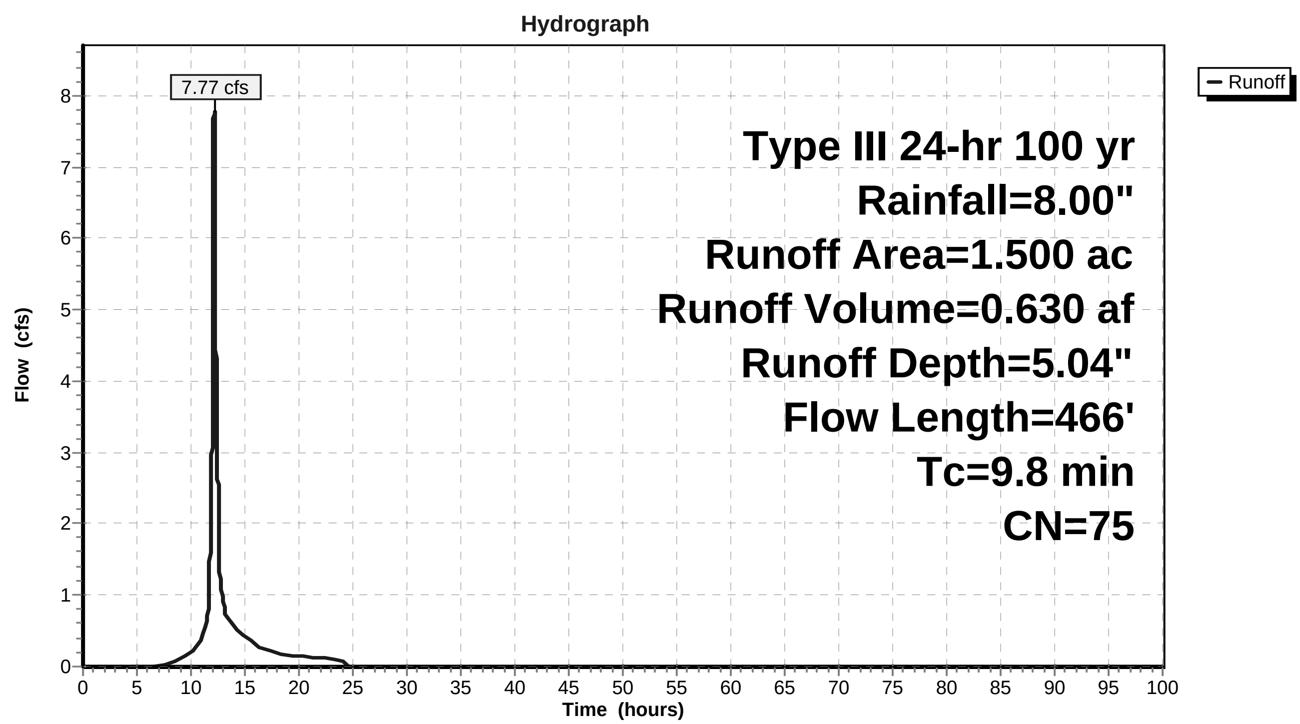
Runoff = 7.77 cfs @ 12.14 hrs, Volume= 0.630 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
1.200	73	Woods, Fair, HSG C
0.100	74	>75% Grass cover, Good, HSG C
0.140	79	50-75% Grass cover, Fair, HSG C
0.060	98	Paved parking & roofs
1.500	75	Weighted Average
1.440		96.00% Pervious Area
0.060		4.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.1600	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	200	0.2600	8.21		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	166	0.0150	5.76	15.36	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
9.8	466	Total			

Subcatchment 1c:



Summary for Subcatchment 1d:

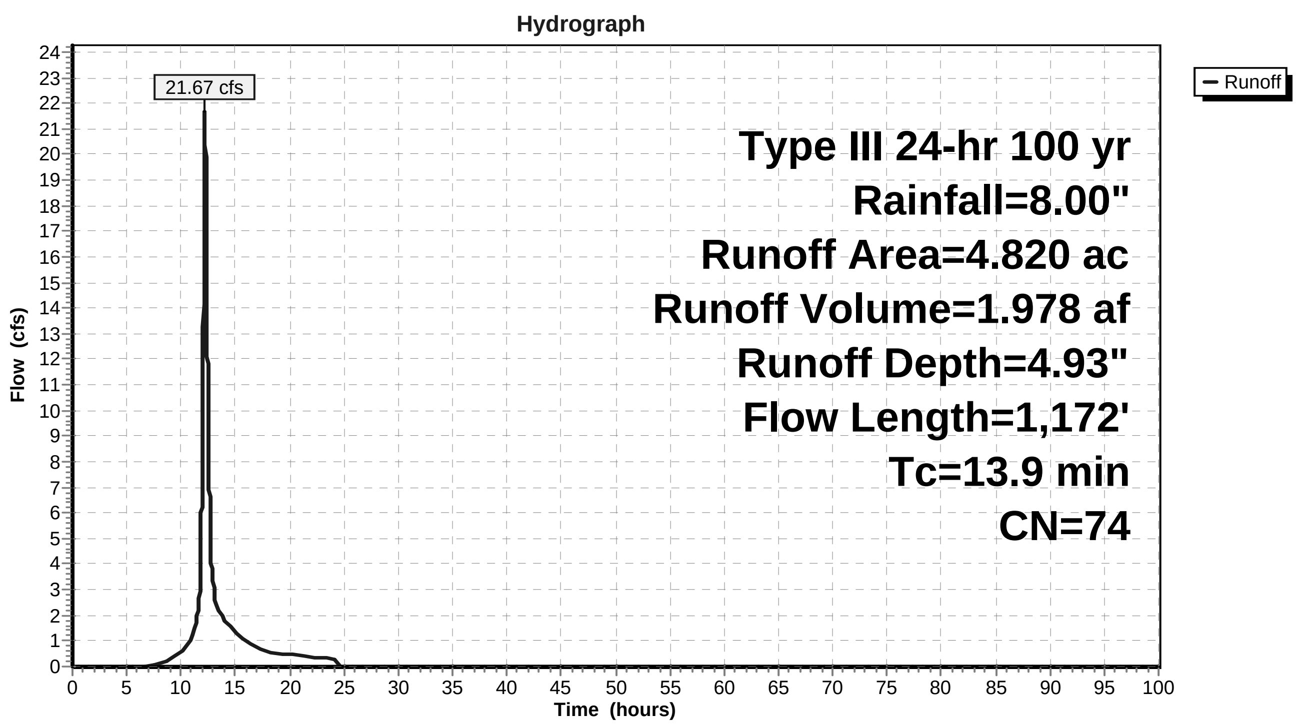
Runoff = 21.67 cfs @ 12.19 hrs, Volume= 1.978 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
3.910	73	Woods, Fair, HSG C
0.510	79	50-75% Grass cover, Fair, HSG C
0.250	74	>75% Grass cover, Good, HSG C
0.150	98	Paved parking & roofs
4.820	74	Weighted Average
4.670		96.89% Pervious Area
0.150		3.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.8	100	0.1000	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.7	850	0.1040	5.19		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	222	0.0450	9.97	26.60	**Parabolic Channel,** W=4.00' D=1.00' Area=2.7 sf Perim=4.6' n= 0.022 Earth, clean & straight
13.9	1,172	Total			

Subcatchment 1d:



Summary for Subcatchment 2a:

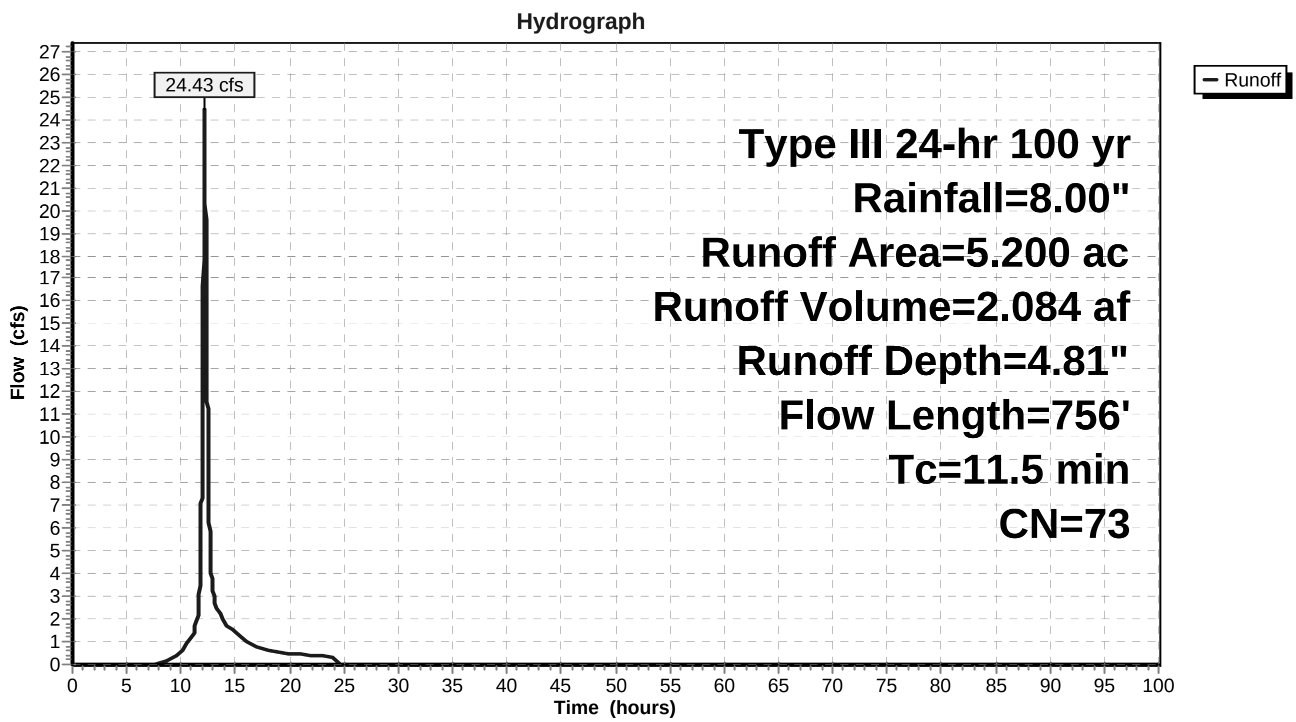
Runoff = 24.43 cfs @ 12.16 hrs, Volume= 2.084 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
1.040	74	>75% Grass cover, Good, HSG C
4.160	73	Woods, Fair, HSG C
5.200	73	Weighted Average
5.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	100	0.1500	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
2.3	656	0.0910	4.86		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
11.5	756	Total			

Subcatchment 2a:



Summary for Subcatchment 2b:

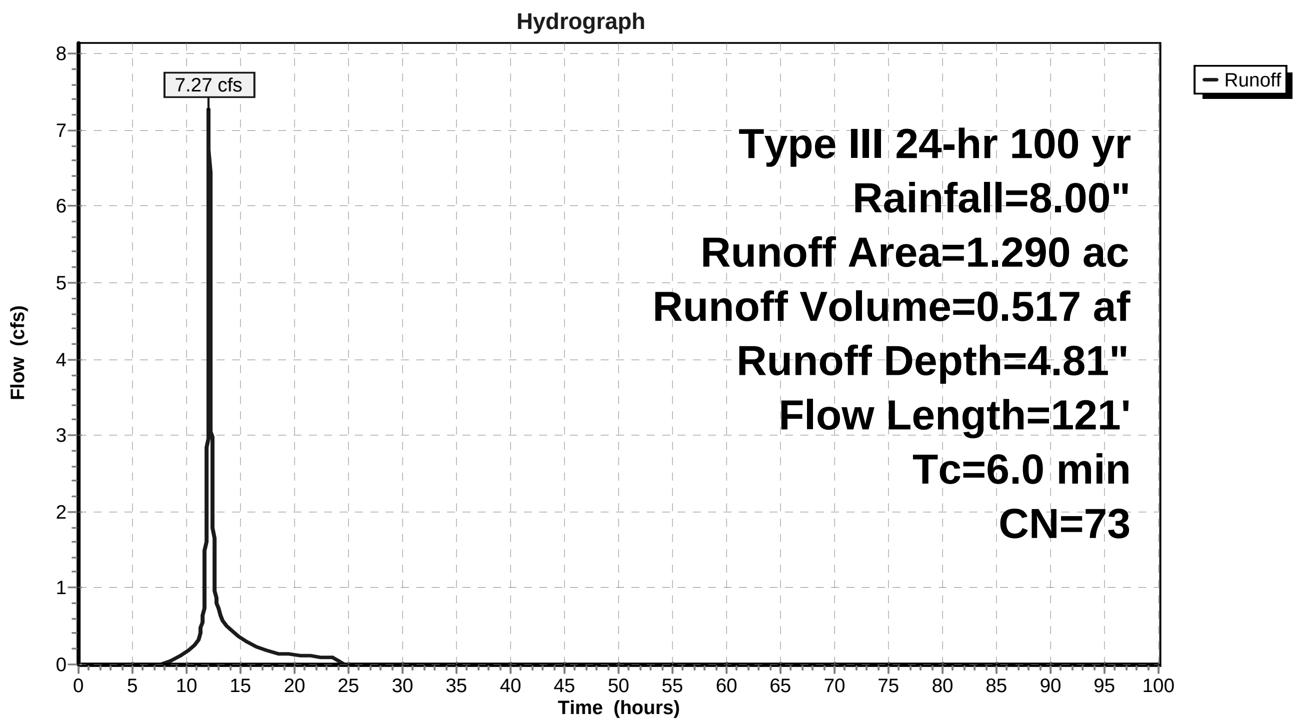
Runoff = 7.27 cfs @ 12.09 hrs, Volume= 0.517 af, Depth= 4.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.610	74	>75% Grass cover, Good, HSG C
0.680	73	Woods, Fair, HSG C
1.290	73	Weighted Average
1.290		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	100	0.3300	0.37		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.1	21	0.1420	6.07		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.5	121	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2b:



Summary for Subcatchment 2c:

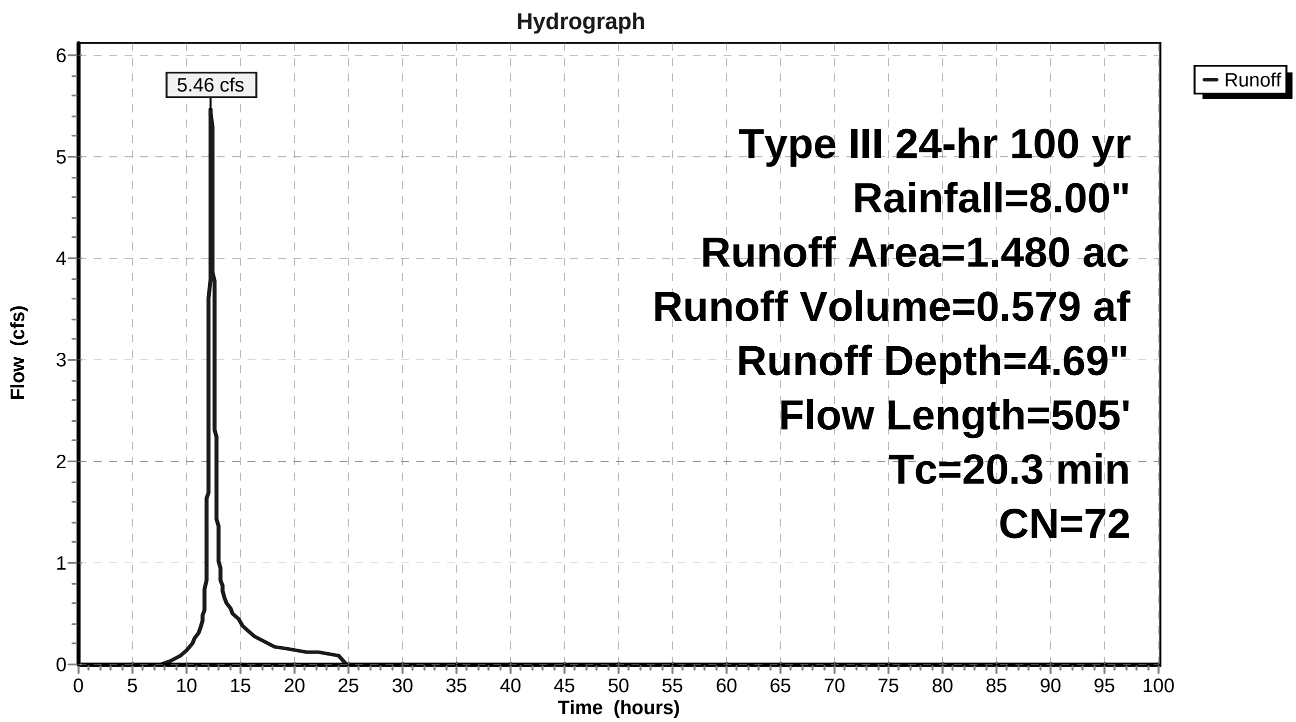
Runoff = 5.46 cfs @ 12.29 hrs, Volume= 0.579 af, Depth= 4.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.800	73	Woods, Fair, HSG C
0.680	70	Brush, Fair, HSG C
1.480	72	Weighted Average
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.8	100	0.0250	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.5	405	0.0790	4.53		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
20.3	505	Total			

Subcatchment 2c:



Summary for Subcatchment CB10A:

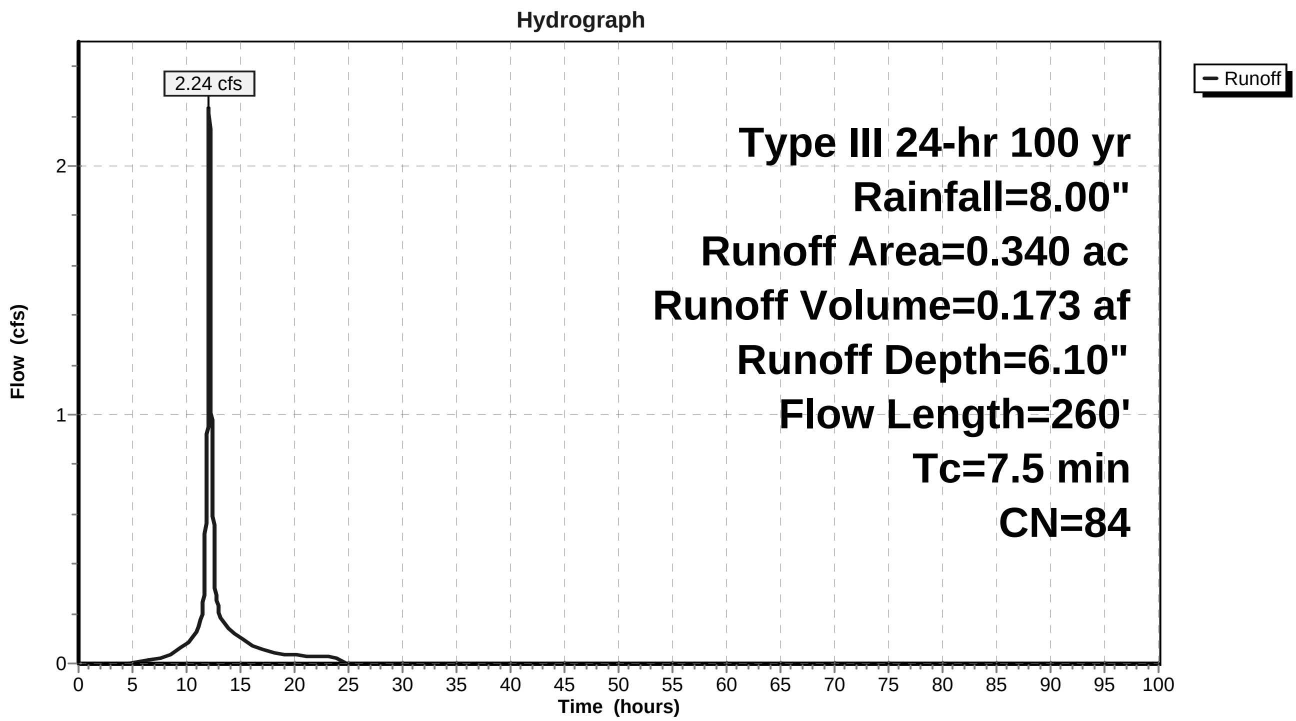
Runoff = 2.24 cfs @ 12.10 hrs, Volume= 0.173 af, Depth= 6.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.200	74	>75% Grass cover, Good, HSG C
0.340	84	Weighted Average
0.200		58.82% Pervious Area
0.140		41.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	60	0.0600	0.17		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.6	40	0.0200	1.20		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.1	160	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.5	260	Total			

Subcatchment CB10A:



Summary for Subcatchment CB10B:

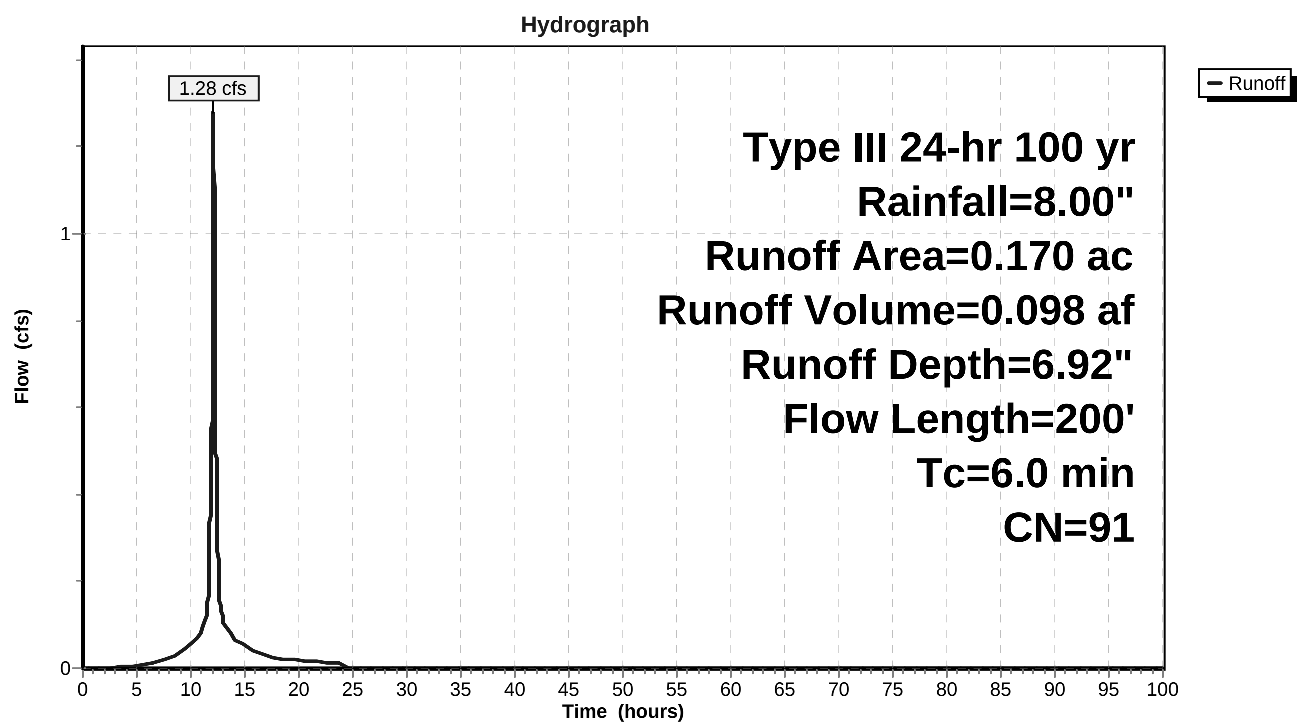
Runoff = 1.28 cfs @ 12.08 hrs, Volume= 0.098 af, Depth= 6.92"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.120	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.170	91	Weighted Average
0.050		29.41% Pervious Area
0.120		70.59% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	80	0.0100	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.8	100	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.4	200	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB10B:



Summary for Subcatchment CB11A:

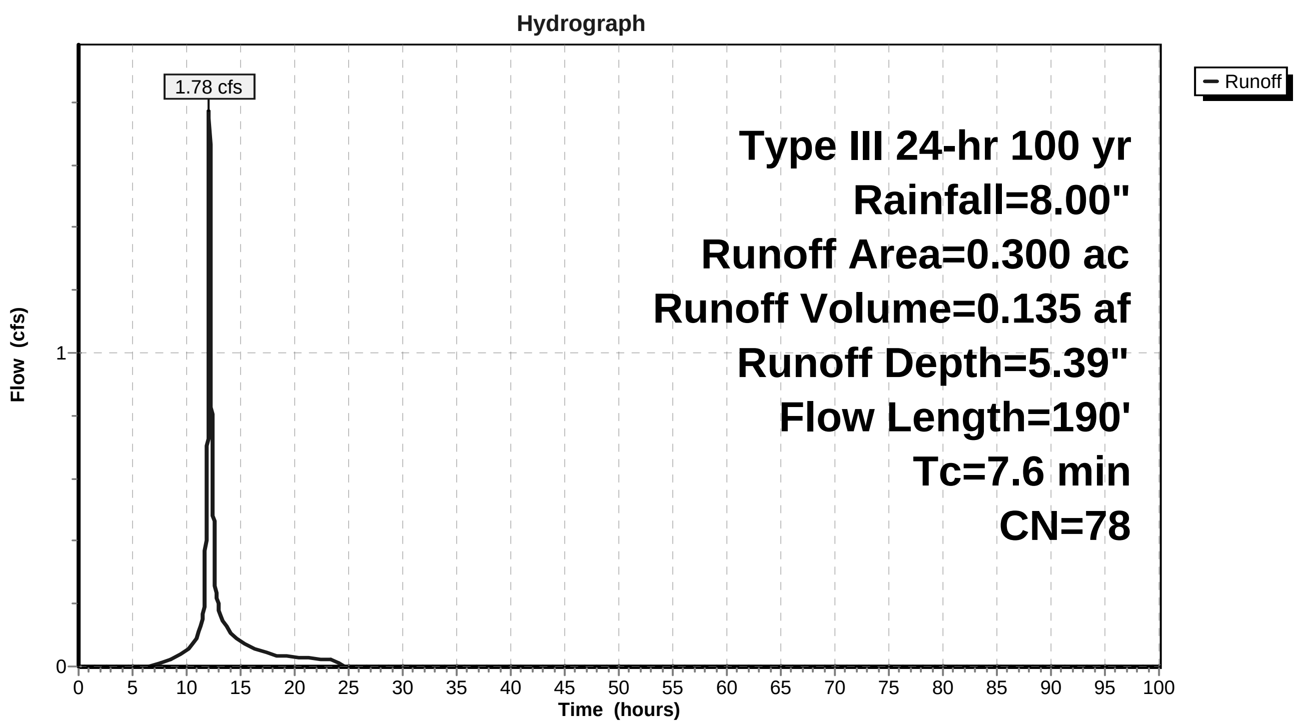
Runoff = 1.78 cfs @ 12.11 hrs, Volume= 0.135 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.300	78	Weighted Average
0.250		83.33% Pervious Area
0.050		16.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.0	15	0.2500	8.05		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	75	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
7.6	190	Total			

Subcatchment CB11A:



Summary for Subcatchment CB11B:

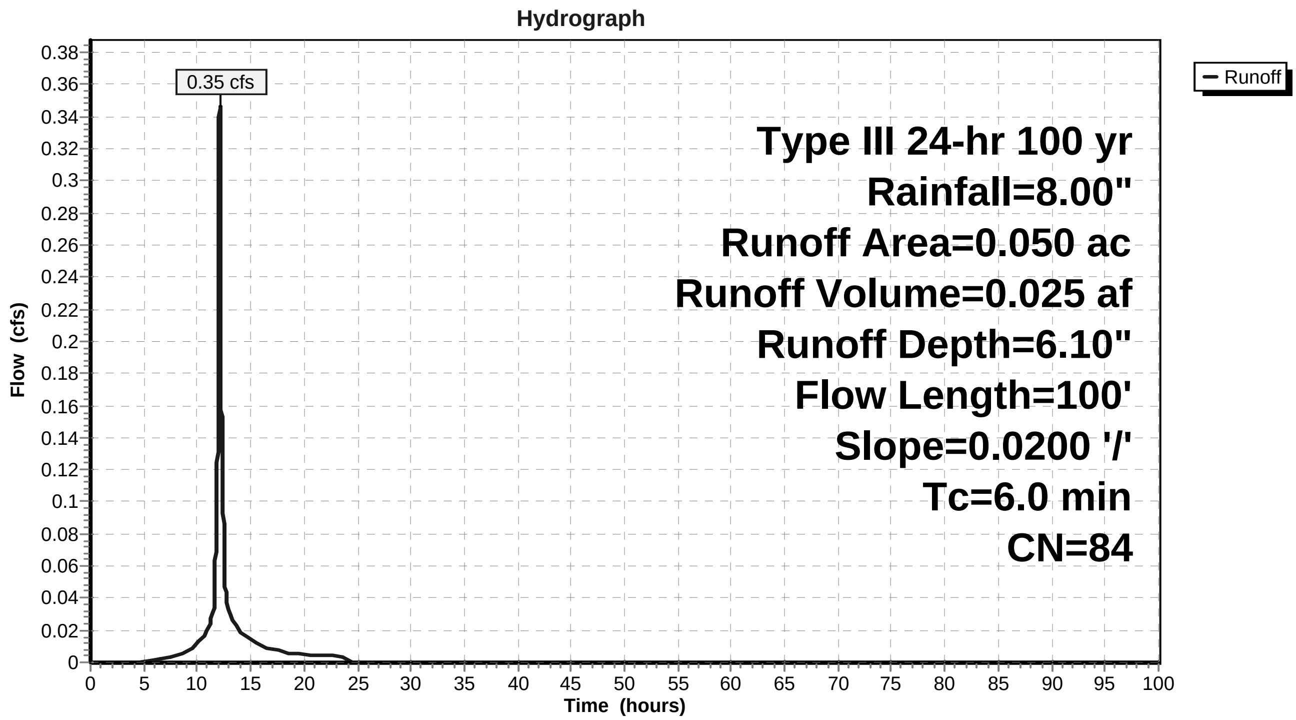
Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 6.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.030	74	>75% Grass cover, Good, HSG C
0.050	84	Weighted Average
0.030		60.00% Pervious Area
0.020		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.2	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB11B:



Summary for Subcatchment CB12A:

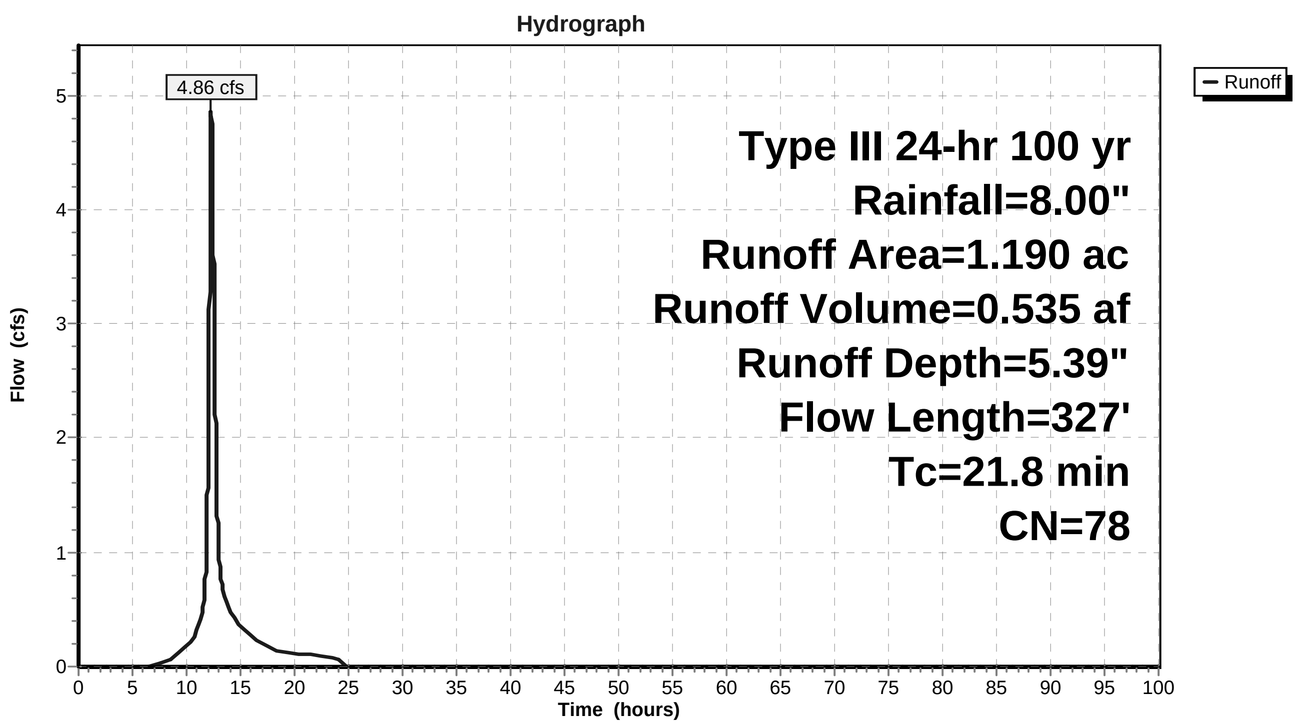
Runoff = 4.86 cfs @ 12.29 hrs, Volume= 0.535 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.590	74	>75% Grass cover, Good, HSG C
0.400	73	Woods, Fair, HSG C
1.190	78	Weighted Average
0.990		83.19% Pervious Area
0.200		16.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.4	70	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.2	30	0.0200	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	177	0.0350	3.80		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.8	327	Total			

Subcatchment CB12A:



Summary for Subcatchment CB12B:

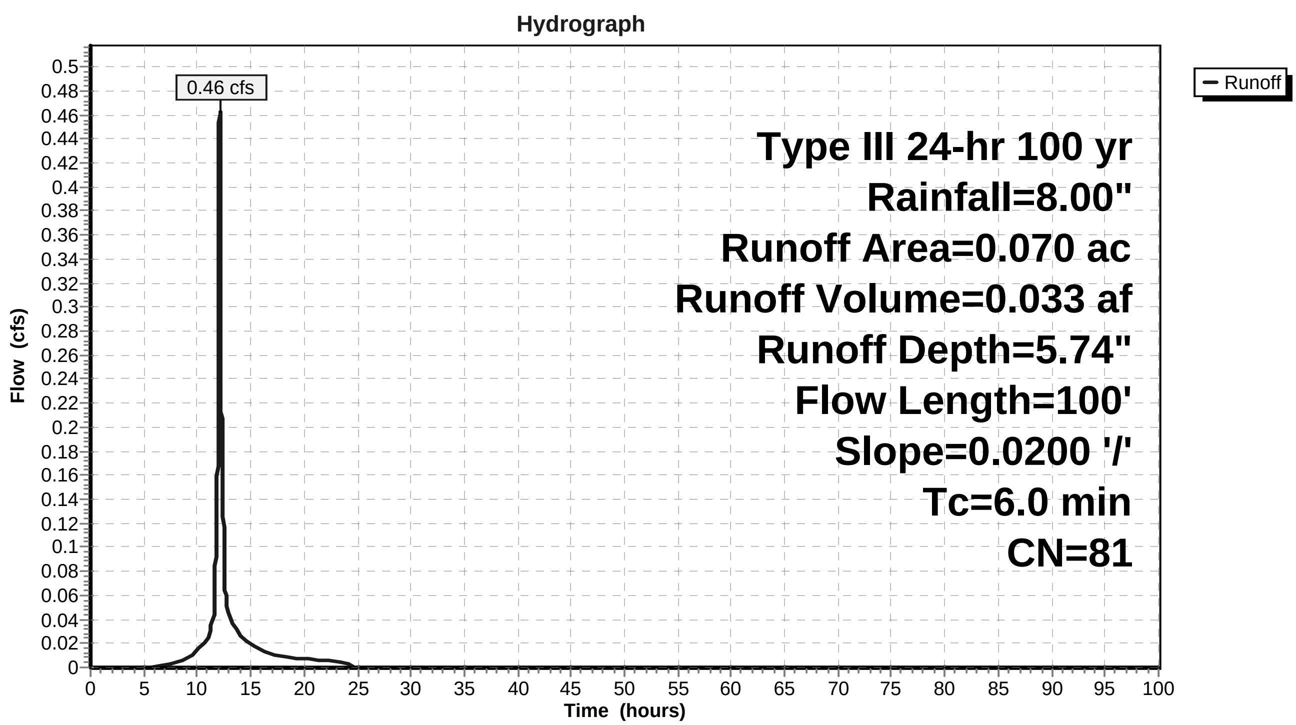
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.020	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.3	100	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB12B:



Summary for Subcatchment CB13A:

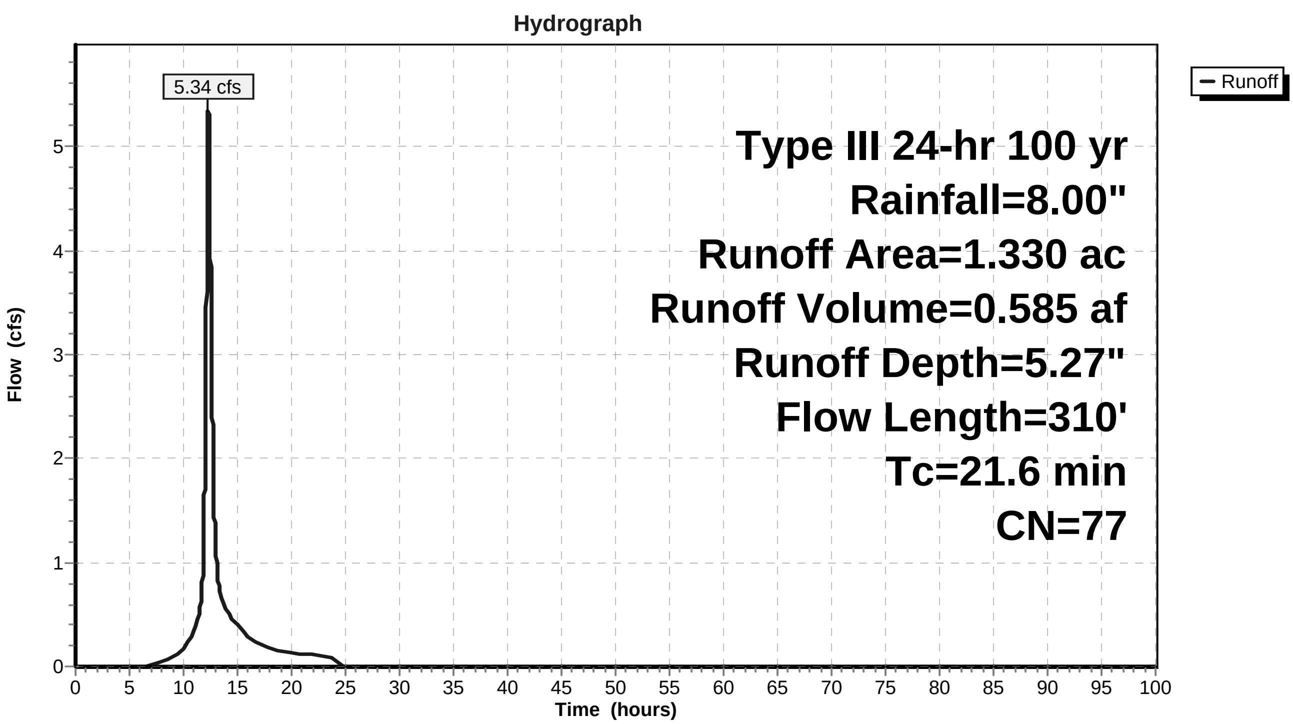
Runoff = 5.34 cfs @ 12.29 hrs, Volume= 0.585 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.200	98	Paved parking & roofs
0.500	73	Woods, Fair, HSG C
0.630	74	>75% Grass cover, Good, HSG C
1.330	77	Weighted Average
1.130		84.96% Pervious Area
0.200		15.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.5	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.4	90	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	120	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
21.6	310	Total			

Subcatchment CB13A:



Summary for Subcatchment CB13B:

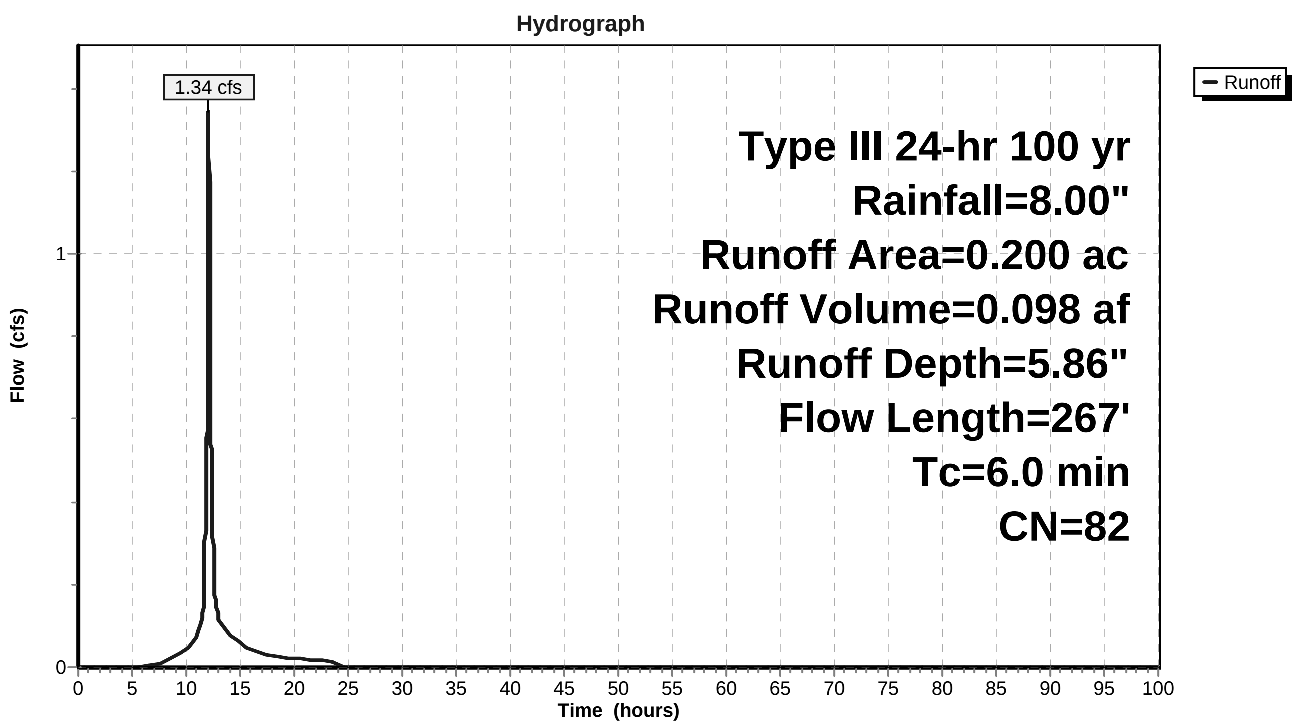
Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.098 af, Depth= 5.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.200	82	Weighted Average
0.130		65.00% Pervious Area
0.070		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
2.0	247	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.3	267	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB13B:



Summary for Subcatchment CB14A:

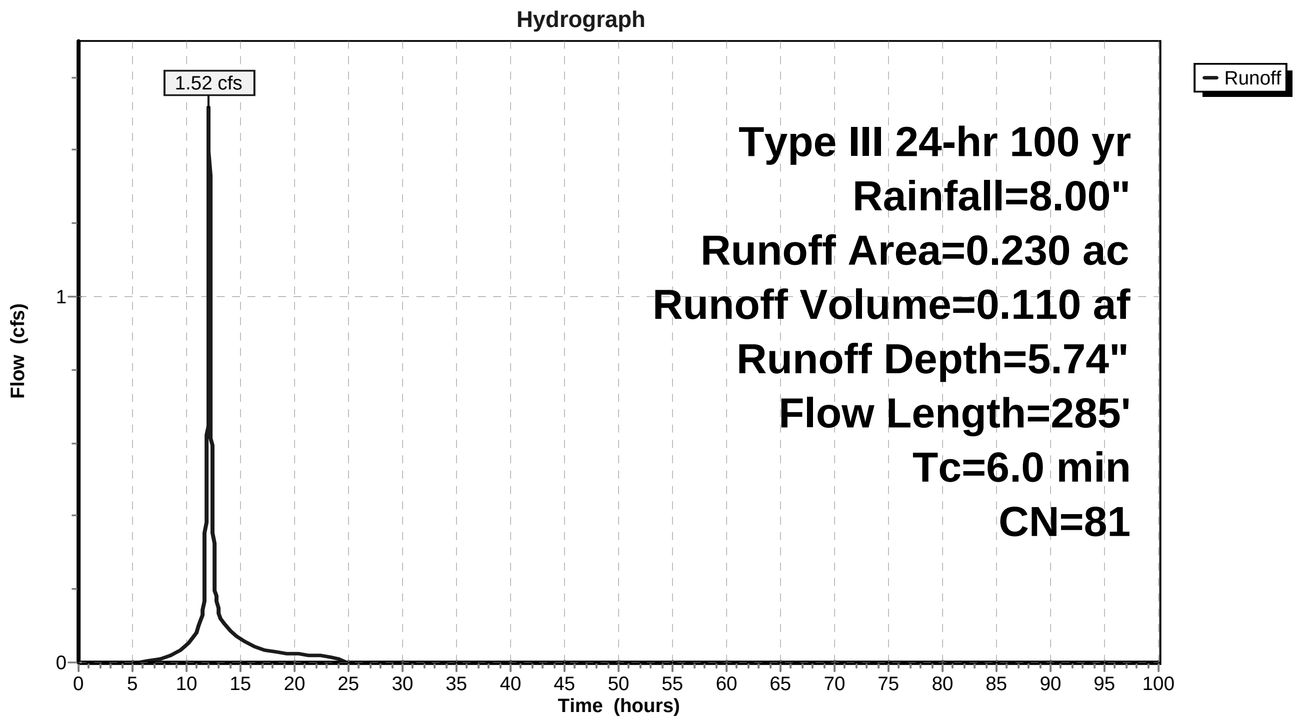
Runoff = 1.52 cfs @ 12.09 hrs, Volume= 0.110 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.160	74	>75% Grass cover, Good, HSG C
0.230	81	Weighted Average
0.160		69.57% Pervious Area
0.070		30.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14A:



Summary for Subcatchment CB14B:

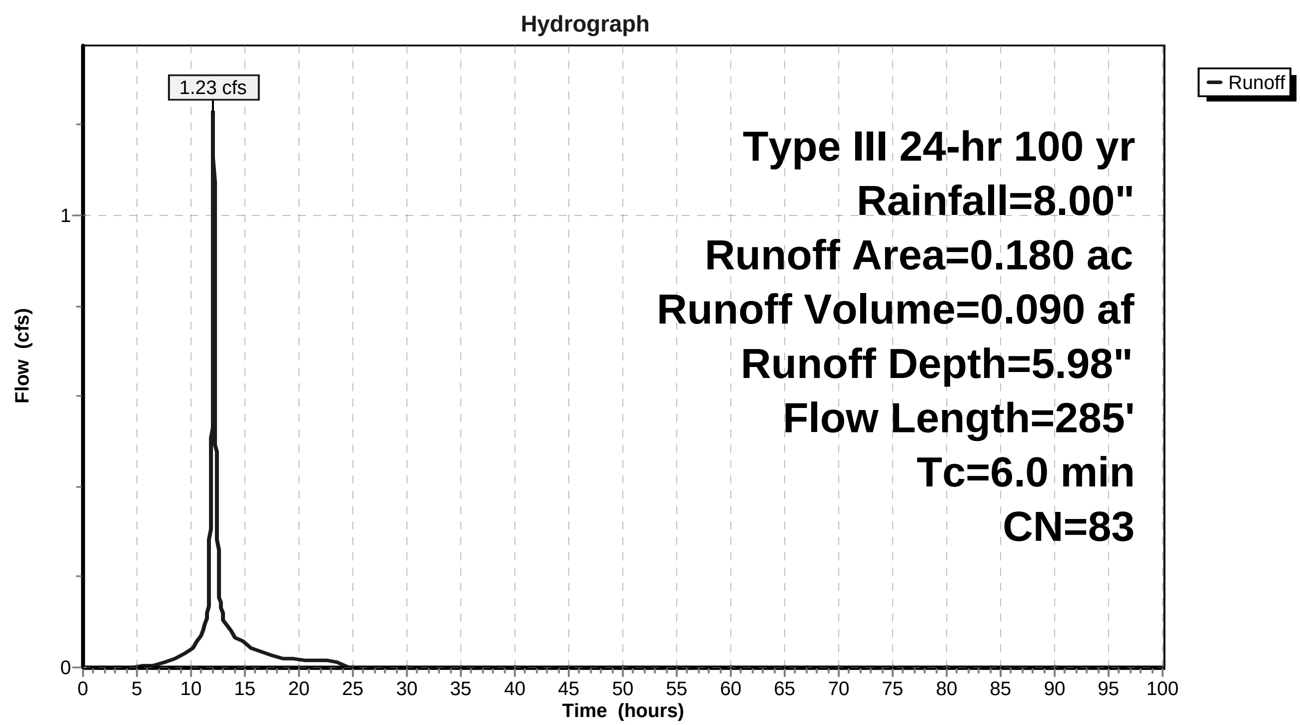
Runoff = 1.23 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 5.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.110	74	>75% Grass cover, Good, HSG C
0.180	83	Weighted Average
0.110		61.11% Pervious Area
0.070		38.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	100	0.0200	1.44		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	185	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
2.2	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB14B:



Summary for Subcatchment CB15A:

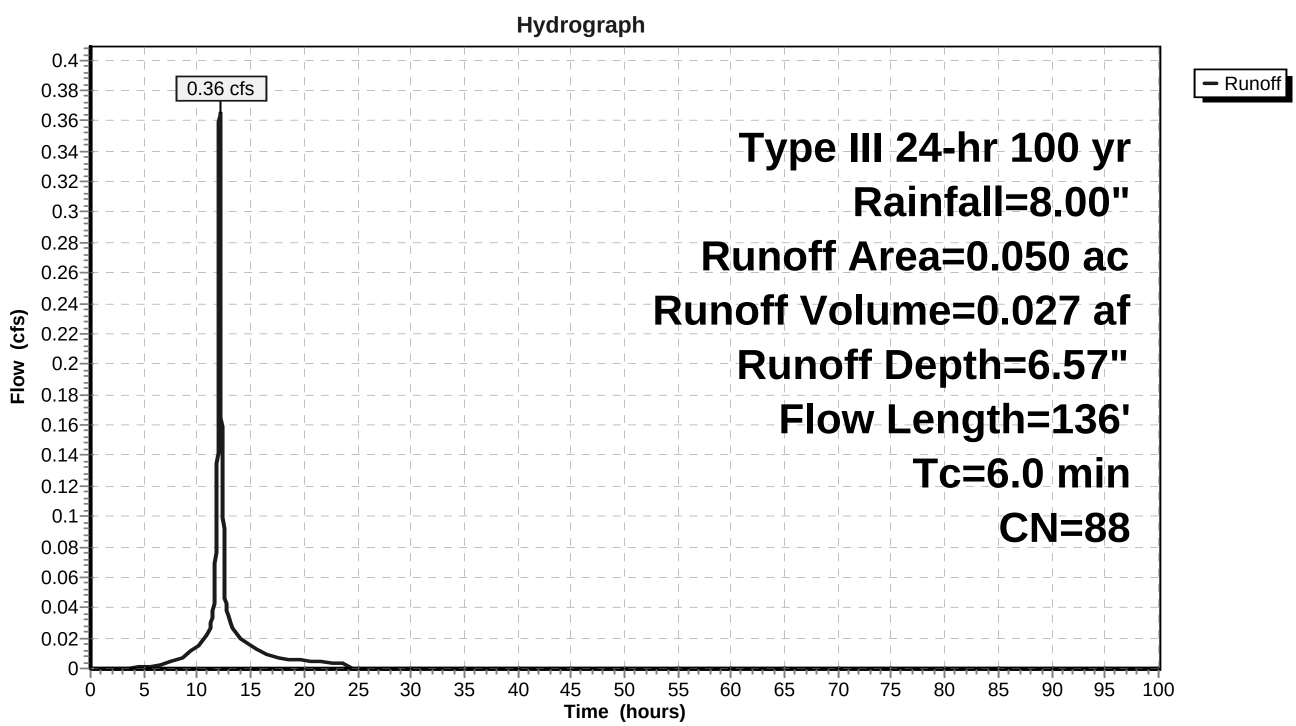
Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.027 af, Depth= 6.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15A:



Summary for Subcatchment CB15B:

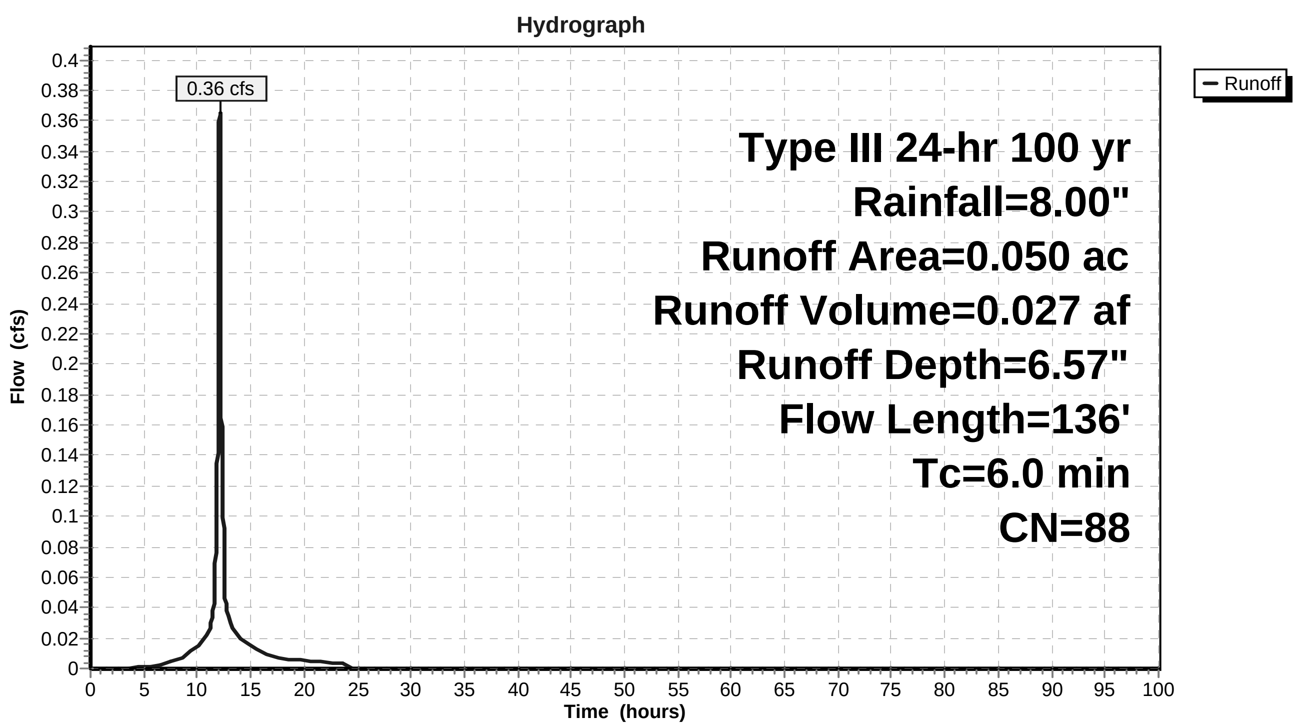
Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.027 af, Depth= 6.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.030	98	Paved parking & roofs
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	36	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	136	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB15B:



Summary for Subcatchment CB16A:

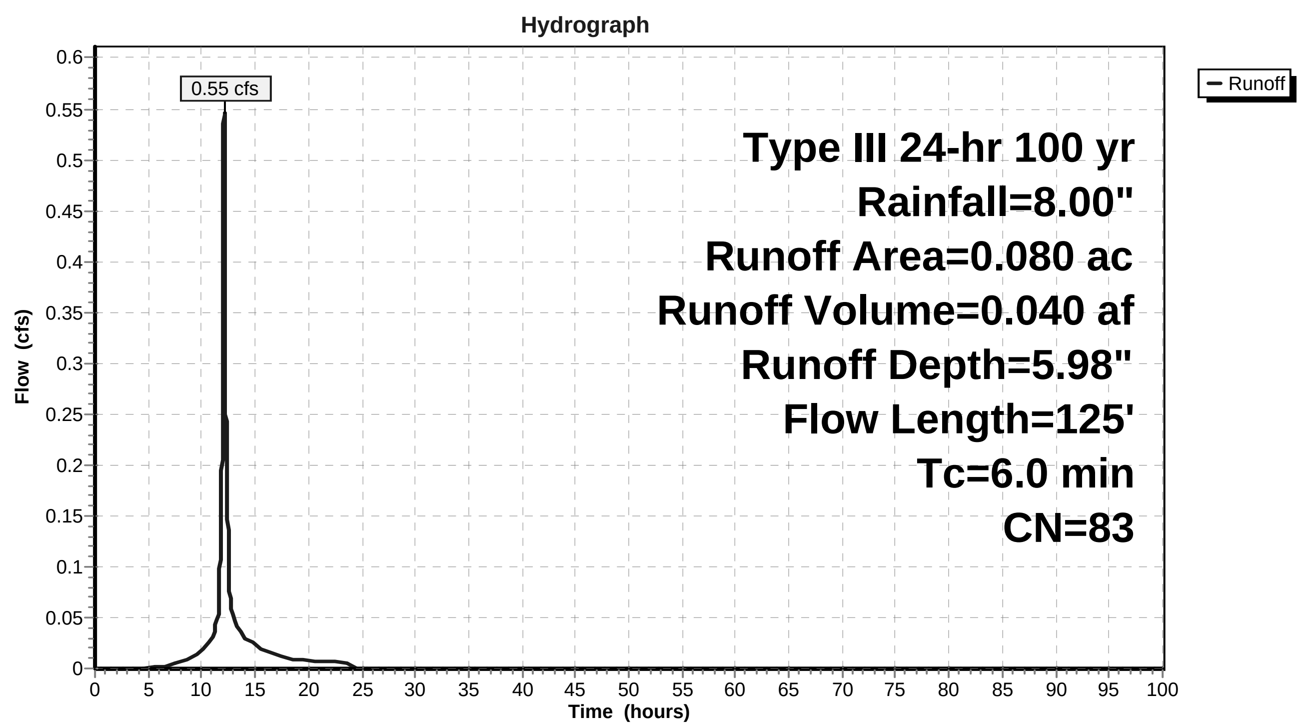
Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 5.98"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.080	83	Weighted Average
0.050		62.50% Pervious Area
0.030		37.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16A:



Summary for Subcatchment CB16B:

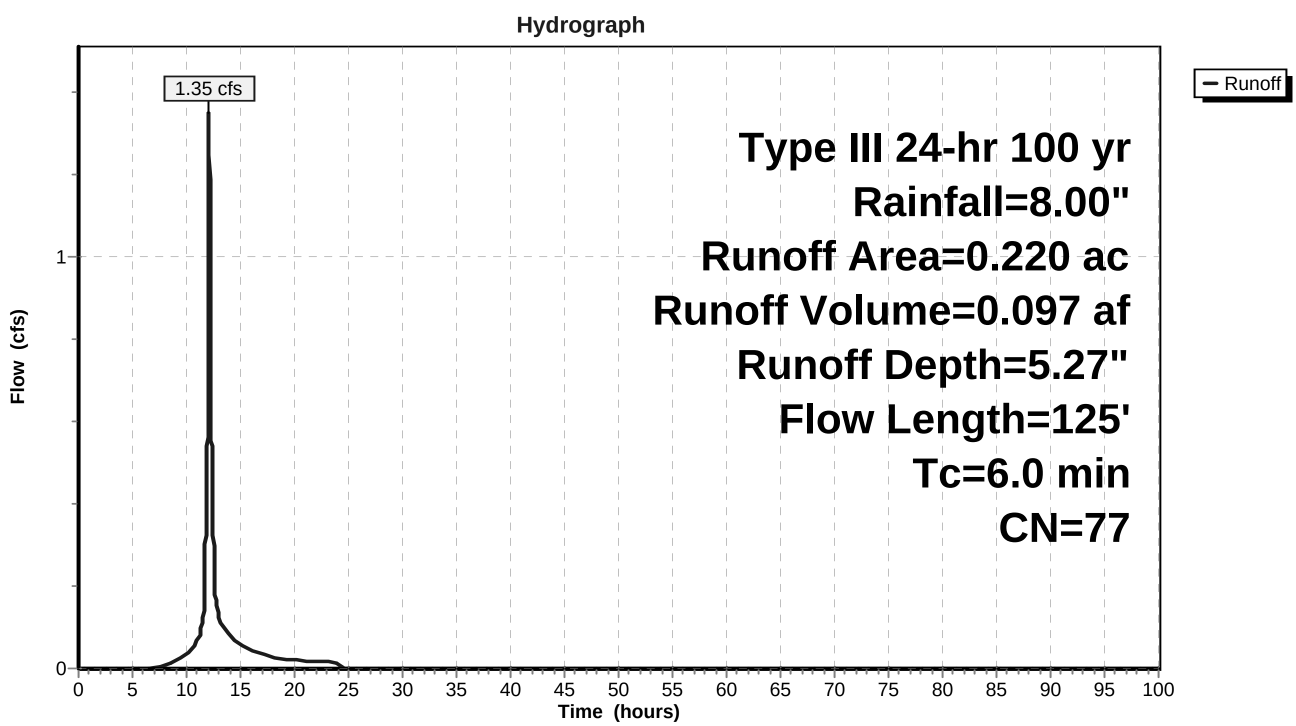
Runoff = 1.35 cfs @ 12.09 hrs, Volume= 0.097 af, Depth= 5.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.190	74	>75% Grass cover, Good, HSG C
0.220	77	Weighted Average
0.190		86.36% Pervious Area
0.030		13.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB16B:



Summary for Subcatchment CB17A:

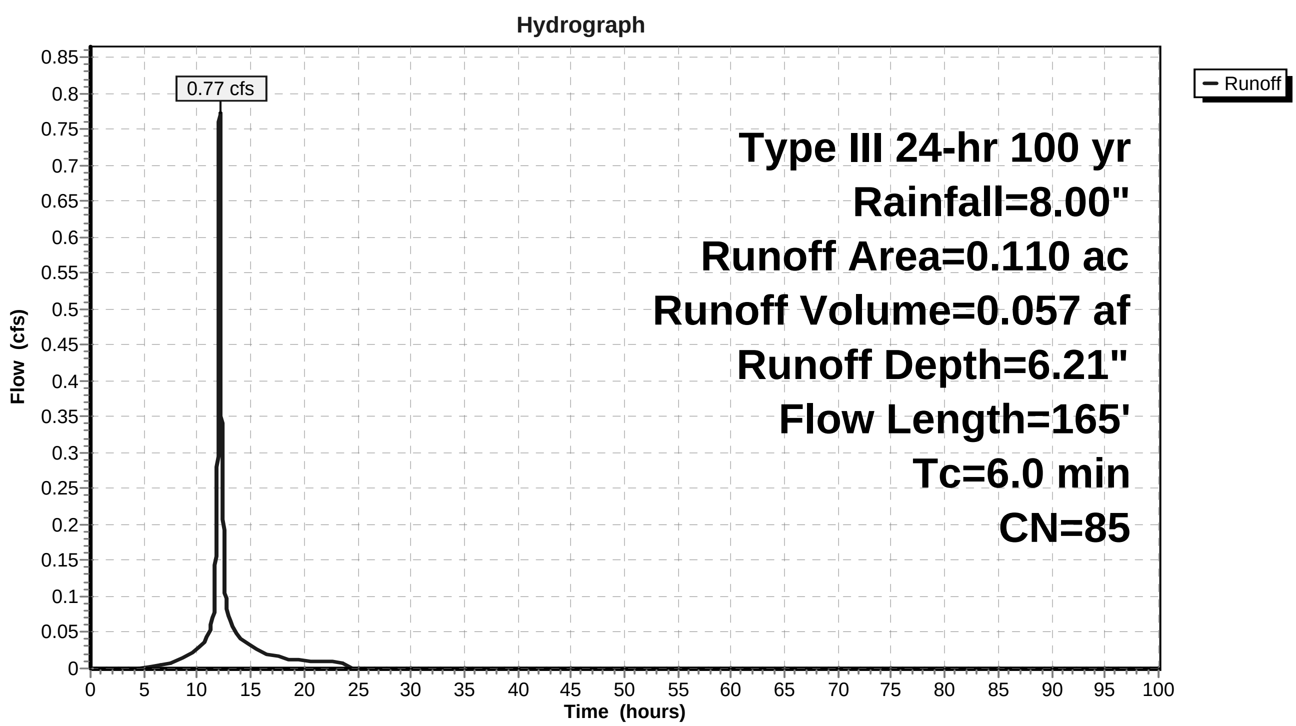
Runoff = 0.77 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 6.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.110	85	Weighted Average
0.060		54.55% Pervious Area
0.050		45.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17A:



Summary for Subcatchment CB17B:

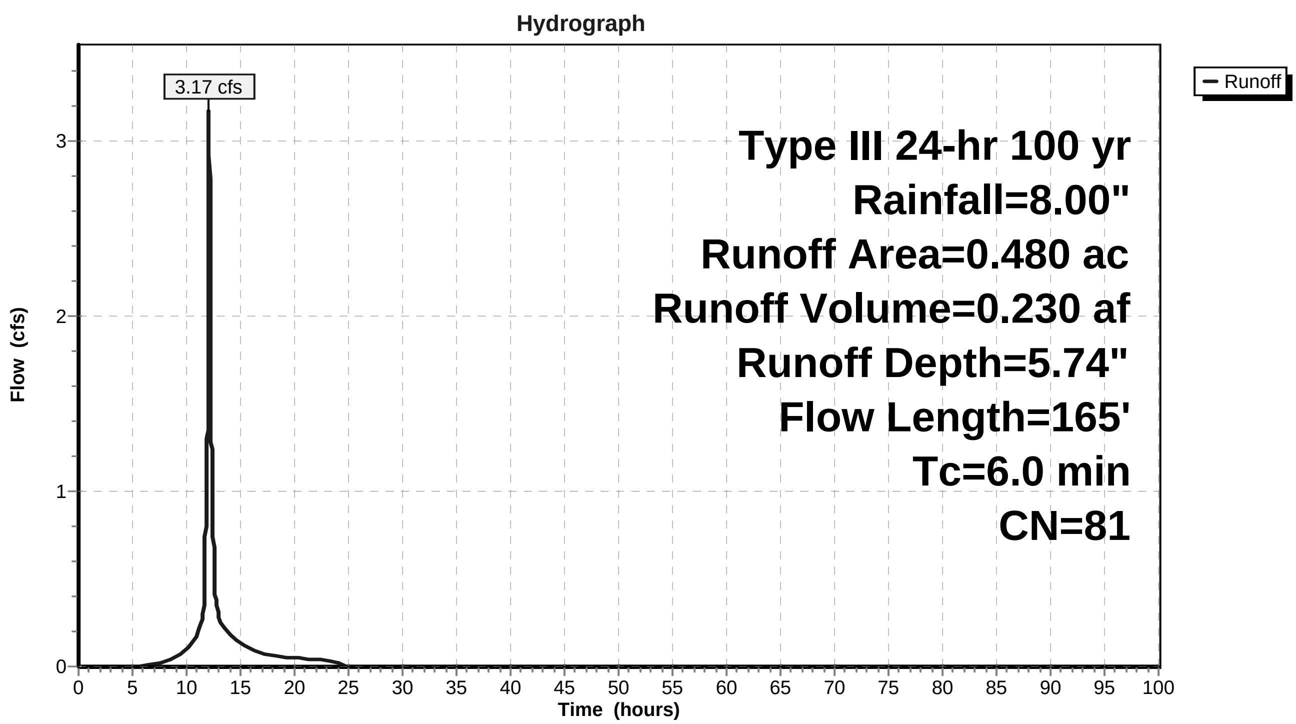
Runoff = 3.17 cfs @ 12.09 hrs, Volume= 0.230 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
0.100	73	Woods, Fair, HSG C
0.240	74	>75% Grass cover, Good, HSG C
0.480	81	Weighted Average
0.340		70.83% Pervious Area
0.140		29.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	65	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	165	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB17B:



Summary for Subcatchment CB18A:

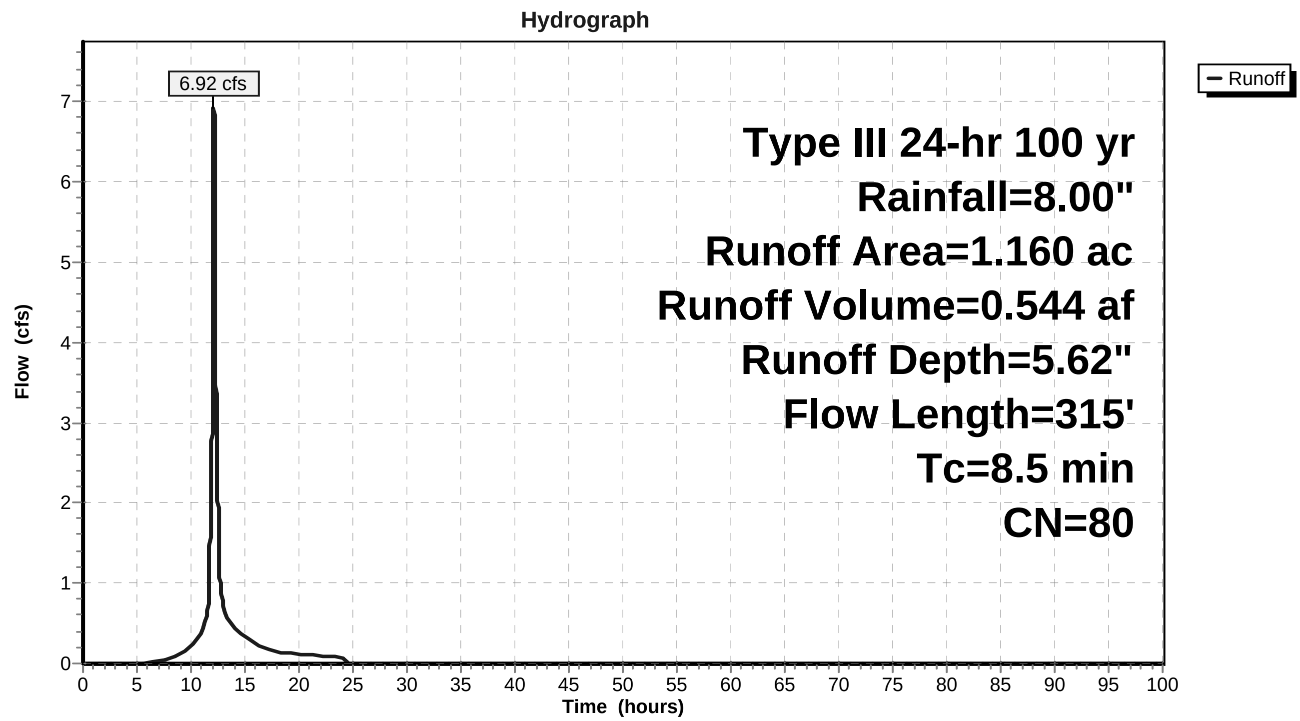
Runoff = 6.92 cfs @ 12.12 hrs, Volume= 0.544 af, Depth= 5.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.310	98	Paved parking & roofs
0.850	74	>75% Grass cover, Good, HSG C
1.160	80	Weighted Average
0.850		73.28% Pervious Area
0.310		26.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	100	0.1000	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	130	0.0400	3.22		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	85	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.5	315	Total			

Subcatchment CB18A:



Summary for Subcatchment CB18B:

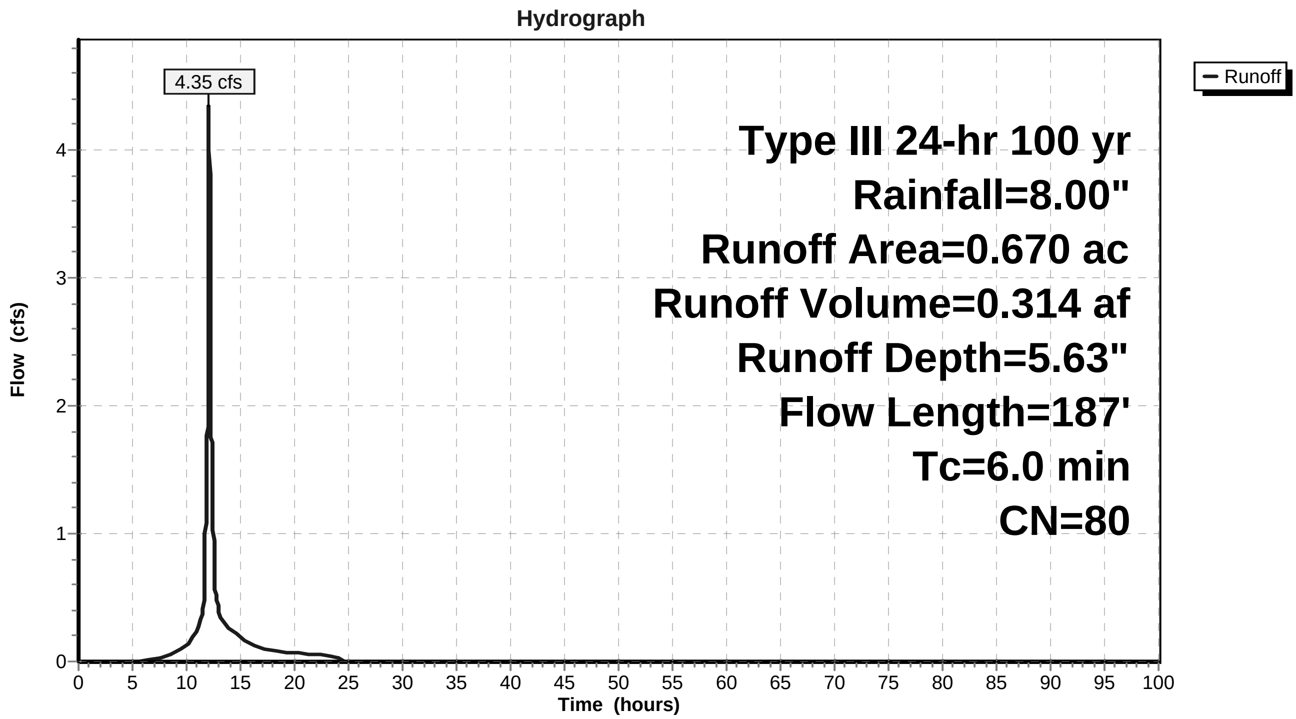
Runoff = 4.35 cfs @ 12.09 hrs, Volume= 0.314 af, Depth= 5.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.170	98	Paved parking & roofs
0.050	73	Woods, Fair, HSG C
0.450	74	>75% Grass cover, Good, HSG C
0.670	80	Weighted Average
0.500		74.63% Pervious Area
0.170		25.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.9	80	0.0250	1.50		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	87	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	187	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB18B:



Summary for Subcatchment CB1A:

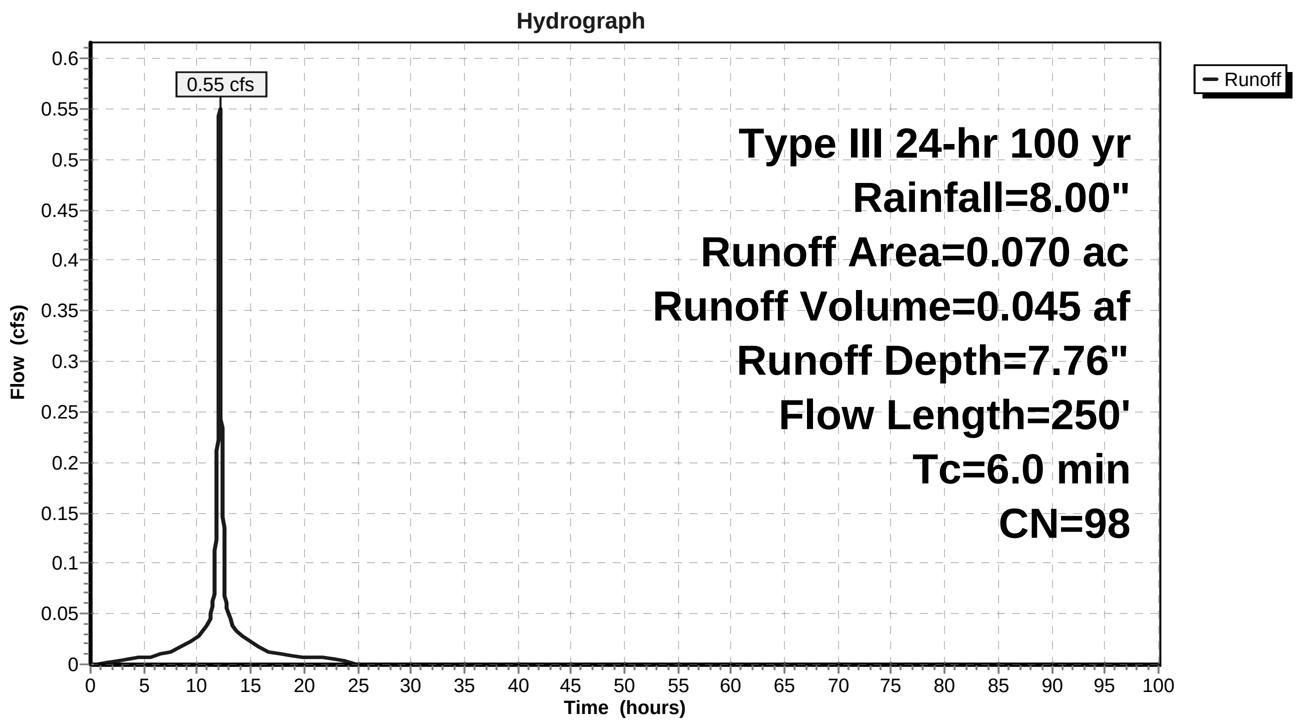
Runoff = 0.55 cfs @ 12.08 hrs, Volume= 0.045 af, Depth= 7.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1A:



Summary for Subcatchment CB1B:

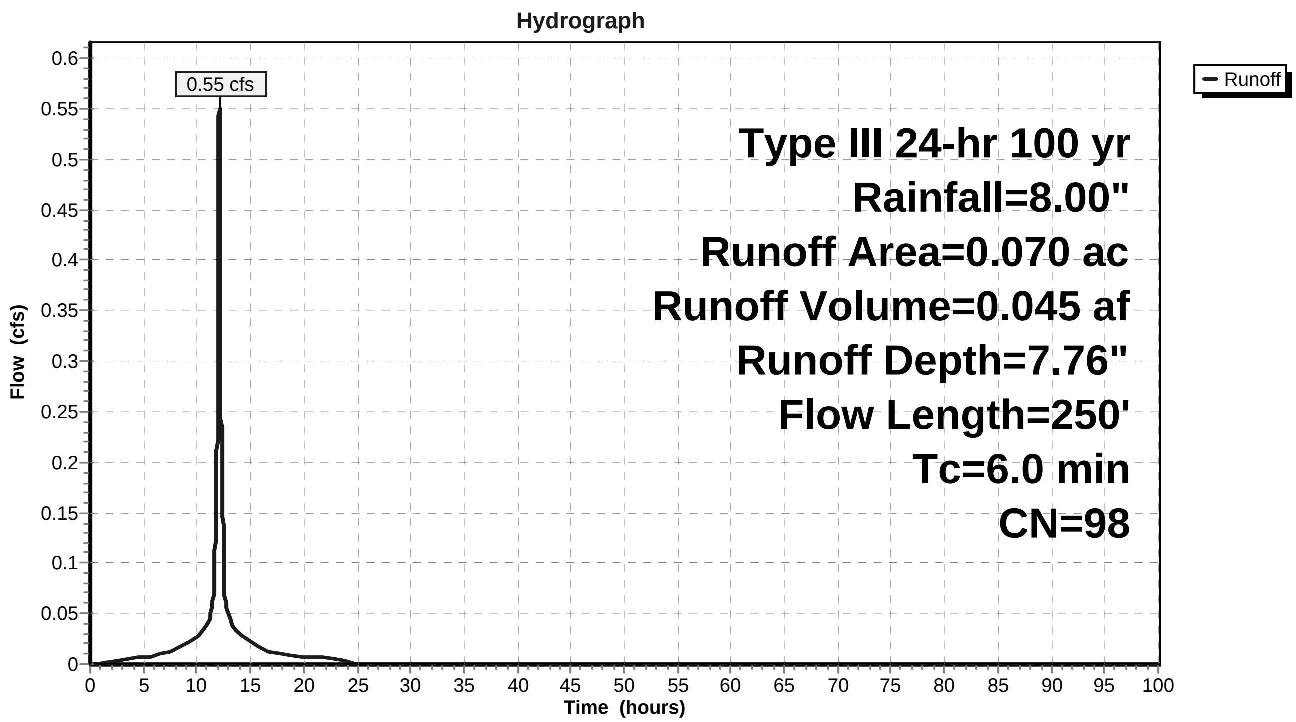
Runoff = 0.55 cfs @ 12.08 hrs, Volume= 0.045 af, Depth= 7.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.070	98	Paved parking & roofs
0.070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.5	230	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.8	250	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB1B:



Summary for Subcatchment CB1C:

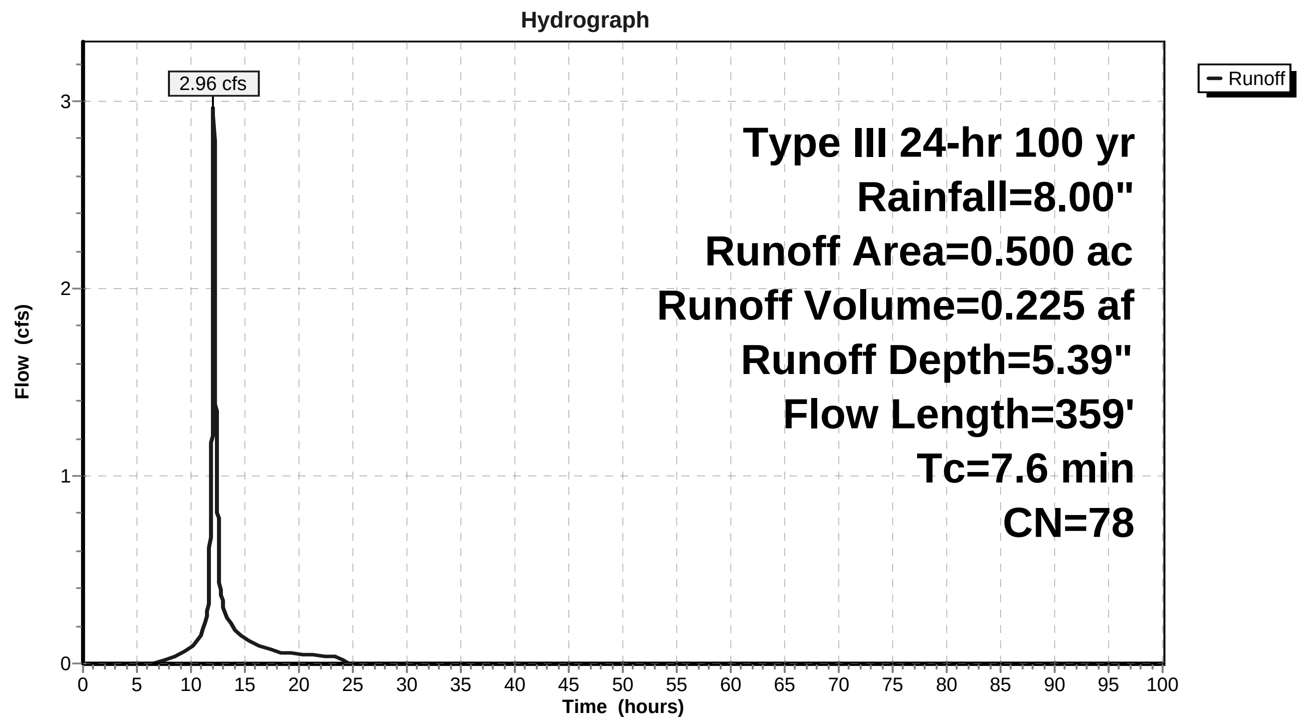
Runoff = 2.96 cfs @ 12.11 hrs, Volume= 0.225 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.020	89	Gravel roads, HSG C
0.080	98	Paved parking & roofs
0.300	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.500	78	Weighted Average
0.420		84.00% Pervious Area
0.080		16.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	100	0.2600	0.34		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.7	259	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	359	Total			

Subcatchment CB1C:



Summary for Subcatchment CB2A:

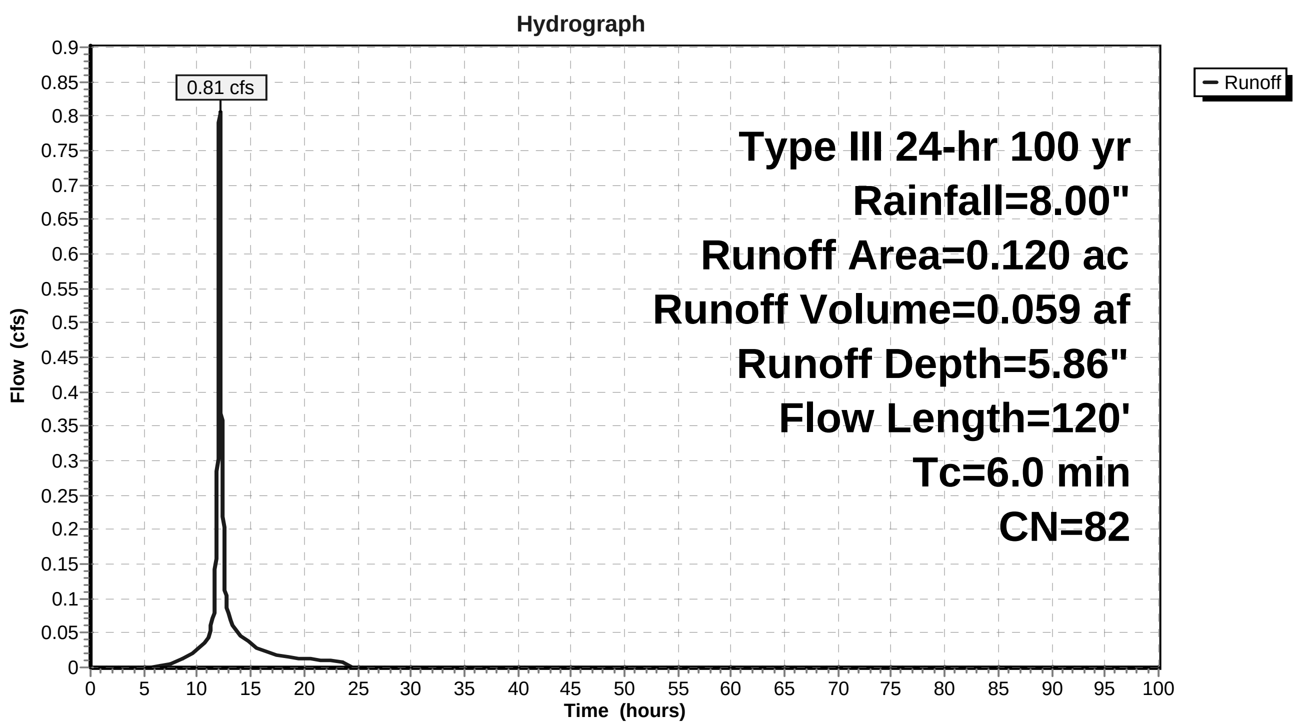
Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af, Depth= 5.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.080	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.120	82	Weighted Average
0.080		66.67% Pervious Area
0.040		33.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2A:



Summary for Subcatchment CB2B:

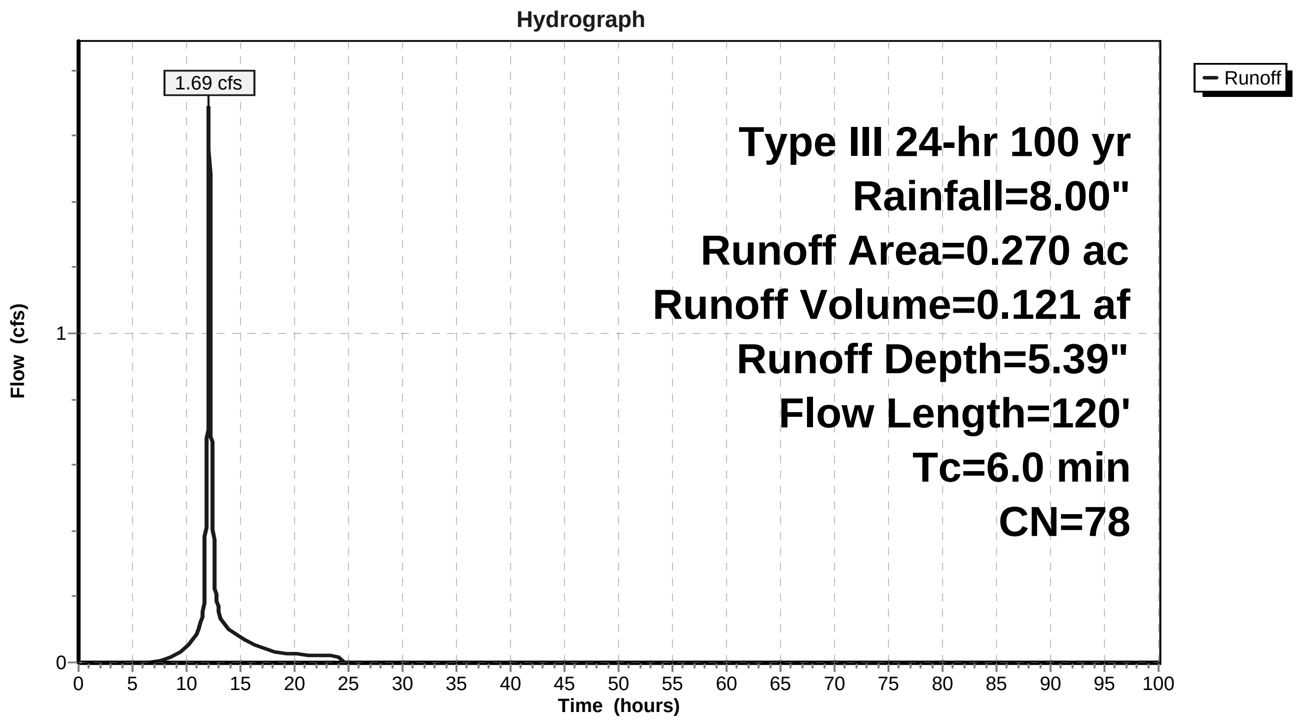
Runoff = 1.69 cfs @ 12.09 hrs, Volume= 0.121 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.270	78	Weighted Average
0.230		85.19% Pervious Area
0.040		14.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB2B:



Summary for Subcatchment CB3A:

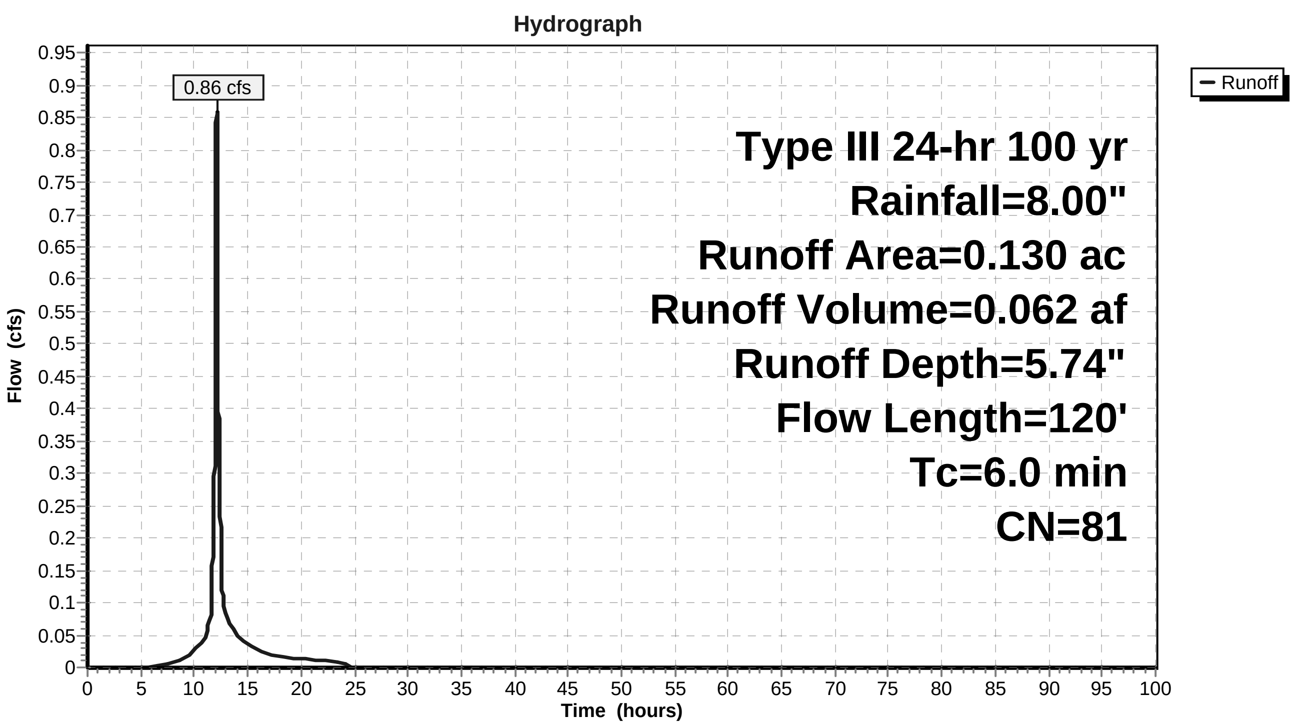
Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.062 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.090	74	>75% Grass cover, Good, HSG C
0.130	81	Weighted Average
0.090		69.23% Pervious Area
0.040		30.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	100	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3A:



Summary for Subcatchment CB3B:

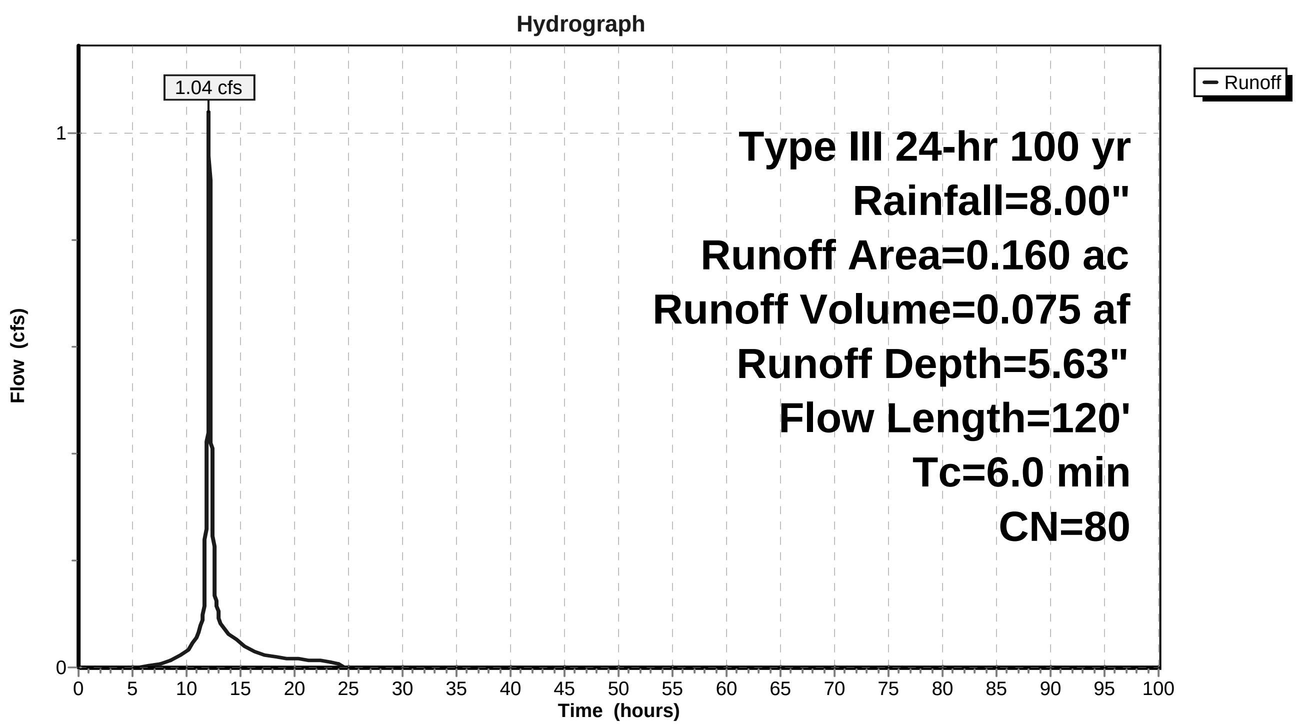
Runoff = 1.04 cfs @ 12.09 hrs, Volume= 0.075 af, Depth= 5.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.120	74	>75% Grass cover, Good, HSG C
0.040	98	Paved parking & roofs
0.160	80	Weighted Average
0.120		75.00% Pervious Area
0.040		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	100	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB3B:



Summary for Subcatchment CB4A:

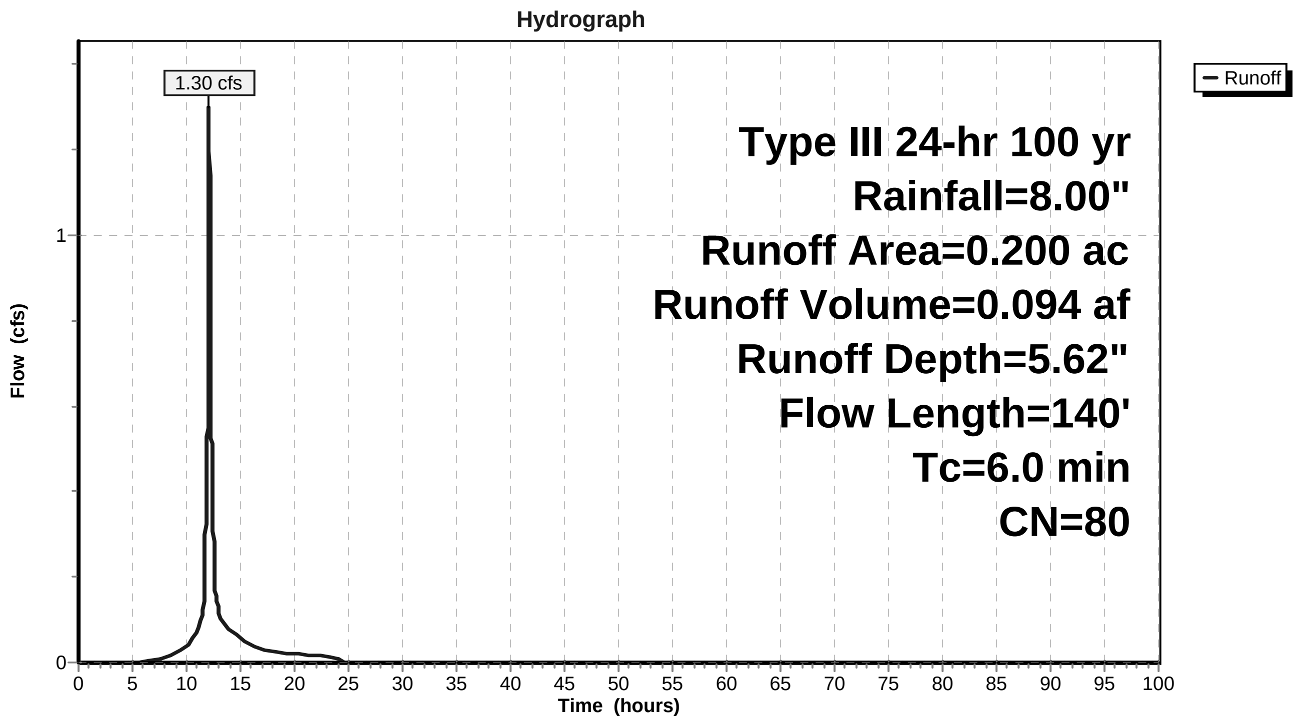
Runoff = 1.30 cfs @ 12.09 hrs, Volume= 0.094 af, Depth= 5.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.150	74	>75% Grass cover, Good, HSG C
0.200	80	Weighted Average
0.150		75.00% Pervious Area
0.050		25.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4A:



Summary for Subcatchment CB4B:

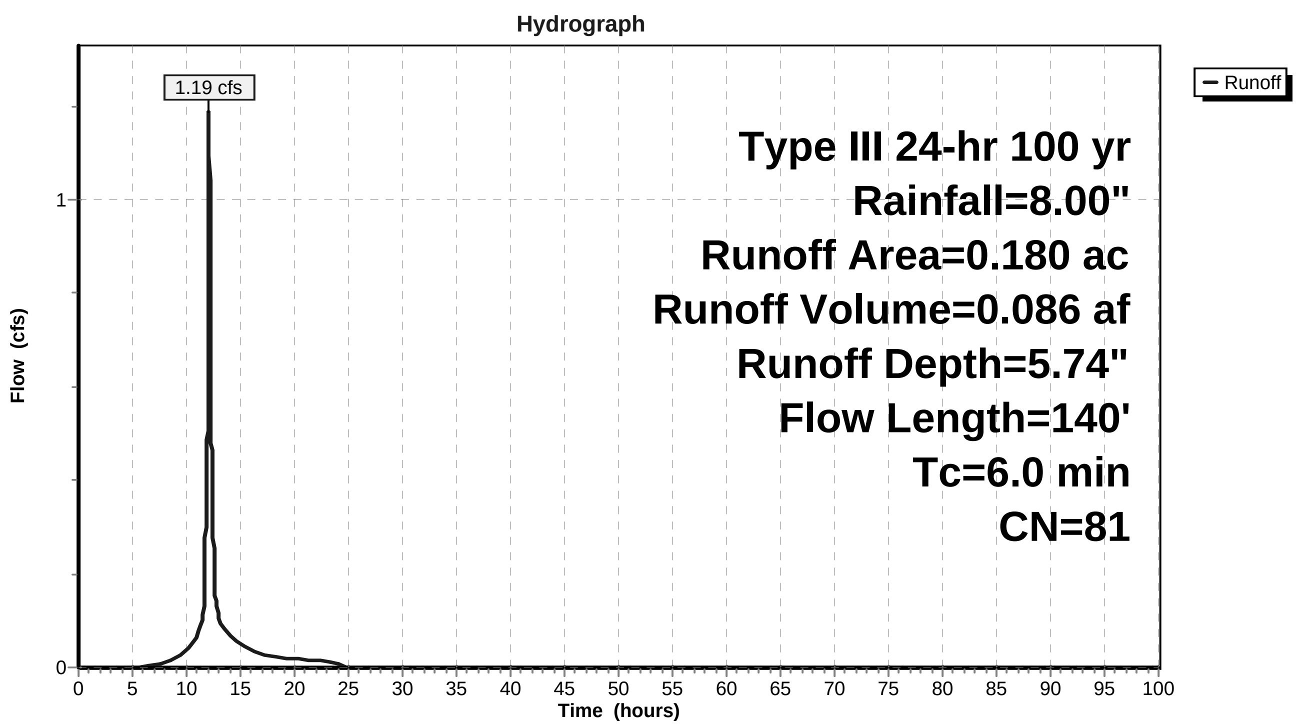
Runoff = 1.19 cfs @ 12.09 hrs, Volume= 0.086 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.180	81	Weighted Average
0.130		72.22% Pervious Area
0.050		27.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	120	0.1200	7.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.6	140	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB4B:



Summary for Subcatchment CB5A:

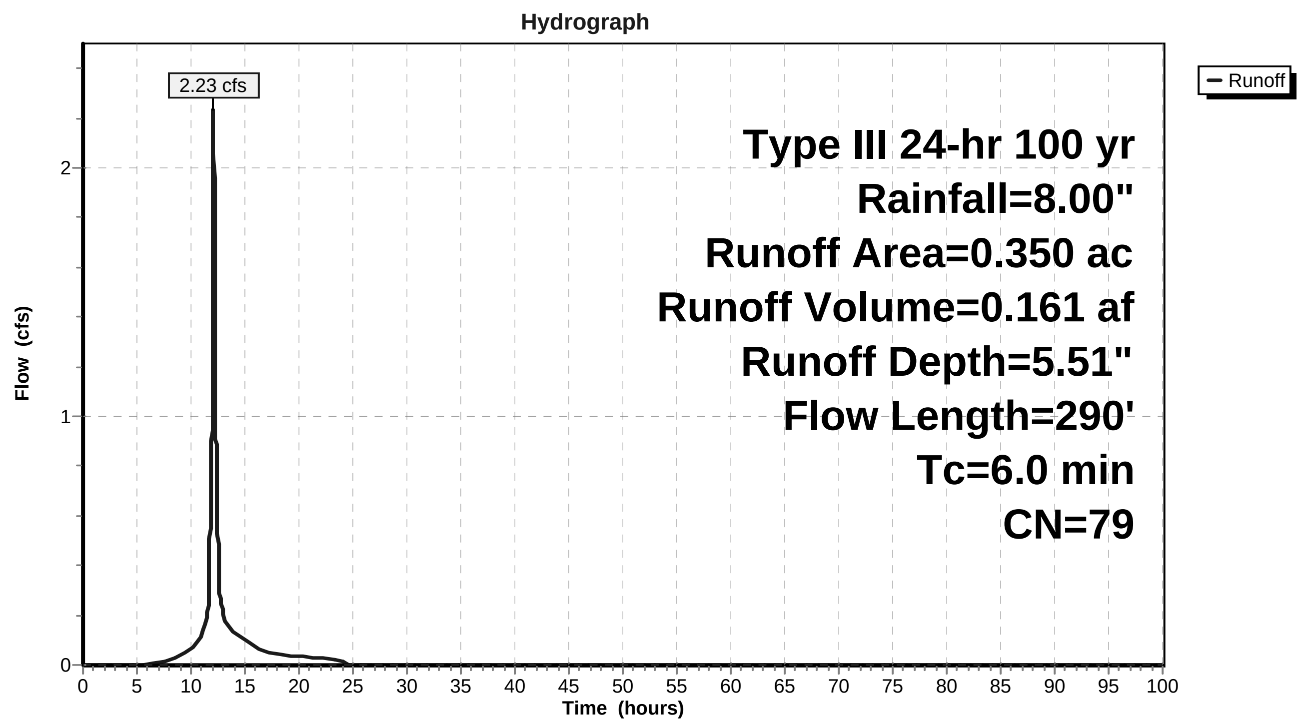
Runoff = 2.23 cfs @ 12.09 hrs, Volume= 0.161 af, Depth= 5.51"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.080	98	Paved parking & roofs
0.130	74	>75% Grass cover, Good, HSG C
0.140	73	Woods, Fair, HSG C
0.350	79	Weighted Average
0.270		77.14% Pervious Area
0.080		22.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	270	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	290	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5A:



Summary for Subcatchment CB5B:

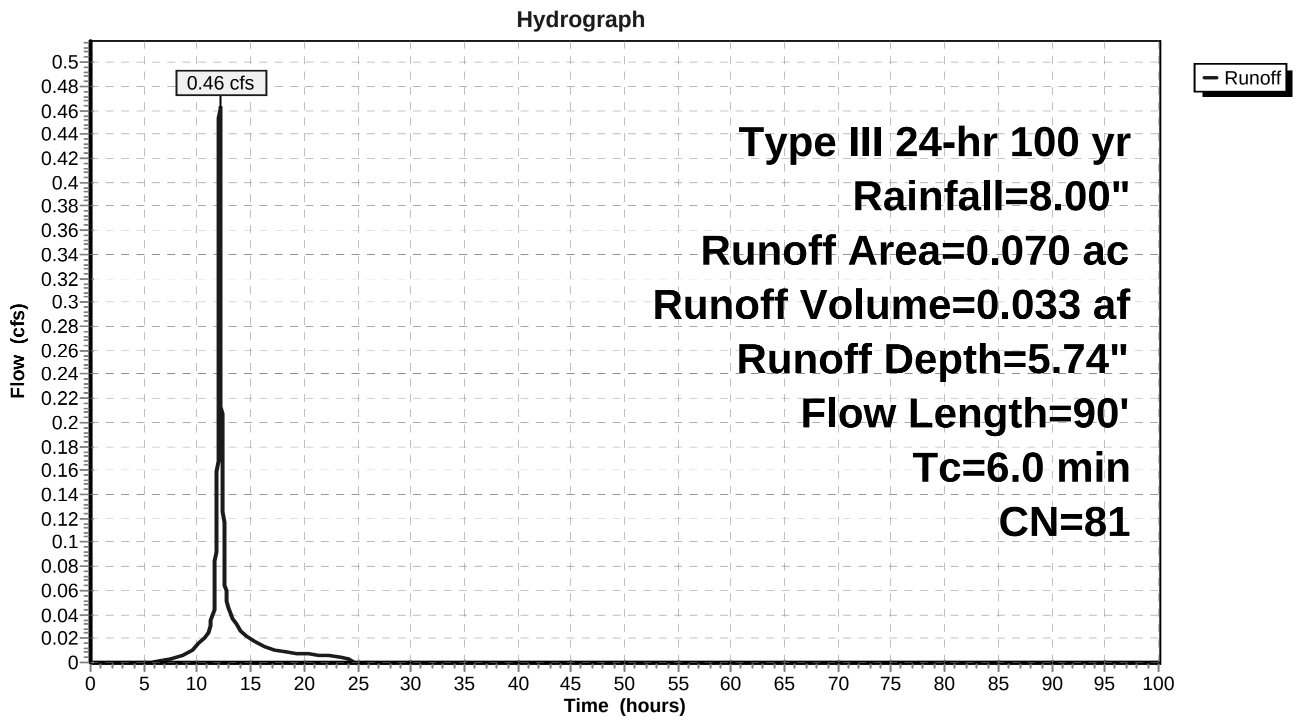
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.050	74	>75% Grass cover, Good, HSG C
0.020	98	Paved parking & roofs
0.070	81	Weighted Average
0.050		71.43% Pervious Area
0.020		28.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	70	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	90	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB5B:



Summary for Subcatchment CB6A:

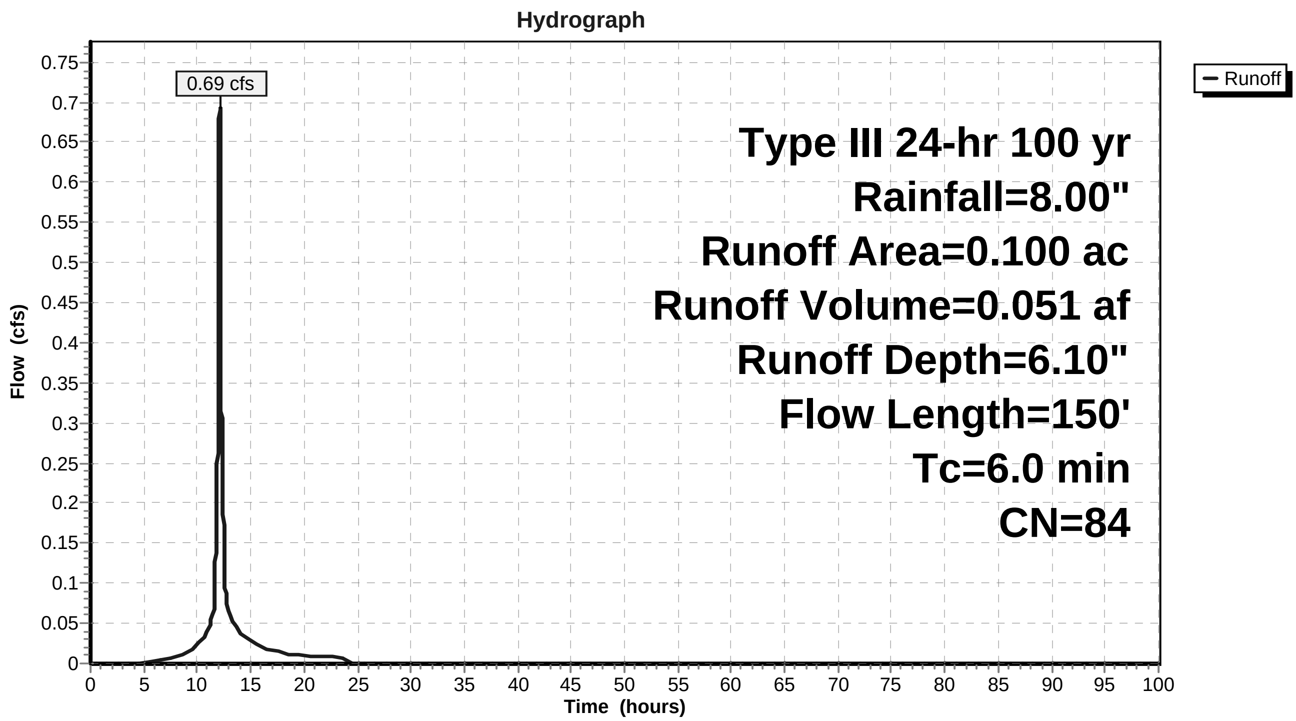
Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.051 af, Depth= 6.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.7	80	0.0500	1.98		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.2	50	0.0500	4.54		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.2	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6A:



Summary for Subcatchment CB6B:

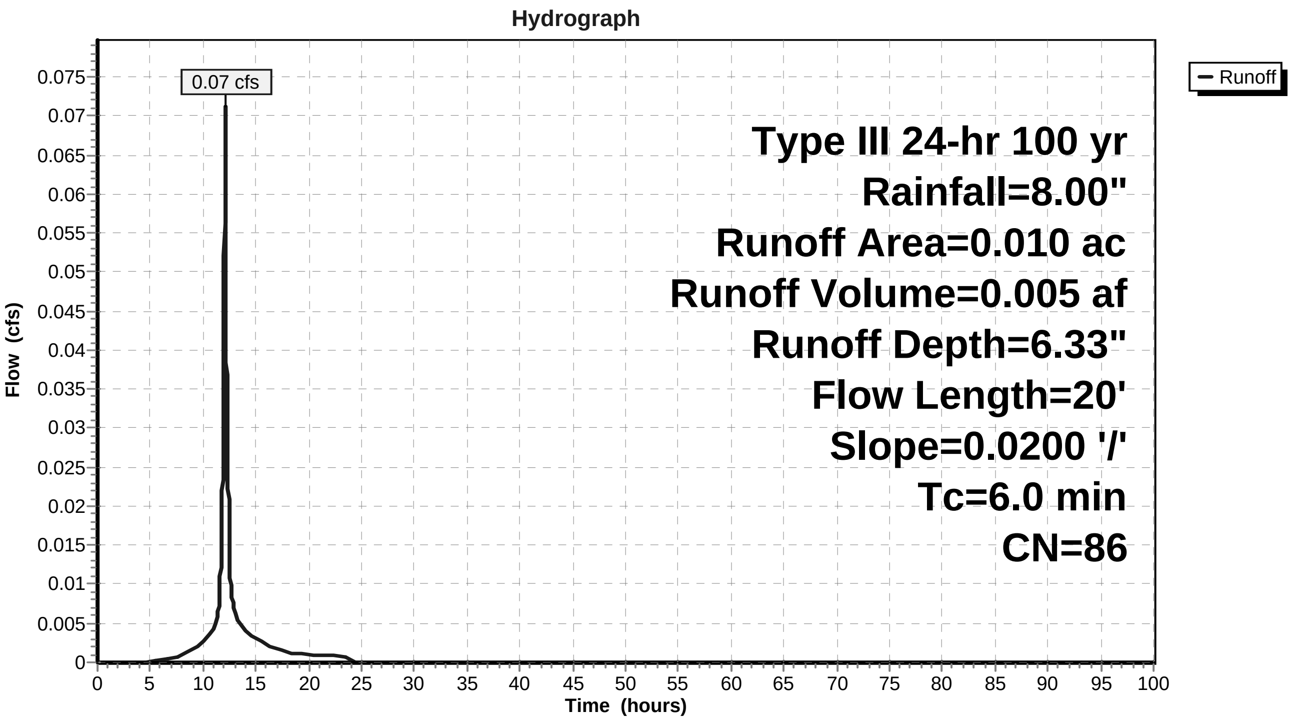
Runoff = 0.07 cfs @ 12.08 hrs, Volume= 0.005 af, Depth= 6.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.005	74	>75% Grass cover, Good, HSG C
0.005	98	Paved parking & roofs
0.010	86	Weighted Average
0.005		50.00% Pervious Area
0.005		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.3	20	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB6B:



Summary for Subcatchment CB7A:

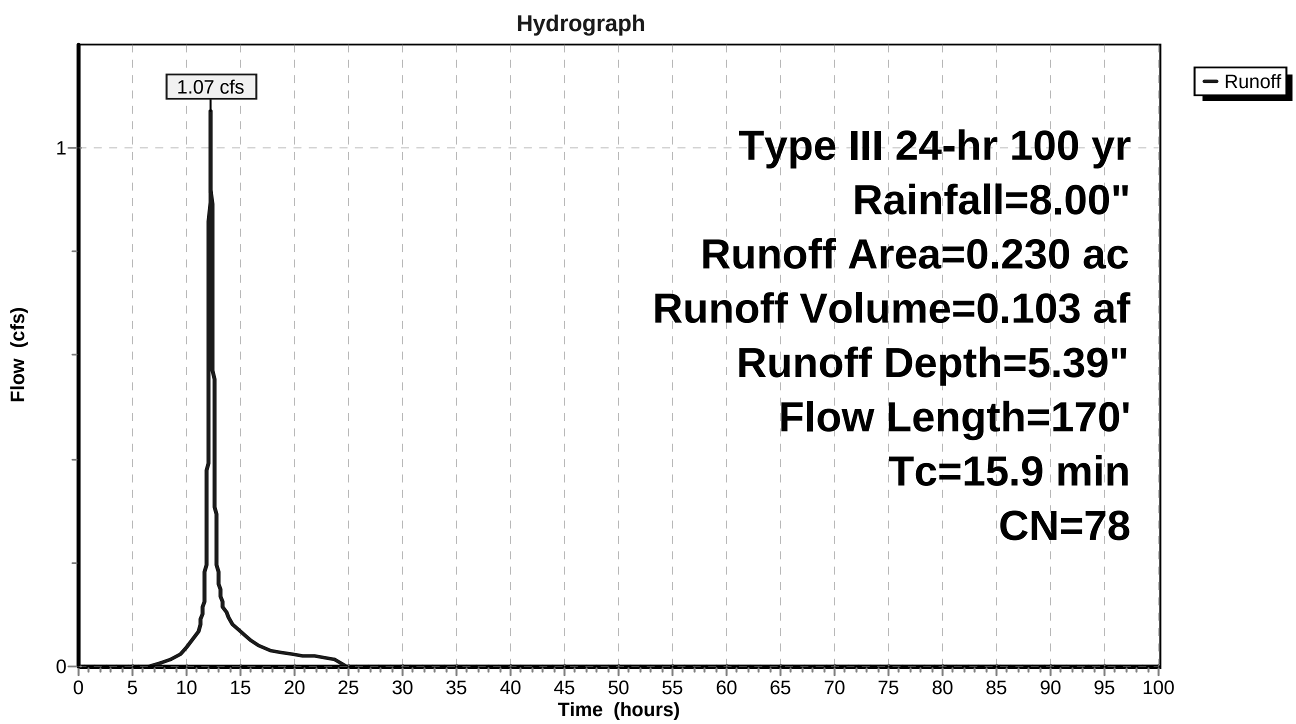
Runoff = 1.07 cfs @ 12.21 hrs, Volume= 0.103 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.130	73	Woods, Fair, HSG C
0.060	74	>75% Grass cover, Good, HSG C
0.230	78	Weighted Average
0.190		82.61% Pervious Area
0.040		17.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.6	100	0.0400	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	30	0.2000	7.20		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.2	40	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.9	170	Total			

Subcatchment CB7A:



Summary for Subcatchment CB7B:

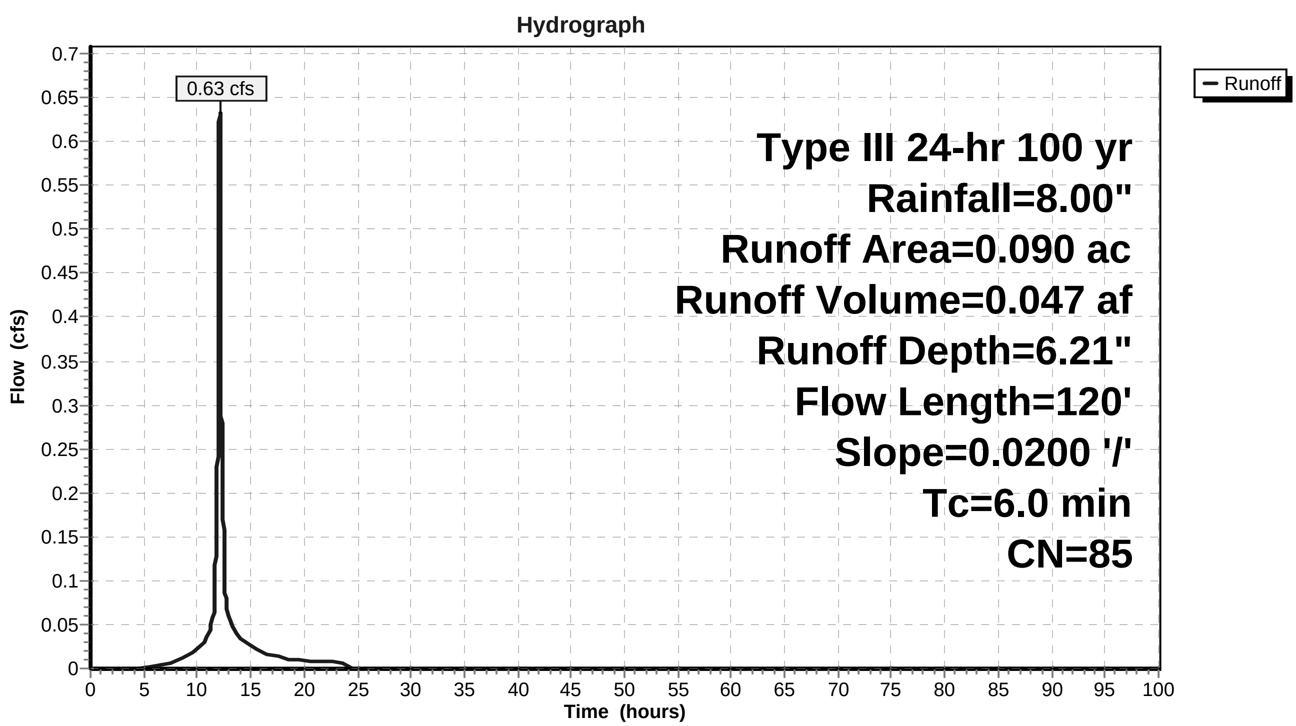
Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 6.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.050	74	>75% Grass cover, Good, HSG C
0.090	85	Weighted Average
0.050		55.56% Pervious Area
0.040		44.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB7B:



Summary for Subcatchment CB8A:

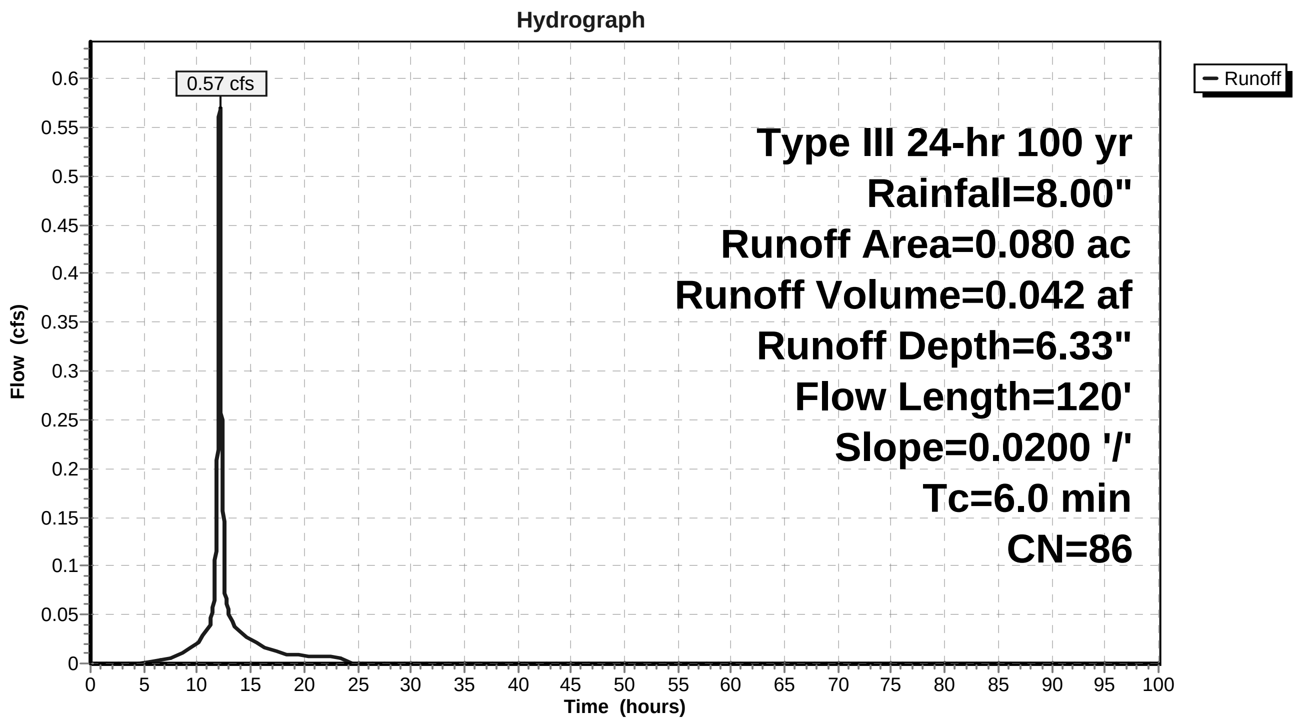
Runoff = 0.57 cfs @ 12.08 hrs, Volume= 0.042 af, Depth= 6.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.040	74	>75% Grass cover, Good, HSG C
0.080	86	Weighted Average
0.040		50.00% Pervious Area
0.040		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	20	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	120	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8A:



Summary for Subcatchment CB8B:

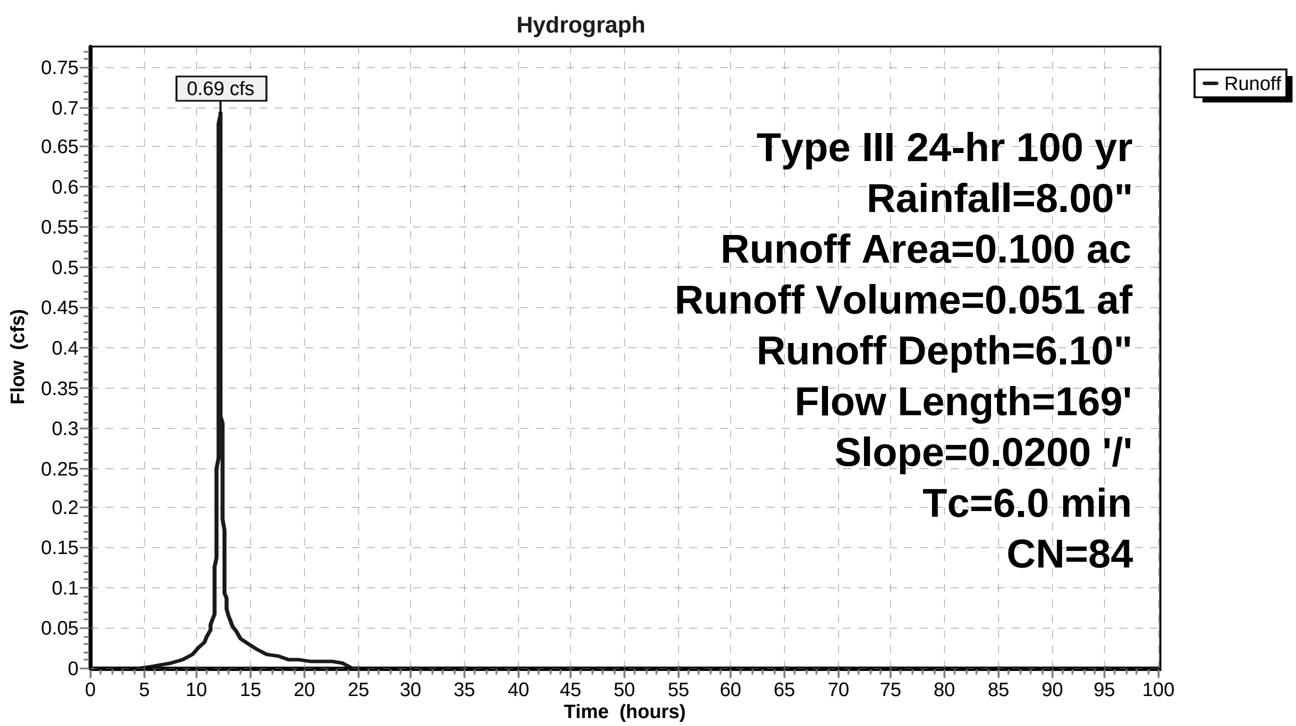
Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.051 af, Depth= 6.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.040	98	Paved parking & roofs
0.060	74	>75% Grass cover, Good, HSG C
0.100	84	Weighted Average
0.060		60.00% Pervious Area
0.040		40.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.4	69	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.7	169	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB8B:



Summary for Subcatchment CB9A:

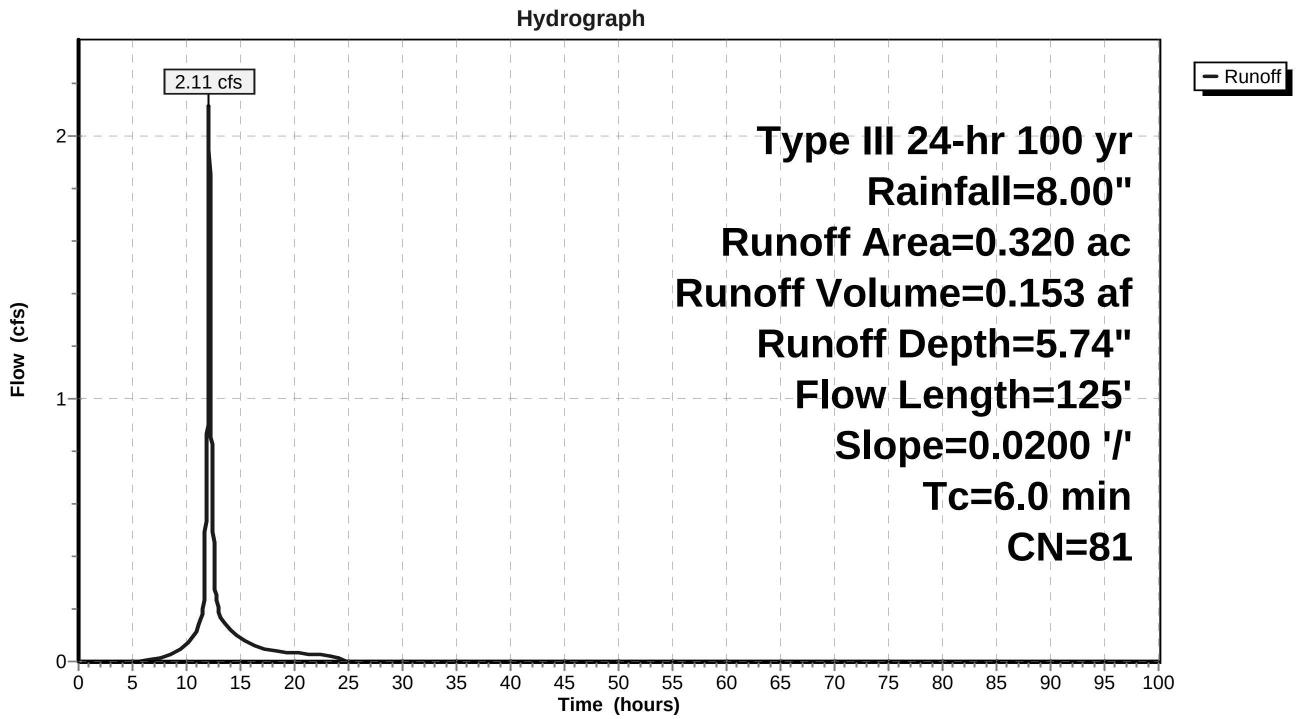
Runoff = 2.11 cfs @ 12.09 hrs, Volume= 0.153 af, Depth= 5.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.100	98	Paved parking & roofs
0.120	74	>75% Grass cover, Good, HSG C
0.100	73	Woods, Fair, HSG C
0.320	81	Weighted Average
0.220		68.75% Pervious Area
0.100		31.25% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9A:



Summary for Subcatchment CB9B:

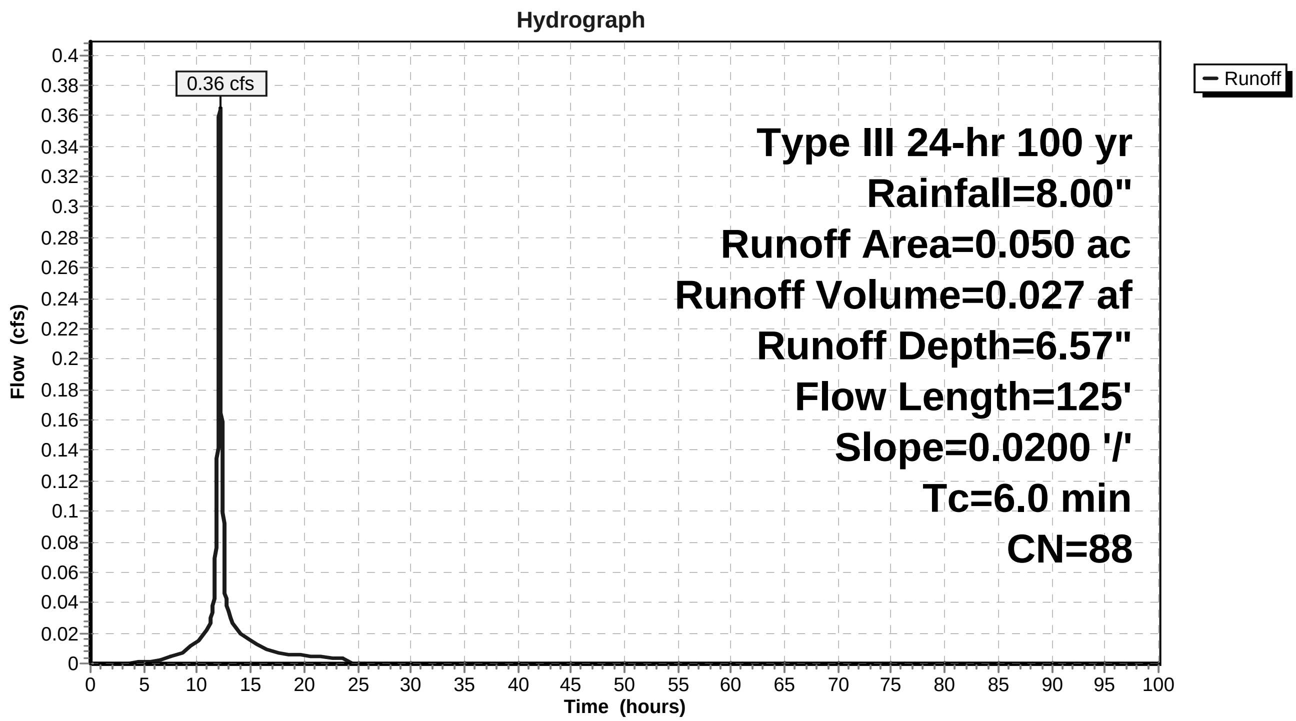
Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.027 af, Depth= 6.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.030	98	Paved parking & roofs
0.020	74	>75% Grass cover, Good, HSG C
0.050	88	Weighted Average
0.020		40.00% Pervious Area
0.030		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0200	1.04		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
1.0	80	0.0200	1.38		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.50"
0.1	25	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	125	Total, Increased to minimum Tc = 6.0 min			

Subcatchment CB9B:



Summary for Subcatchment I-14A:

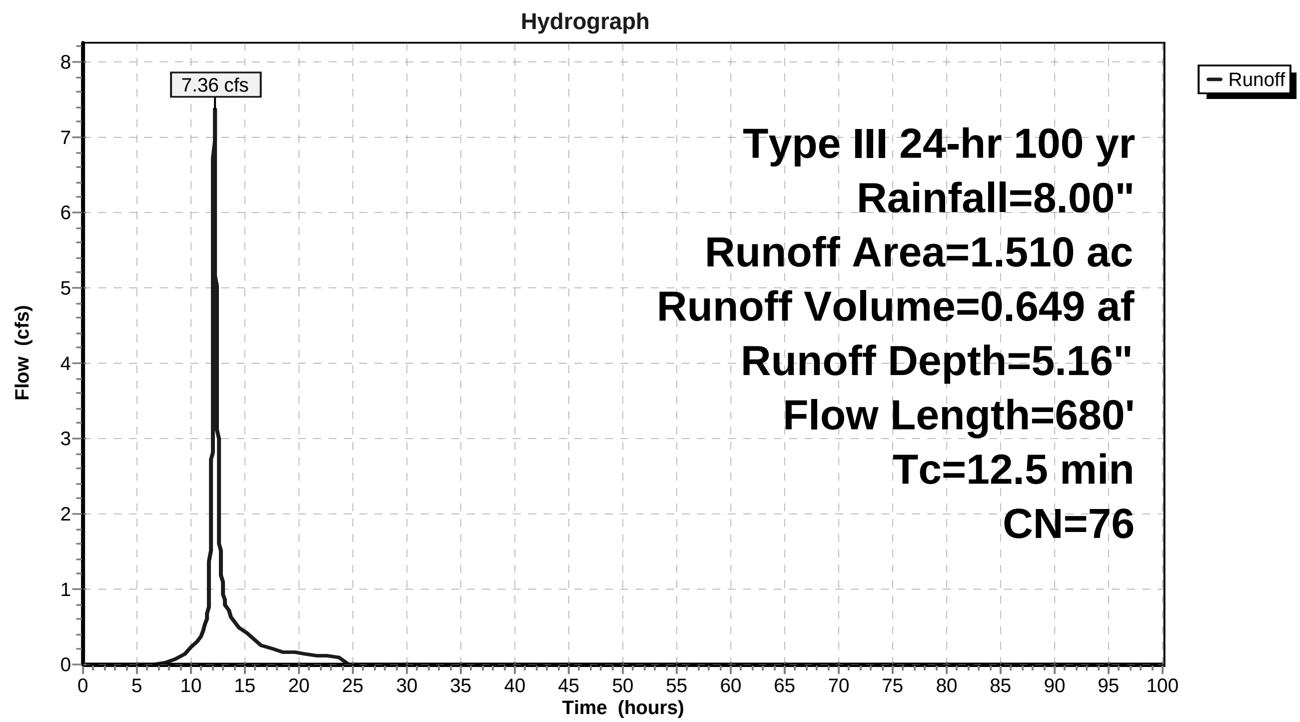
Runoff = 7.36 cfs @ 12.17 hrs, Volume= 0.649 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.160	98	Paved parking & roofs
0.140	73	Woods, Fair, HSG C
1.210	74	>75% Grass cover, Good, HSG C
1.510	76	Weighted Average
1.350		89.40% Pervious Area
0.160		10.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0600	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.2	80	0.1250	5.69		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.5	500	0.0160	2.39	11.95	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
12.5	680	Total			

Subcatchment I-14A:



Summary for Subcatchment IN-CB1A:

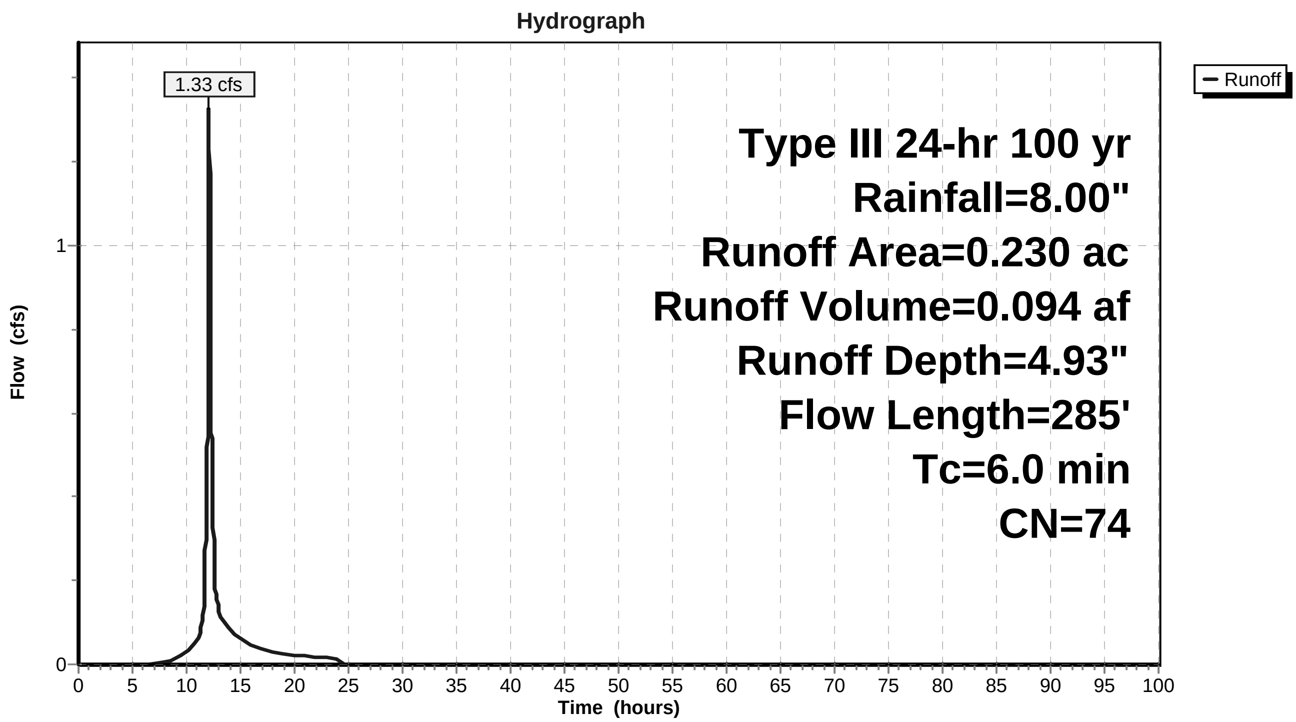
Runoff = 1.33 cfs @ 12.09 hrs, Volume= 0.094 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.230	74	>75% Grass cover, Good, HSG C
0.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	55	0.9000	0.50		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.7	230	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.5	285	Total, Increased to minimum Tc = 6.0 min			

Subcatchment IN-CB1A:



Summary for Subcatchment P-2:

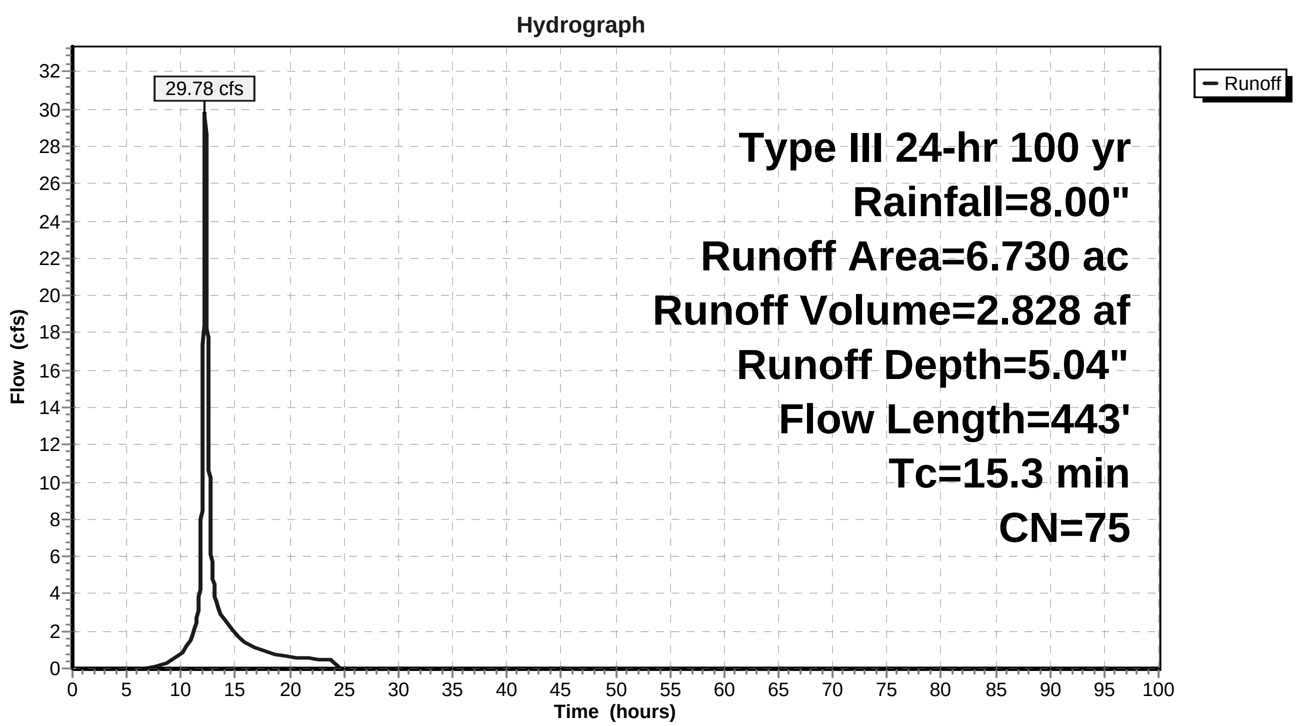
Runoff = 29.78 cfs @ 12.21 hrs, Volume= 2.828 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
3.680	73	Woods, Fair, HSG C
0.200	98	Paved parking & roofs
2.720	74	>75% Grass cover, Good, HSG C
0.130	98	Water Surface, HSG C
6.730	75	Weighted Average
6.400		95.10% Pervious Area
0.330		4.90% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0550	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.6	343	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.3	443	Total			

Subcatchment P-2:



Summary for Subcatchment P-3:

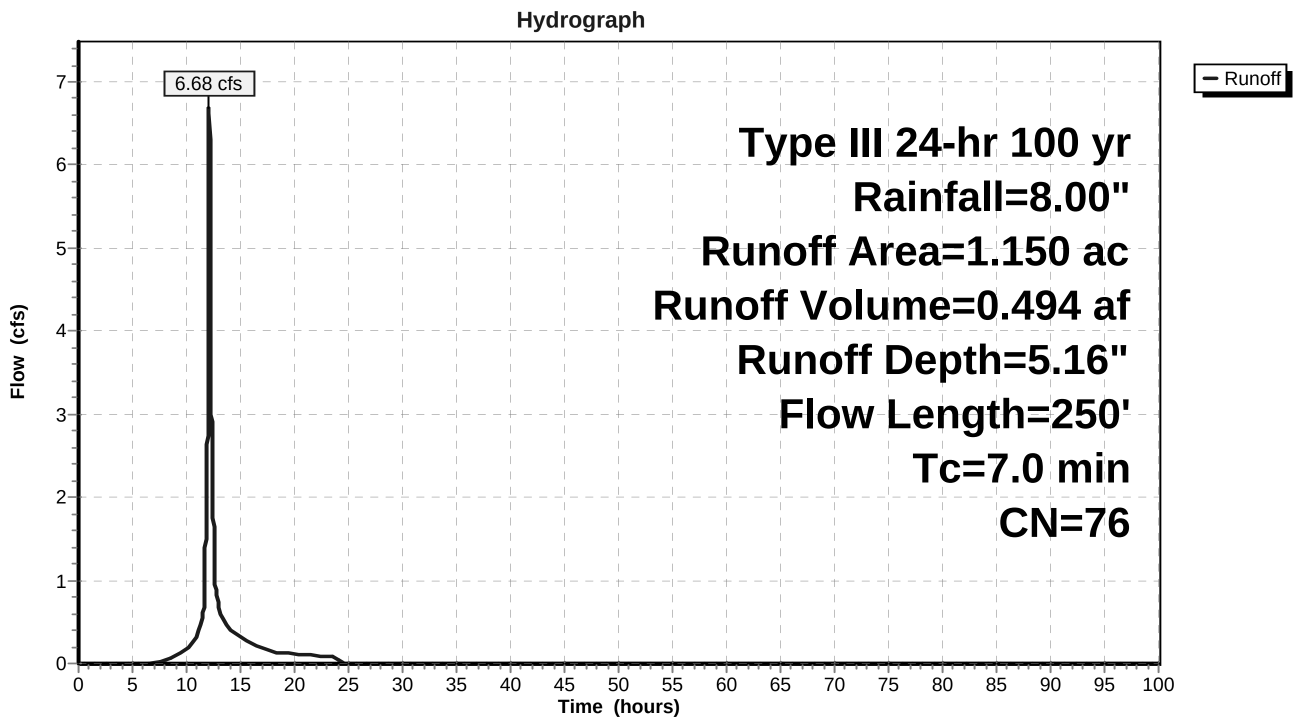
Runoff = 6.68 cfs @ 12.10 hrs, Volume= 0.494 af, Depth= 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.460	74	>75% Grass cover, Good, HSG C
0.050	98	Paved parking & roofs
0.580	73	Woods, Fair, HSG C
0.060	98	Water Surface, HSG C
1.150	76	Weighted Average
1.040		90.43% Pervious Area
0.110		9.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.1200	0.25		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
0.3	150	0.3000	8.82		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	250	Total			

Subcatchment P-3:



Summary for Subcatchment P1:

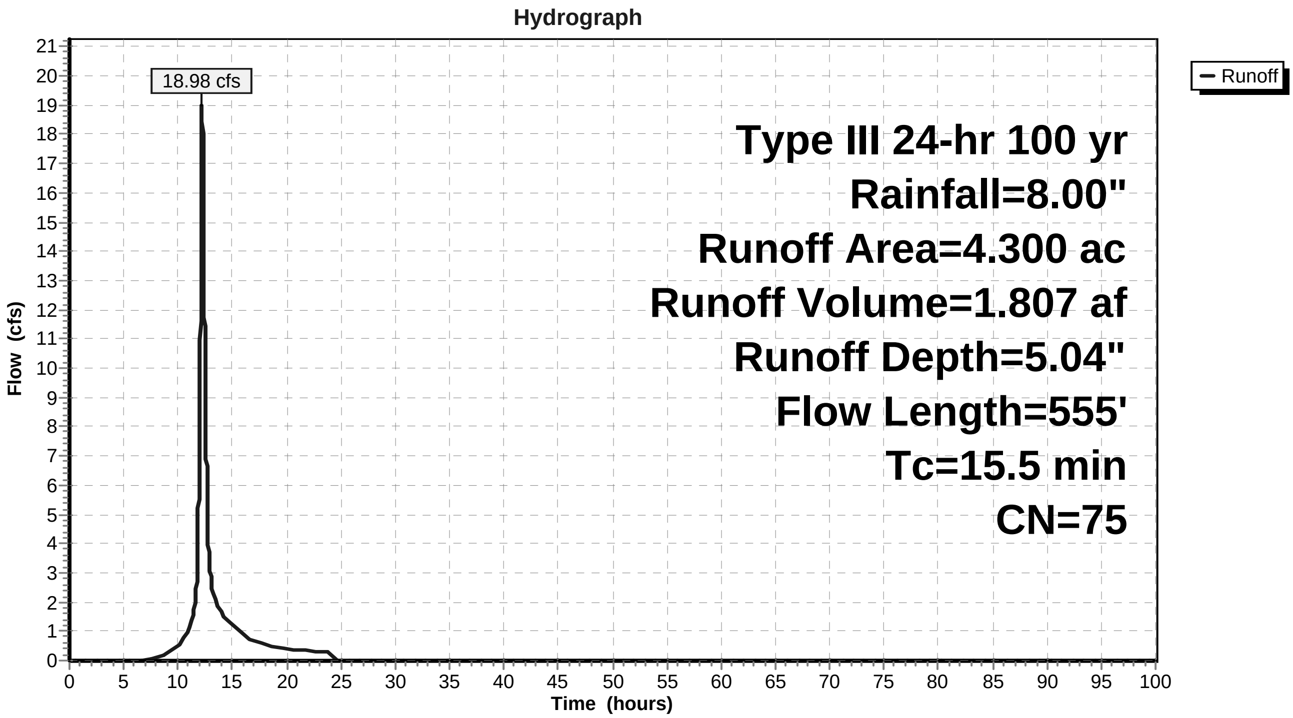
Runoff = 18.98 cfs @ 12.21 hrs, Volume= 1.807 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.140	98	Paved parking & roofs
2.990	73	Woods, Fair, HSG C
1.000	74	>75% Grass cover, Good, HSG C
0.120	89	Gravel roads, HSG C
0.050	98	Water Surface, HSG C
4.300	75	Weighted Average
4.110		95.58% Pervious Area
0.190		4.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0500	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.7	155	0.0600	3.94		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.6	300	0.2260	8.45	25.35	**Trap/Vee/Rect Channel Flow,** Bot.W=1.00' D=1.00' Z= 2.0 '/' Top.W=5.00' n= 0.056
15.5	555	Total			

Subcatchment P1:



Summary for Subcatchment SW1A:

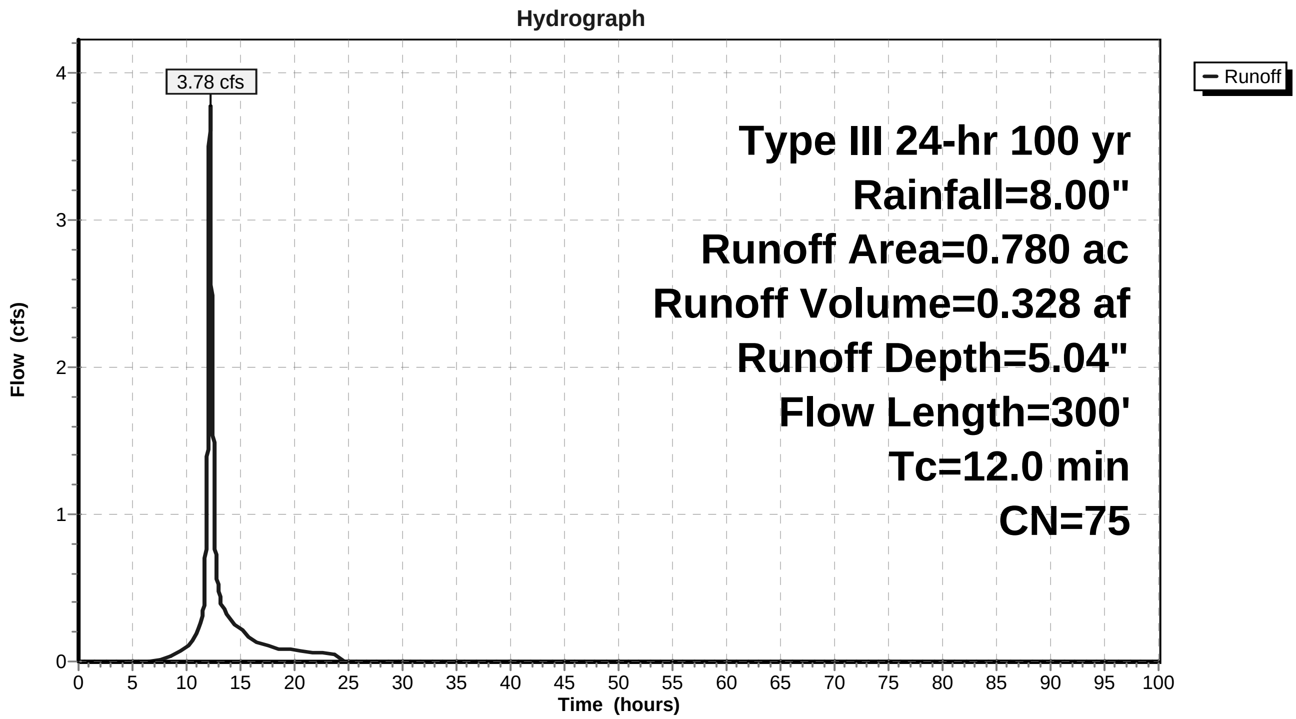
Runoff = 3.78 cfs @ 12.17 hrs, Volume= 0.328 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.050	98	Paved parking & roofs
0.090	73	Woods, Fair, HSG C
0.640	74	>75% Grass cover, Good, HSG C
0.780	75	Weighted Average
0.730		93.59% Pervious Area
0.050		6.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1200	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
4.1	50	0.1000	0.20		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
2.1	200	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.0	300	Total			

Subcatchment SW1A:



Summary for Subcatchment SW1B:

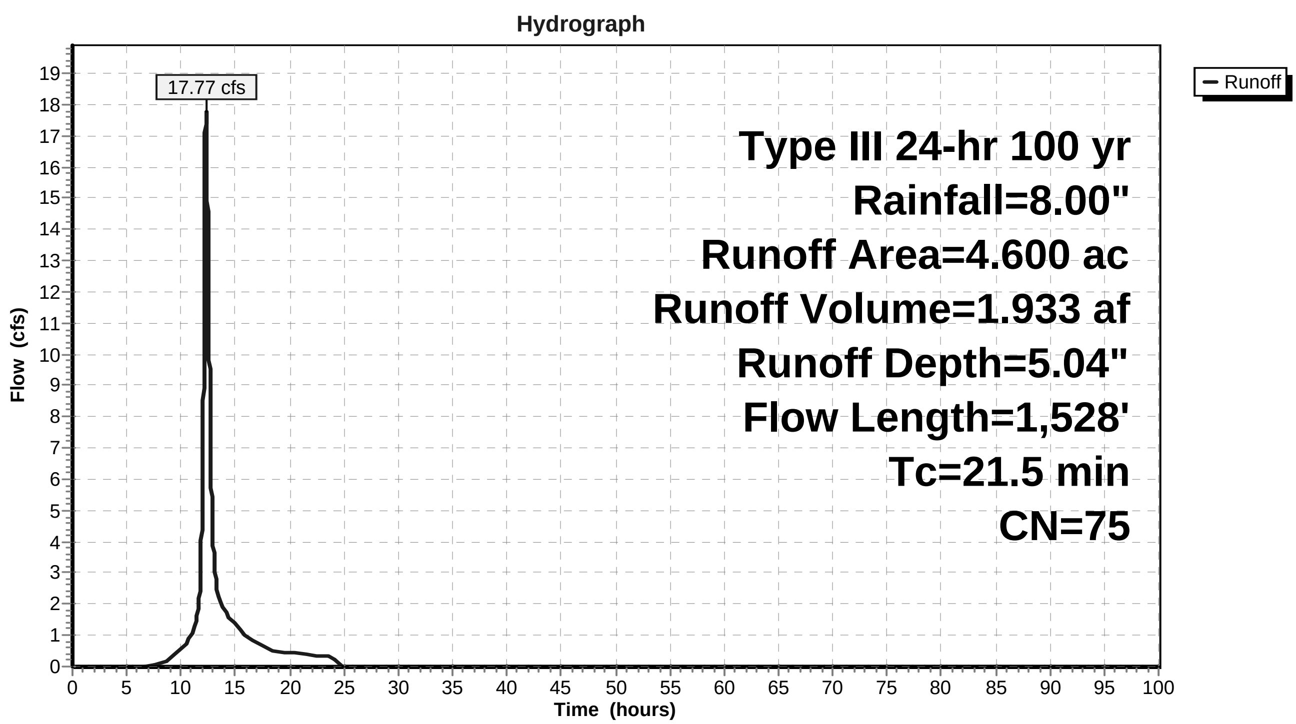
Runoff = 17.77 cfs @ 12.30 hrs, Volume= 1.933 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.290	98	Paved parking & roofs
1.890	73	Woods, Fair, HSG C
2.370	74	>75% Grass cover, Good, HSG C
0.050	70	Brush, Fair, HSG C
4.600	75	Weighted Average
4.310		93.70% Pervious Area
0.290		6.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0650	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
1.4	300	0.0500	3.60		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,128	0.0180	2.59	12.31	**Trap/Vee/Rect Channel Flow,** Bot.W=2.25' D=1.00' Z= 2.0 & 3.0 '/' Top.W=7.25' n= 0.056
21.5	1,528	Total			

Subcatchment SW1B:



Summary for Subcatchment SW1C:

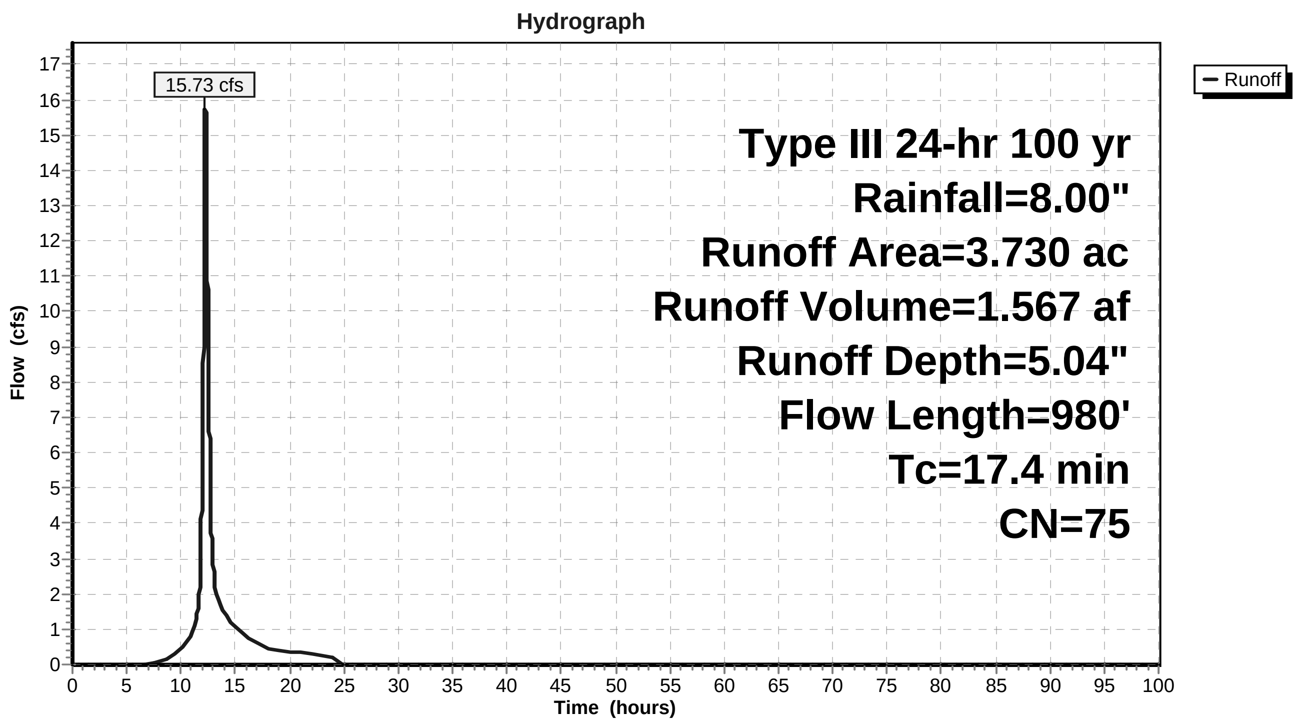
Runoff = 15.73 cfs @ 12.24 hrs, Volume= 1.567 af, Depth= 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.230	98	Paved parking & roofs
1.590	73	Woods, Fair, HSG C
1.910	74	>75% Grass cover, Good, HSG C
3.730	75	Weighted Average
3.500		93.83% Pervious Area
0.230		6.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	100	0.1250	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
5.4	600	0.0130	1.84		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1	280	0.0140	2.24	11.18	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.056
17.4	980	Total			

Subcatchment SW1C:



Summary for Subcatchment WQVP:

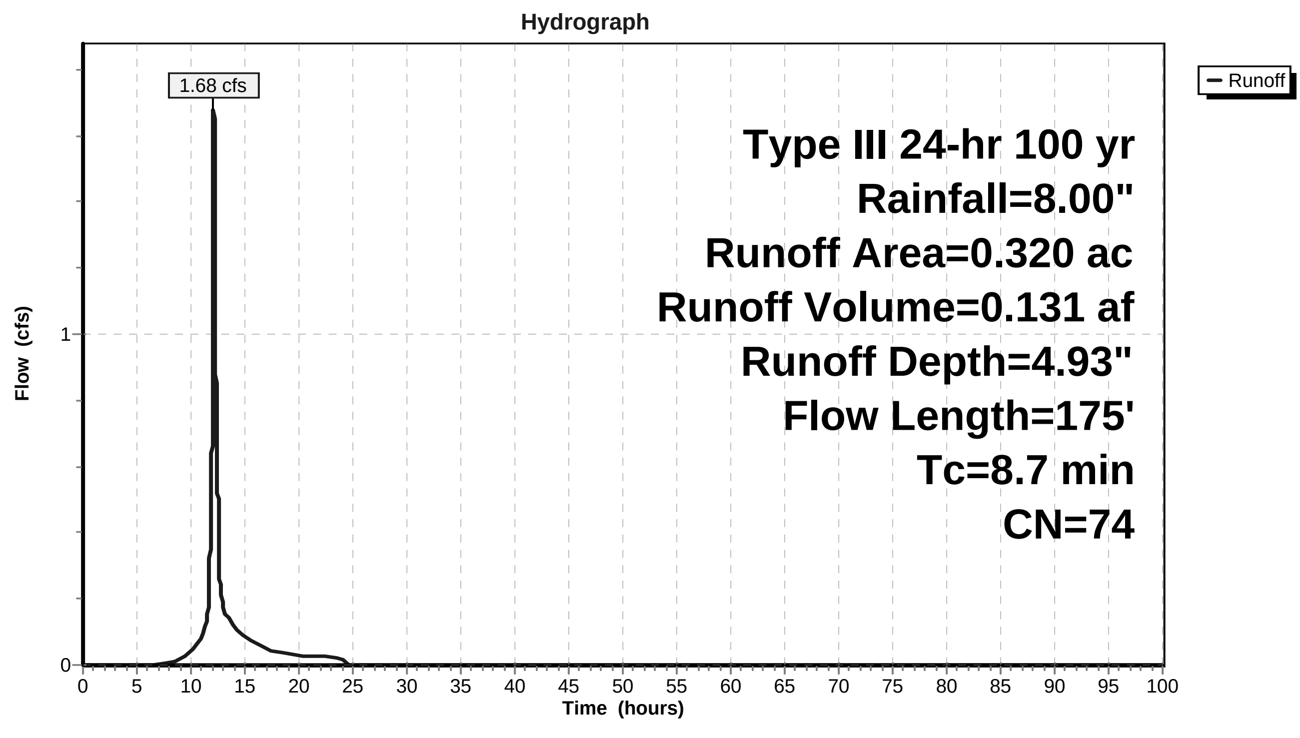
Runoff = 1.68 cfs @ 12.12 hrs, Volume= 0.131 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs
Type III 24-hr 100 yr Rainfall=8.00"

Area (ac)	CN	Description
0.060	73	Woods, Fair, HSG C
0.260	74	>75% Grass cover, Good, HSG C
0.320	74	Weighted Average
0.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	30	0.1800	0.23		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.50"
6.4	70	0.1800	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.50"
0.1	75	0.3500	9.52		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	175	Total			

Subcatchment WQVP:

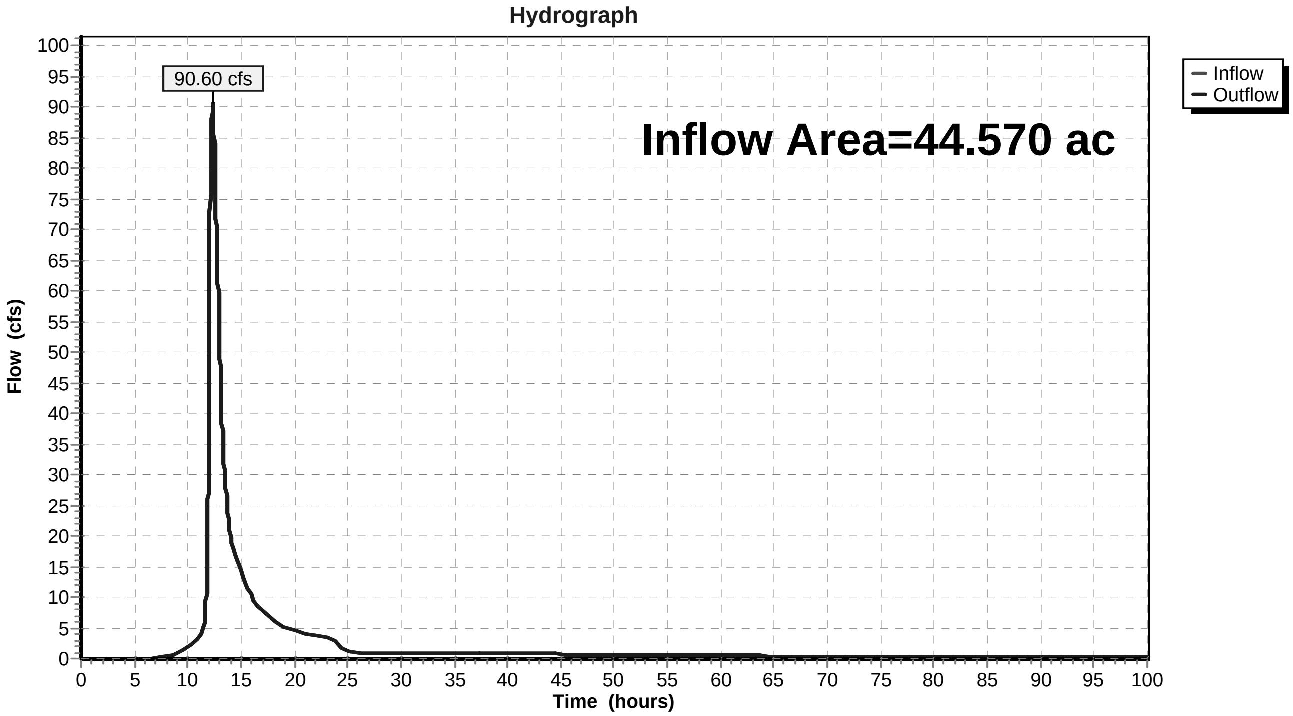


Summary for Reach DP1:

Inflow Area = 44.570 ac, 9.50% Impervious, Inflow Depth > 5.08" for 100 yr event
Inflow = 90.60 cfs @ 12.33 hrs, Volume= 18.856 af
Outflow = 90.60 cfs @ 12.33 hrs, Volume= 18.856 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach DP1:

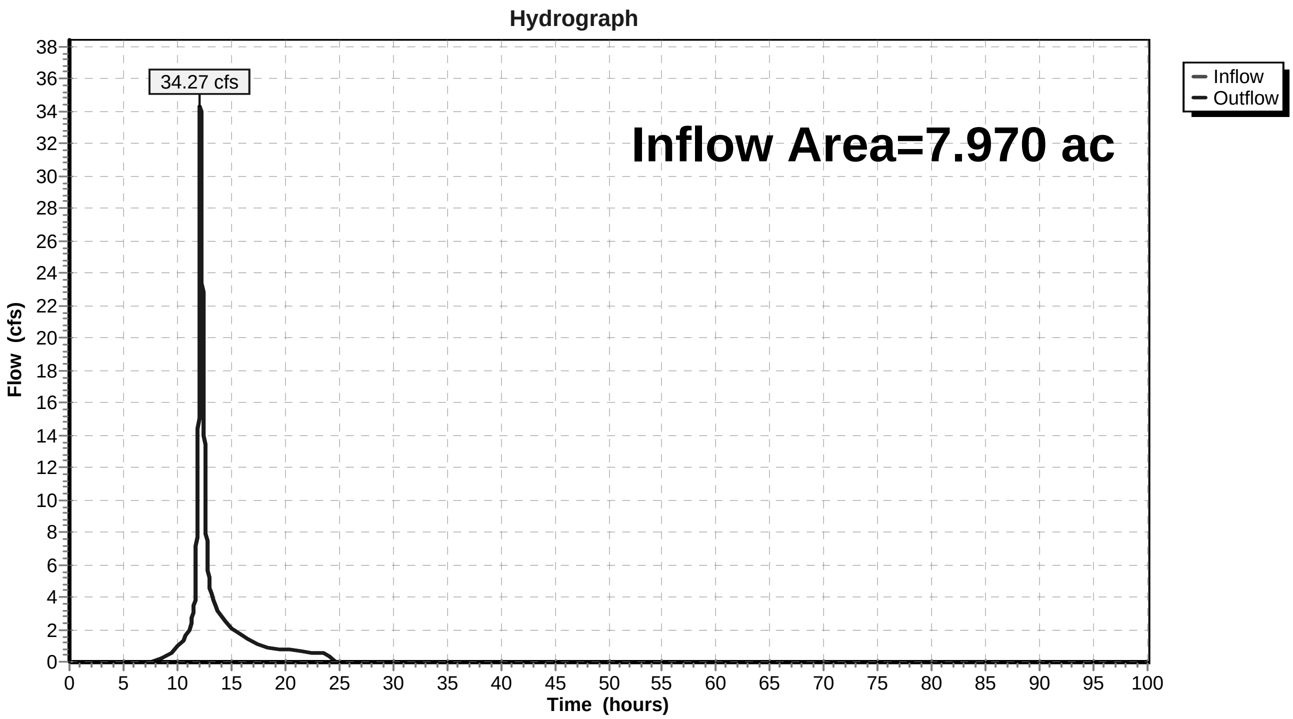


Summary for Reach dp2:

Inflow Area =	7.970 ac,	0.00% Impervious,	Inflow Depth = 4.79"	for 100 yr event		
Inflow =	34.27 cfs @	12.15 hrs,	Volume=	3.180 af		
Outflow =	34.27 cfs @	12.15 hrs,	Volume=	3.180 af,	Atten= 0%,	Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3

Reach dp2:



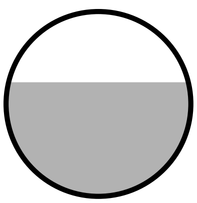
Summary for Reach IN14A:

Inflow Area = 1.510 ac, 10.60% Impervious, Inflow Depth = 5.16" for 100 yr event
Inflow = 7.36 cfs @ 12.17 hrs, Volume= 0.649 af
Outflow = 7.36 cfs @ 12.17 hrs, Volume= 0.649 af, Atten= 0%, Lag= 0.0 min

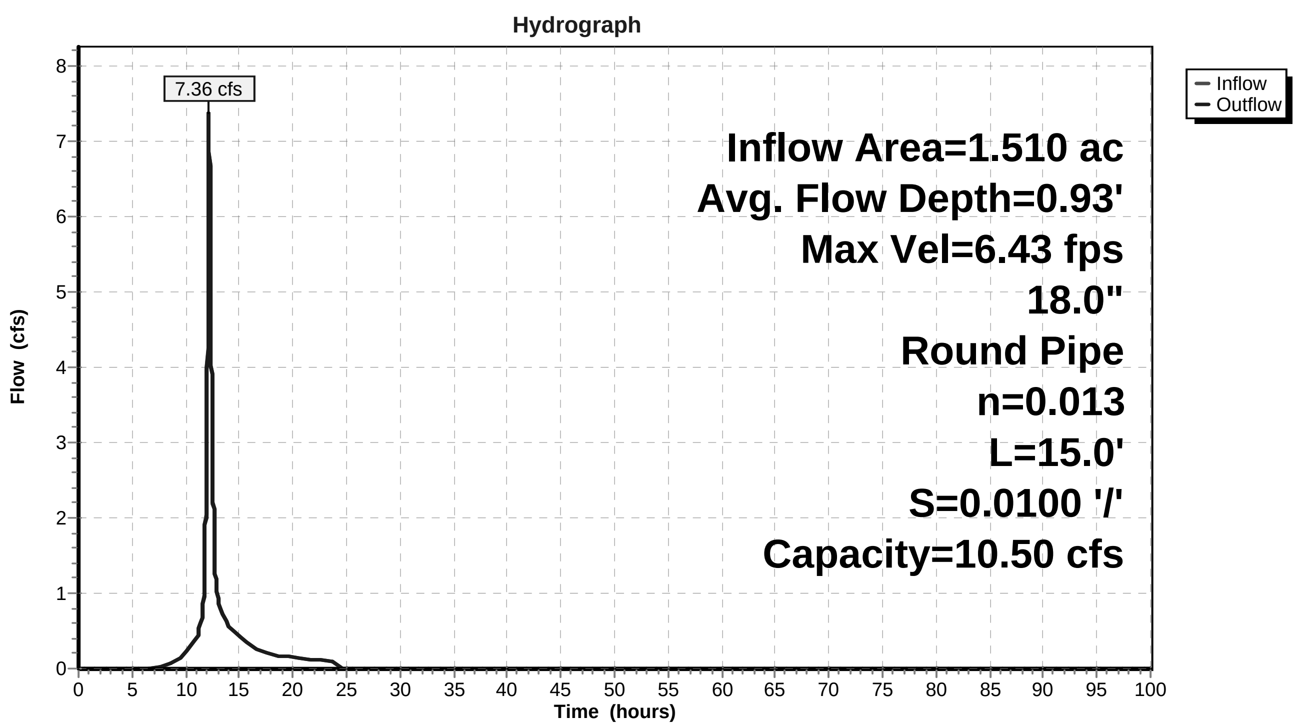
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 6.43 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.41 fps, Avg. Travel Time= 0.1 min

Peak Storage= 17 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.93'
Defined Flood Depth= 366.83', Capacity at Flood Depth= -10,724.81 cfs
Bank-Full Depth= 1.50', Capacity at Bank-Full= 10.50 cfs

18.0" Round Pipe
n= 0.013
Length= 15.0' Slope= 0.0100 '/'
Inlet Invert= 362.00', Outlet Invert= 361.85'



Reach IN14A:



Summary for Reach SW:

Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 5.04" for 100 yr event
Inflow = 36.11 cfs @ 12.25 hrs, Volume= 3.827 af
Outflow = 35.90 cfs @ 12.27 hrs, Volume= 3.827 af, Atten= 1%, Lag= 1.2 min

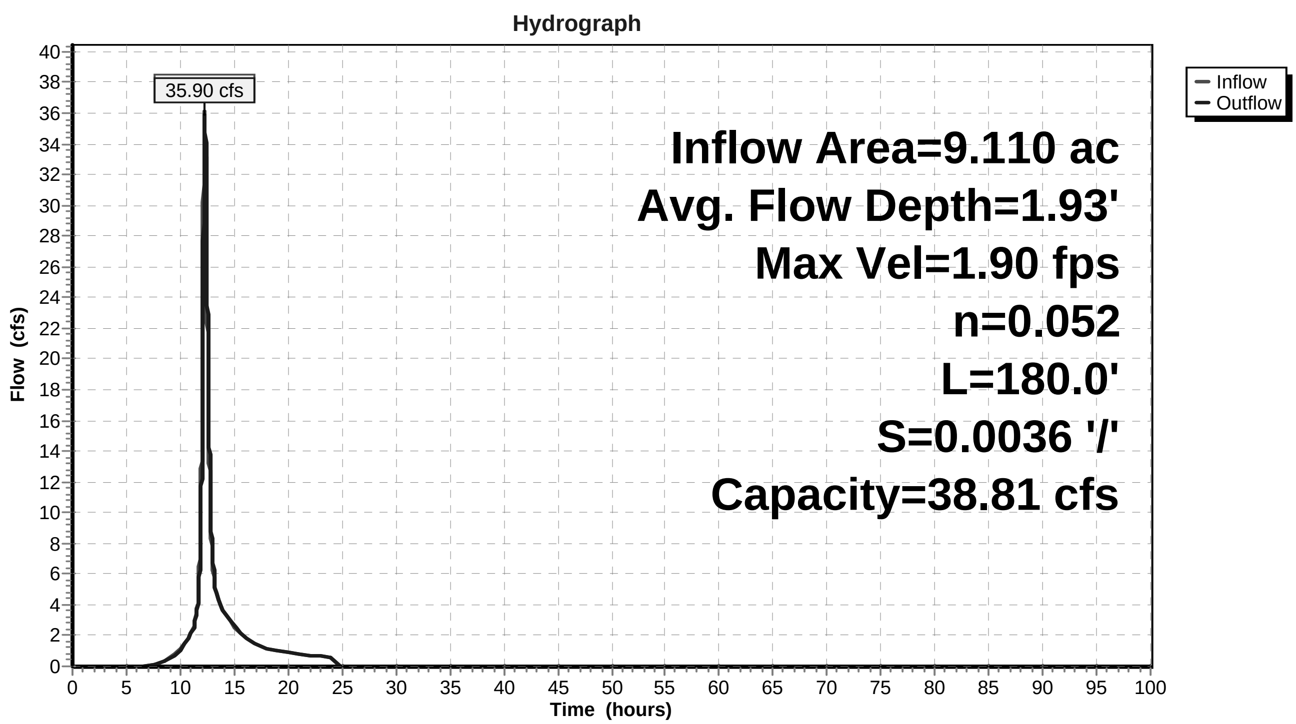
Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Max. Velocity= 1.90 fps, Min. Travel Time= 1.6 min
Avg. Velocity = 0.66 fps, Avg. Travel Time= 4.6 min

Peak Storage= 3,398 cf @ 12.27 hrs
Average Depth at Peak Storage= 1.93'
Defined Flood Depth= 345.00', Capacity at Flood Depth= 14,324.68 cfs
Bank-Full Depth= 2.00', Capacity at Bank-Full= 38.81 cfs

4.00' x 2.00' deep channel, n= 0.052
Side Slope Z-value= 3.0 '/' Top Width= 16.00'
Length= 180.0' Slope= 0.0036 '/'
Inlet Invert= 341.45', Outlet Invert= 340.80'

‡

Reach SW:



Summary for Pond CB-10A:

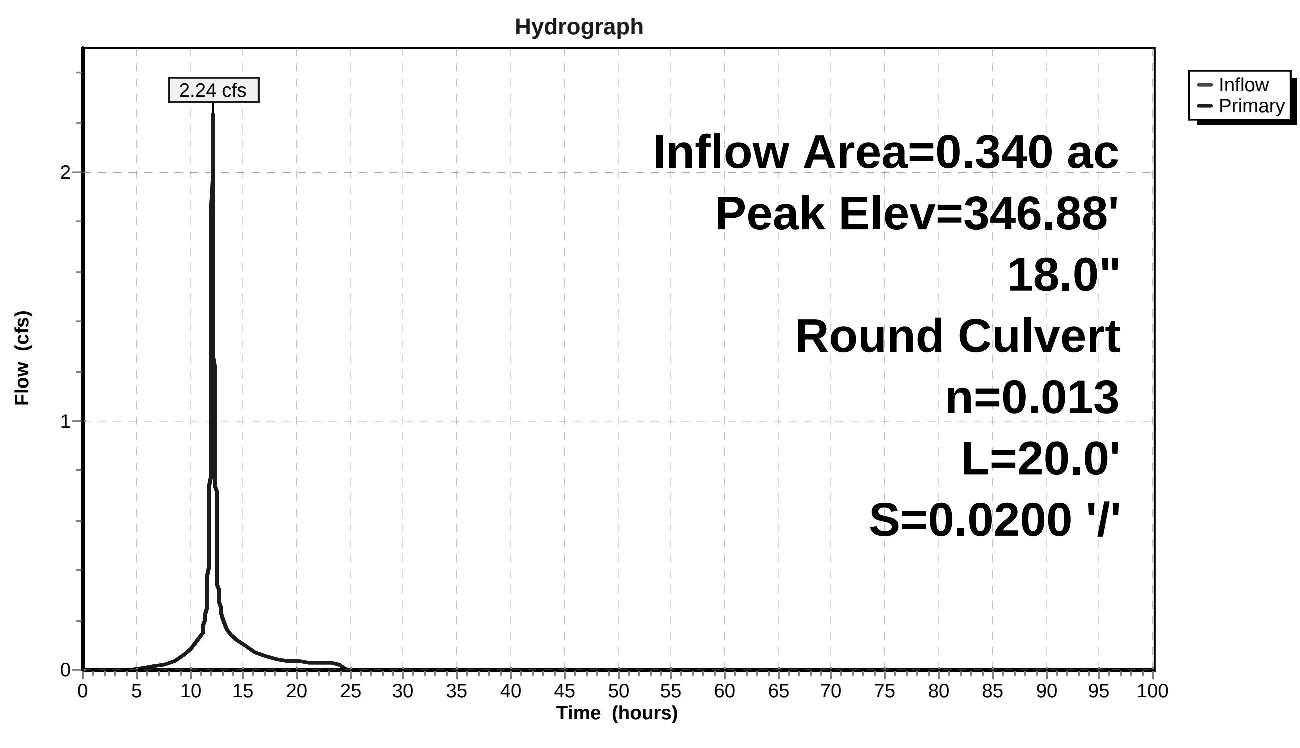
Inflow Area =	0.340 ac,	41.18% Impervious,	Inflow Depth = 6.10"	for 100 yr event
Inflow =	2.24 cfs @	12.10 hrs, Volume=	0.173 af	
Outflow =	2.24 cfs @	12.10 hrs, Volume=	0.173 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.24 cfs @	12.10 hrs, Volume=	0.173 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 346.88' @ 12.14 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.23 cfs @ 12.10 hrs HW=346.77' TW=346.70' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.23 cfs @ 1.26 fps)

Pond CB-10A:



Summary for Pond CB-10B:

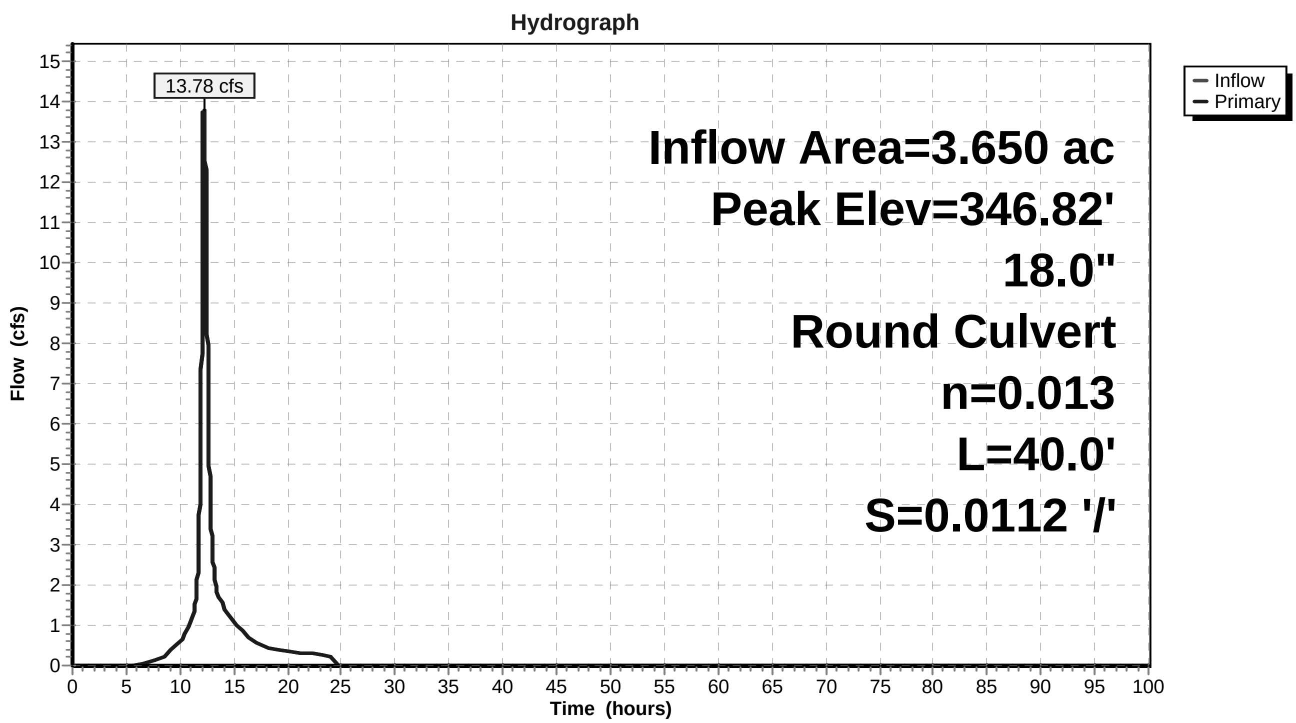
Inflow Area = 3.650 ac, 22.47% Impervious, Inflow Depth = 5.53" for 100 yr event
Inflow = 13.78 cfs @ 12.24 hrs, Volume= 1.681 af
Outflow = 13.78 cfs @ 12.24 hrs, Volume= 1.681 af, Atten= 0%, Lag= 0.0 min
Primary = 13.78 cfs @ 12.24 hrs, Volume= 1.681 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 346.82' @ 12.24 hrs
Flood Elev= 348.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.45'	**18.0" Round Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.45' / 343.00' S= 0.0112 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=13.78 cfs @ 12.24 hrs HW=346.82' TW=338.09' (Dynamic Tailwater)
1=Culvert (Inlet Controls 13.78 cfs @ 7.80 fps)

Pond CB-10B:



Summary for Pond CB-11A:

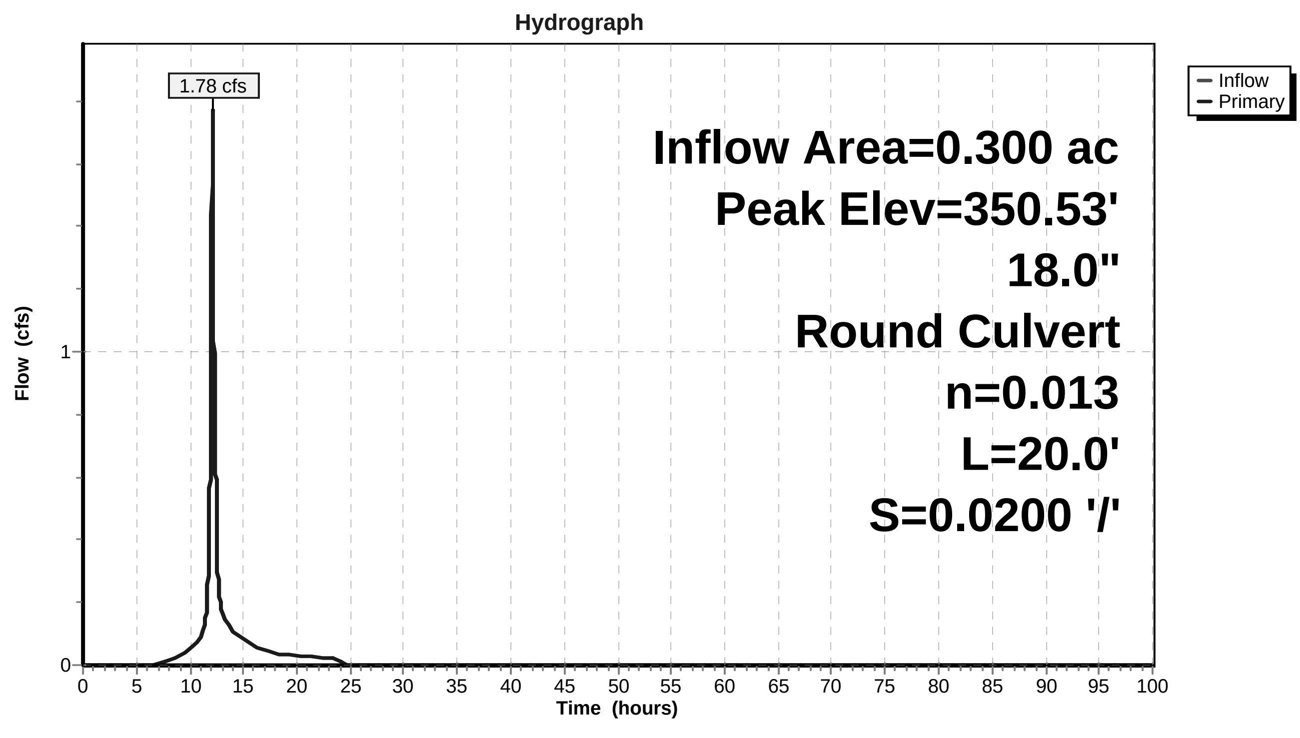
Inflow Area = 0.300 ac, 16.67% Impervious, Inflow Depth = 5.39" for 100 yr event
Inflow = 1.78 cfs @ 12.11 hrs, Volume= 0.135 af
Outflow = 1.78 cfs @ 12.11 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min
Primary = 1.78 cfs @ 12.11 hrs, Volume= 0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.53' @ 12.26 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.81'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.81' / 347.41' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.77 cfs @ 12.11 hrs HW=349.38' TW=349.34' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 1.77 cfs @ 1.00 fps)

Pond CB-11A:



Summary for Pond CB-11B:

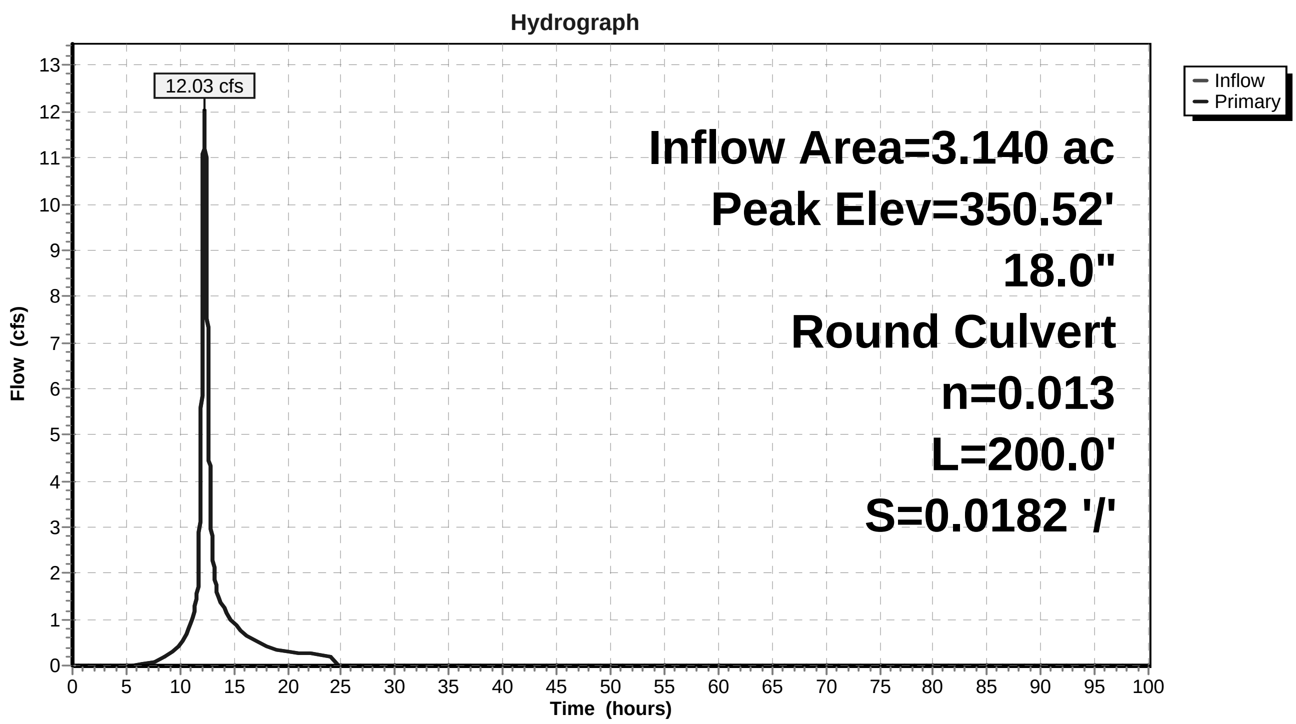
Inflow Area =	3.140 ac,	17.83% Impervious,	Inflow Depth = 5.39"	for 100 yr event
Inflow =	12.03 cfs @	12.27 hrs, Volume=	1.411 af	
Outflow =	12.03 cfs @	12.27 hrs, Volume=	1.411 af, Atten= 0%, Lag= 0.0 min	
Primary =	12.03 cfs @	12.27 hrs, Volume=	1.411 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.52' @ 12.26 hrs
Flood Elev= 351.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.19'	**18.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.19' / 343.55' S= 0.0182 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=12.03 cfs @ 12.27 hrs HW=350.51' TW=346.80' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 12.03 cfs @ 6.81 fps)

Pond CB-11B:



Summary for Pond CB-12A:

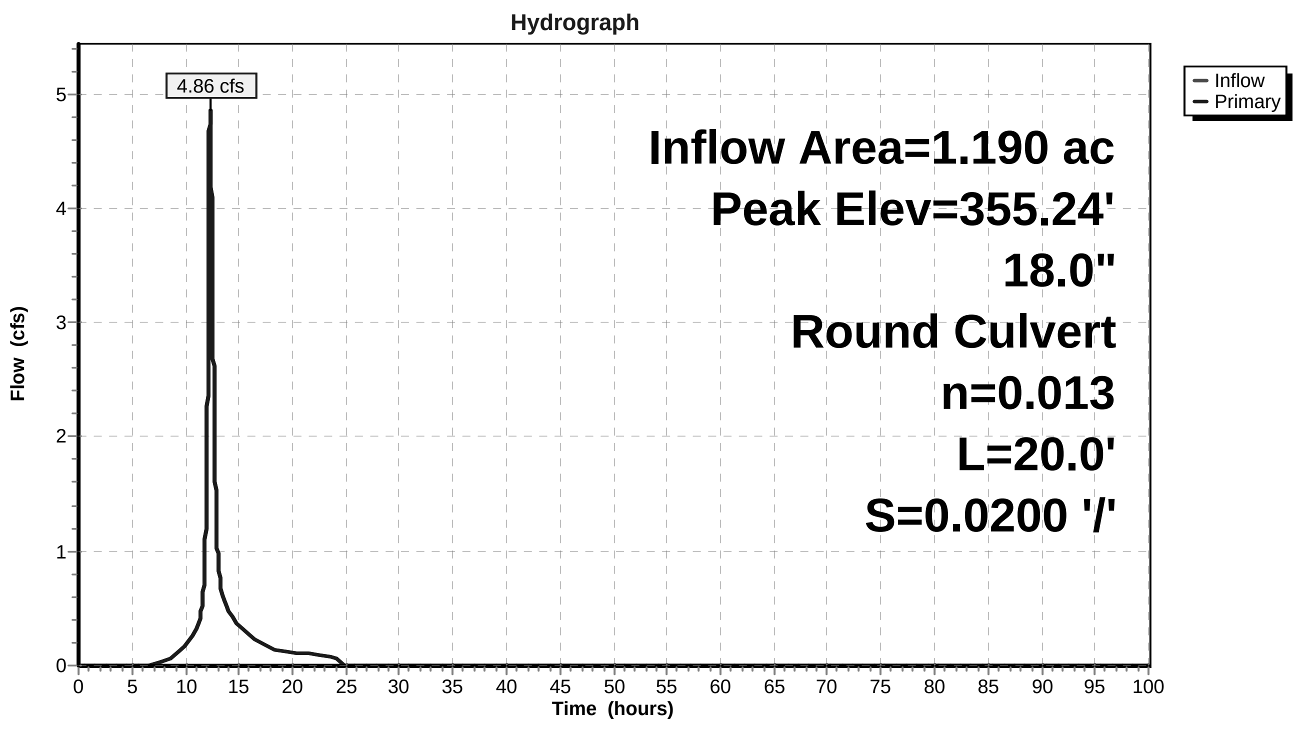
Inflow Area = 1.190 ac, 16.81% Impervious, Inflow Depth = 5.39" for 100 yr event
Inflow = 4.86 cfs @ 12.29 hrs, Volume= 0.535 af
Outflow = 4.86 cfs @ 12.29 hrs, Volume= 0.535 af, Atten= 0%, Lag= 0.0 min
Primary = 4.86 cfs @ 12.29 hrs, Volume= 0.535 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 355.24' @ 12.28 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	353.00'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 353.00' / 352.60' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.86 cfs @ 12.29 hrs HW=355.24' TW=354.91' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.86 cfs @ 2.75 fps)

Pond CB-12A:



Summary for Pond CB-12B:

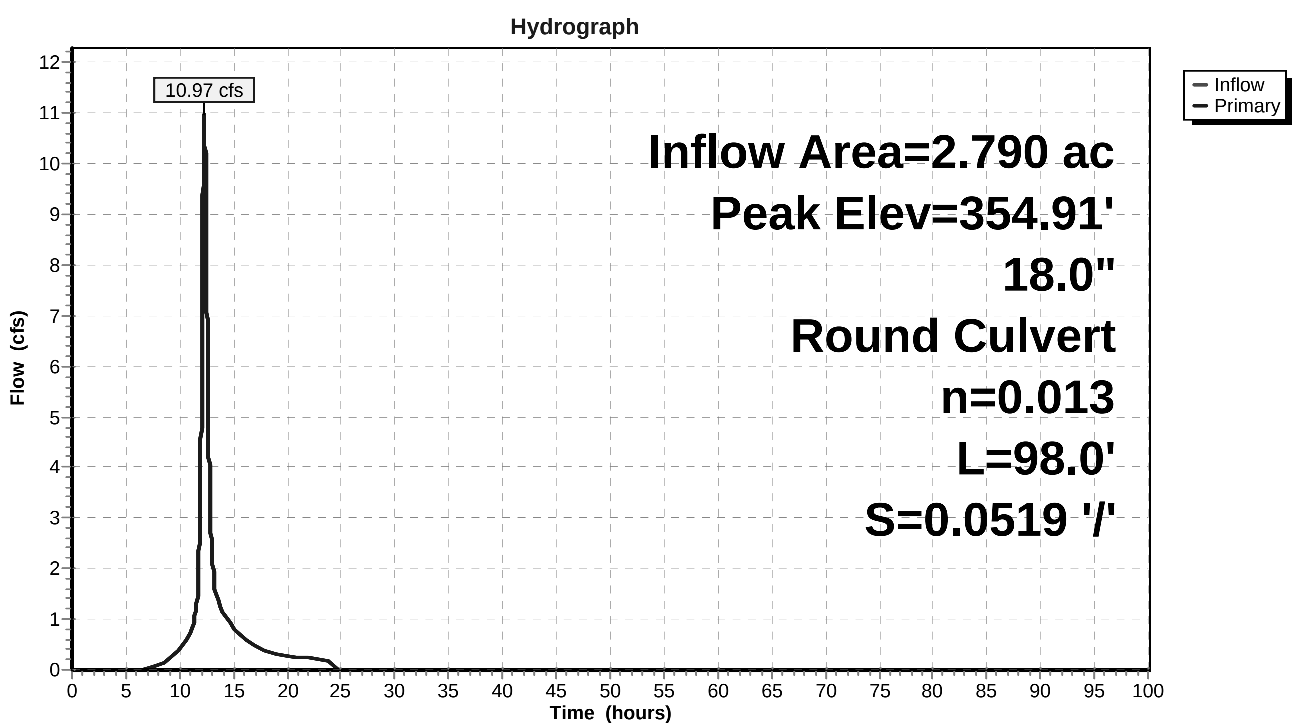
Inflow Area =	2.790 ac, 17.56% Impervious, Inflow Depth = 5.38" for 100 yr event			
Inflow =	10.97 cfs @	12.28 hrs, Volume=	1.250 af	
Outflow =	10.97 cfs @	12.28 hrs, Volume=	1.250 af,	Atten= 0%, Lag= 0.0 min
Primary =	10.97 cfs @	12.28 hrs, Volume=	1.250 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 354.91' @ 12.28 hrs
Flood Elev= 355.98'

Device	Routing	Invert	Outlet Devices
#1	Primary	352.50'	**18.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 352.50' / 347.41' S= 0.0519 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=10.97 cfs @ 12.28 hrs HW=354.91' TW=350.47' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 10.97 cfs @ 6.21 fps)

Pond CB-12B:



Summary for Pond CB-13A:

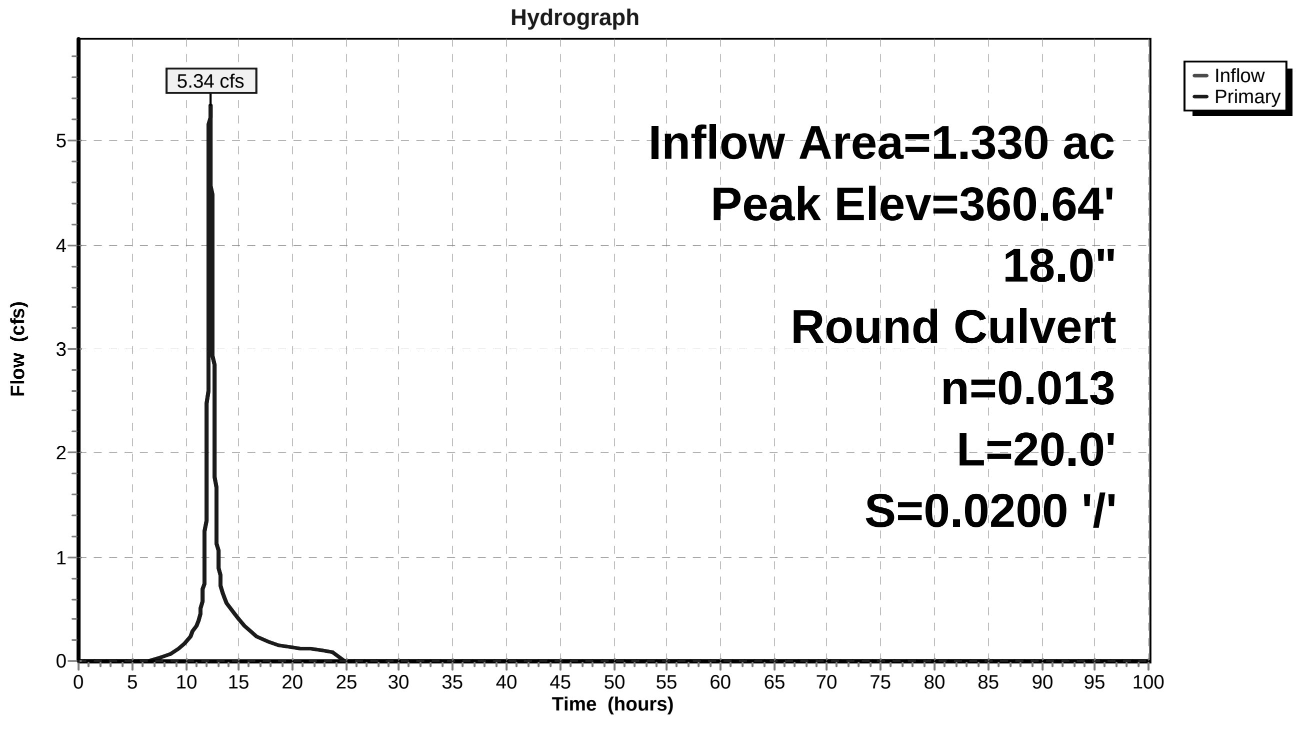
Inflow Area = 1.330 ac, 15.04% Impervious, Inflow Depth = 5.27" for 100 yr event
Inflow = 5.34 cfs @ 12.29 hrs, Volume= 0.585 af
Outflow = 5.34 cfs @ 12.29 hrs, Volume= 0.585 af, Atten= 0%, Lag= 0.0 min
Primary = 5.34 cfs @ 12.29 hrs, Volume= 0.585 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 360.64' @ 12.29 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	359.35'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 359.35' / 358.95' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.34 cfs @ 12.29 hrs HW=360.64' TW=360.09' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 5.34 cfs @ 4.44 fps)

Pond CB-13A:



Summary for Pond CB-13B:

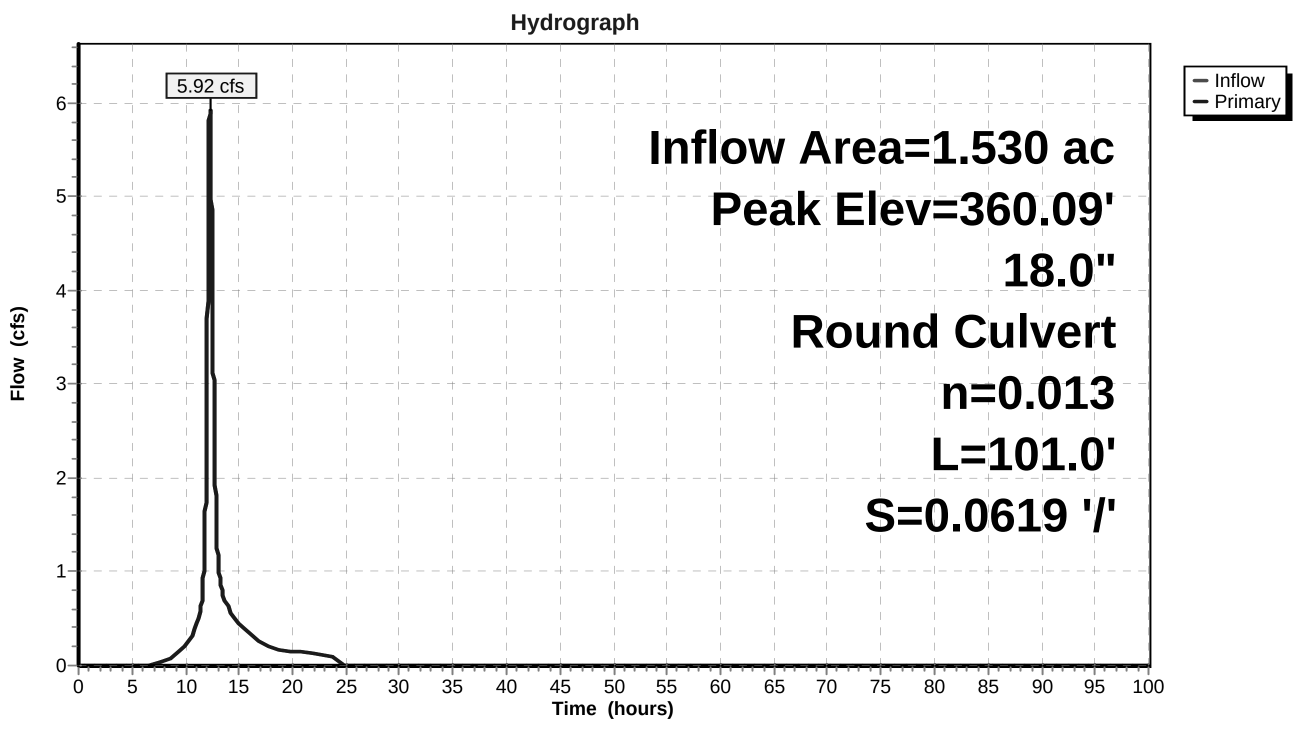
Inflow Area = 1.530 ac, 17.65% Impervious, Inflow Depth = 5.35" for 100 yr event
Inflow = 5.92 cfs @ 12.27 hrs, Volume= 0.682 af
Outflow = 5.92 cfs @ 12.27 hrs, Volume= 0.682 af, Atten= 0%, Lag= 0.0 min
Primary = 5.92 cfs @ 12.27 hrs, Volume= 0.682 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 360.09' @ 12.27 hrs
Flood Elev= 362.39'

Device	Routing	Invert	Outlet Devices
#1	Primary	358.85'	**18.0" Round Culvert** L= 101.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 358.85' / 352.60' S= 0.0619 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.91 cfs @ 12.27 hrs HW=360.09' TW=354.91' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.91 cfs @ 3.79 fps)

Pond CB-13B:



Summary for Pond CB-14A:

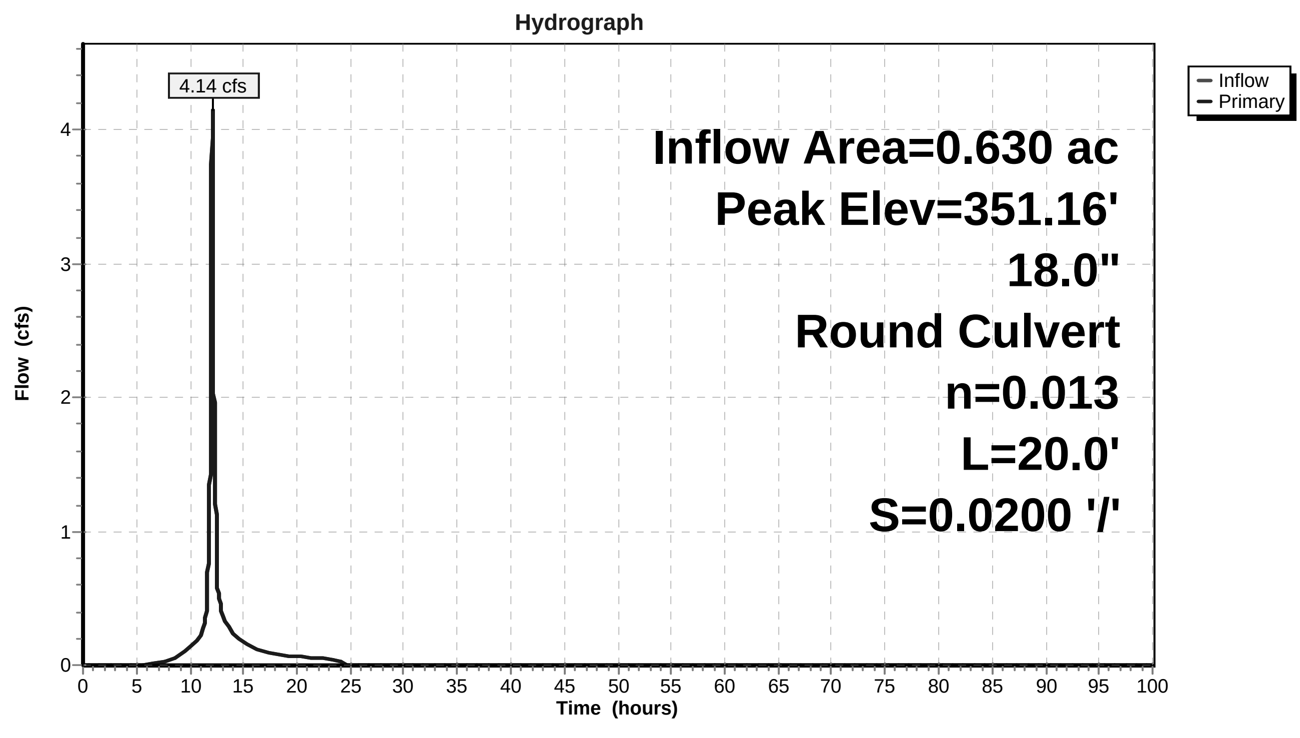
Inflow Area = 0.630 ac, 30.16% Impervious, Inflow Depth = 5.74" for 100 yr event
Inflow = 4.14 cfs @ 12.09 hrs, Volume= 0.301 af
Outflow = 4.14 cfs @ 12.09 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.0 min
Primary = 4.14 cfs @ 12.09 hrs, Volume= 0.301 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.16' @ 12.11 hrs
Flood Elev= 364.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.08'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.08' / 348.68' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=4.14 cfs @ 12.09 hrs HW=351.05' TW=350.82' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 4.14 cfs @ 2.34 fps)

Pond CB-14A:



Summary for Pond CB-14B:

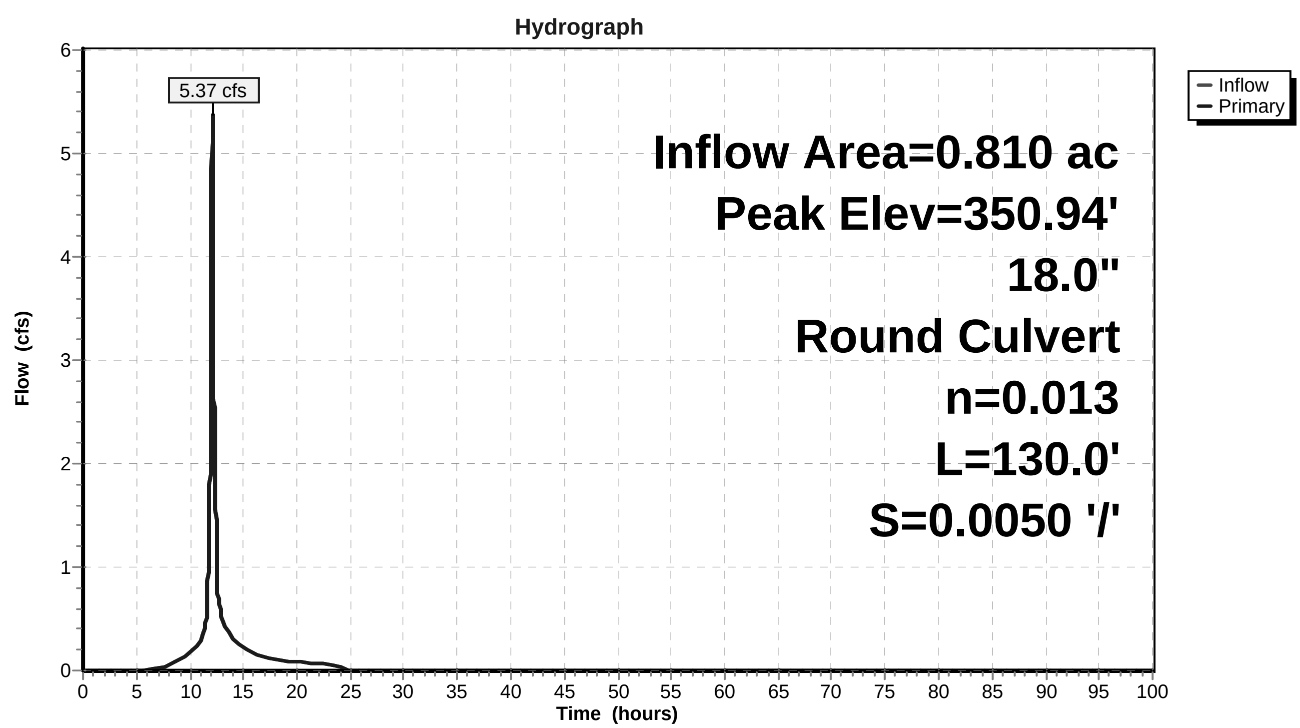
Inflow Area =	0.810 ac, 32.10% Impervious, Inflow Depth = 5.79" for 100 yr event		
Inflow =	5.37 cfs @ 12.09 hrs, Volume=	0.391 af	
Outflow =	5.37 cfs @ 12.09 hrs, Volume=	0.391 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.37 cfs @ 12.09 hrs, Volume=	0.391 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.94' @ 12.11 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.58'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.58' / 347.93' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.36 cfs @ 12.09 hrs HW=350.81' TW=350.26' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 5.36 cfs @ 3.03 fps)

Pond CB-14B:



Summary for Pond CB-15A:

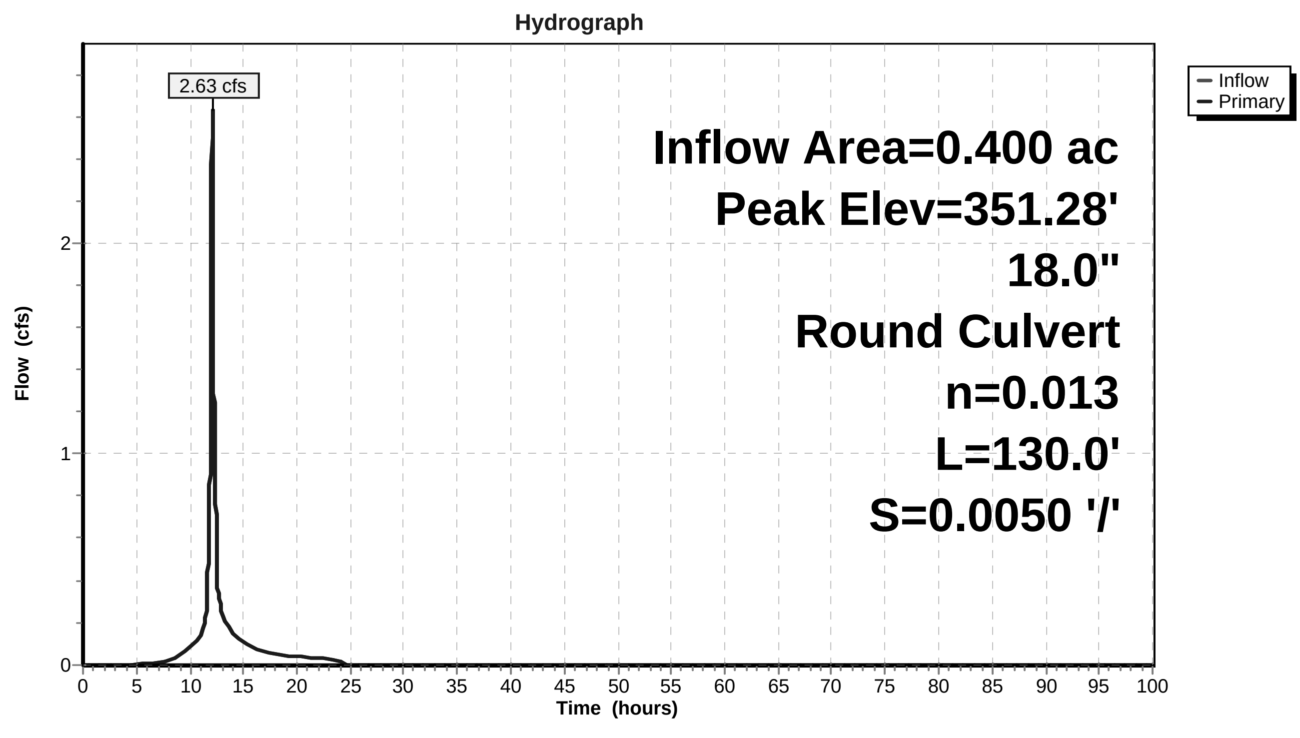
Inflow Area =	0.400 ac,	30.00% Impervious,	Inflow Depth = 5.74"	for 100 yr event
Inflow =	2.63 cfs @	12.09 hrs, Volume=	0.191 af	
Outflow =	2.63 cfs @	12.09 hrs, Volume=	0.191 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.63 cfs @	12.09 hrs, Volume=	0.191 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.28' @ 12.11 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.83'	**18.0" Round Culvert** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.83' / 349.18' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.90 cfs @ 12.09 hrs HW=351.17' TW=351.05' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.90 cfs @ 1.50 fps)

Pond CB-15A:



Summary for Pond CB-15B:

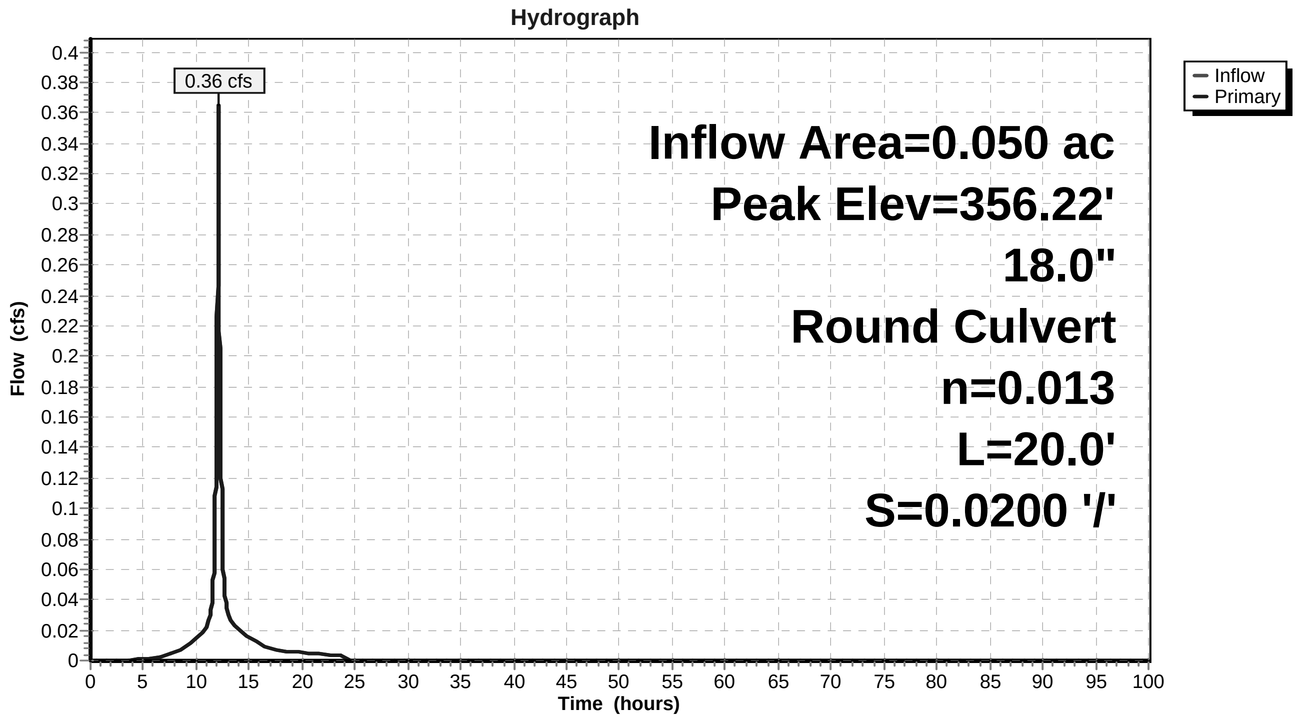
Inflow Area = 0.050 ac, 60.00% Impervious, Inflow Depth = 6.57" for 100 yr event
Inflow = 0.36 cfs @ 12.08 hrs, Volume= 0.027 af
Outflow = 0.36 cfs @ 12.08 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.36 cfs @ 12.08 hrs, Volume= 0.027 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 356.22' @ 12.08 hrs
Flood Elev= 358.76'

Device	Routing	Invert	Outlet Devices
#1	Primary	355.96'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 355.96' / 355.56' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.36 cfs @ 12.08 hrs HW=356.22' TW=351.16' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.36 cfs @ 1.75 fps)

Pond CB-15B:



Summary for Pond CB-16A:

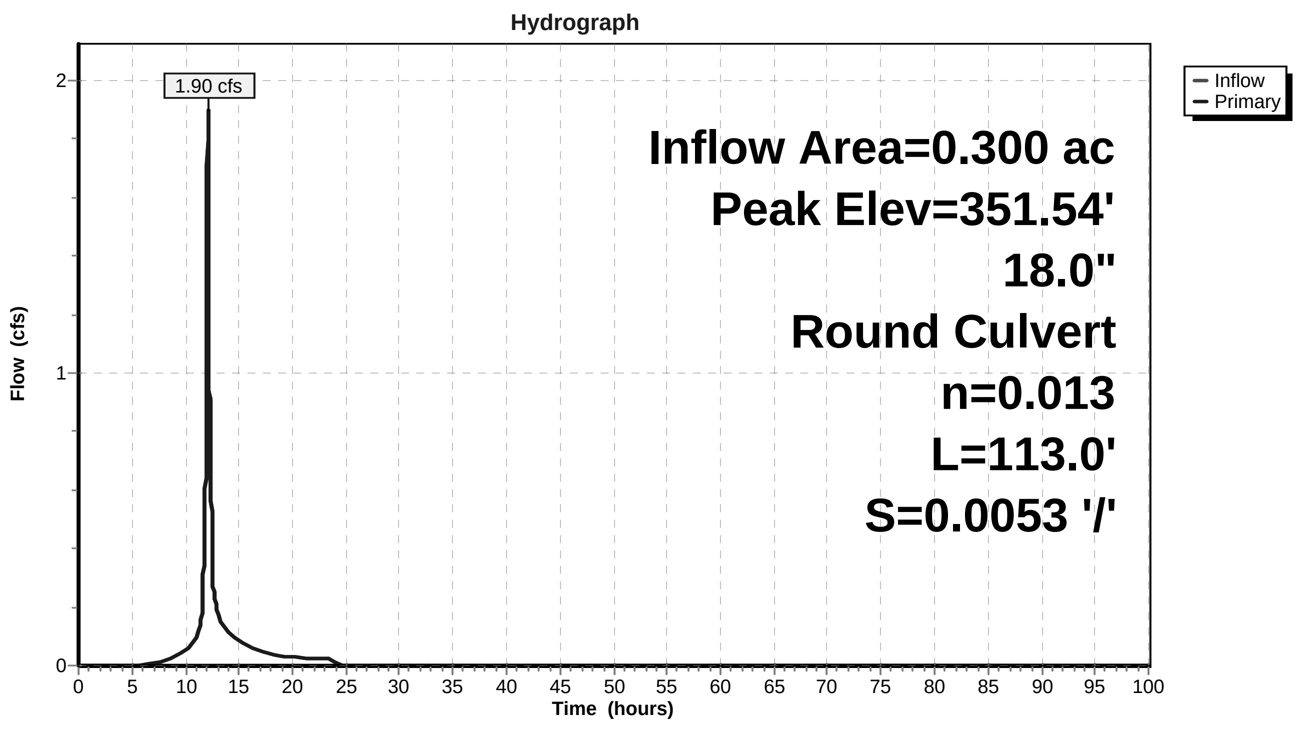
Inflow Area = 0.300 ac, 20.00% Impervious, Inflow Depth = 5.46" for 100 yr event
Inflow = 1.90 cfs @ 12.09 hrs, Volume= 0.137 af
Outflow = 1.90 cfs @ 12.09 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min
Primary = 1.90 cfs @ 12.09 hrs, Volume= 0.137 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.54' @ 12.11 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	350.53'	**18.0" Round Culvert** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 350.53' / 349.93' S= 0.0053 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.88 cfs @ 12.09 hrs HW=351.48' TW=351.18' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.88 cfs @ 2.29 fps)

Pond CB-16A:



Summary for Pond CB-16B:

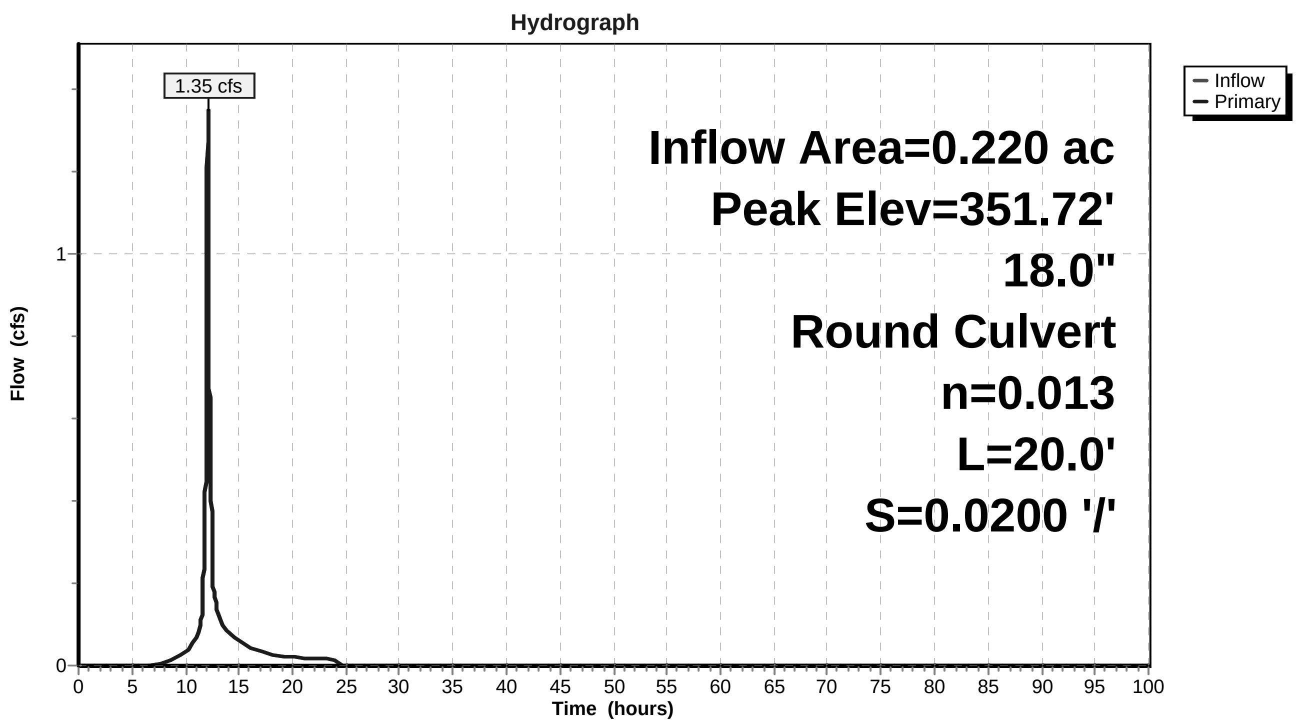
Inflow Area = 0.220 ac, 13.64% Impervious, Inflow Depth = 5.27" for 100 yr event
Inflow = 1.35 cfs @ 12.09 hrs, Volume= 0.097 af
Outflow = 1.35 cfs @ 12.09 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 1.35 cfs @ 12.09 hrs, Volume= 0.097 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 351.72' @ 12.11 hrs
Flood Elev= 353.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	351.03'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 351.03' / 350.63' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.35 cfs @ 12.09 hrs HW=351.70' TW=351.48' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.35 cfs @ 2.62 fps)

Pond CB-16B:



Summary for Pond CB-17A:

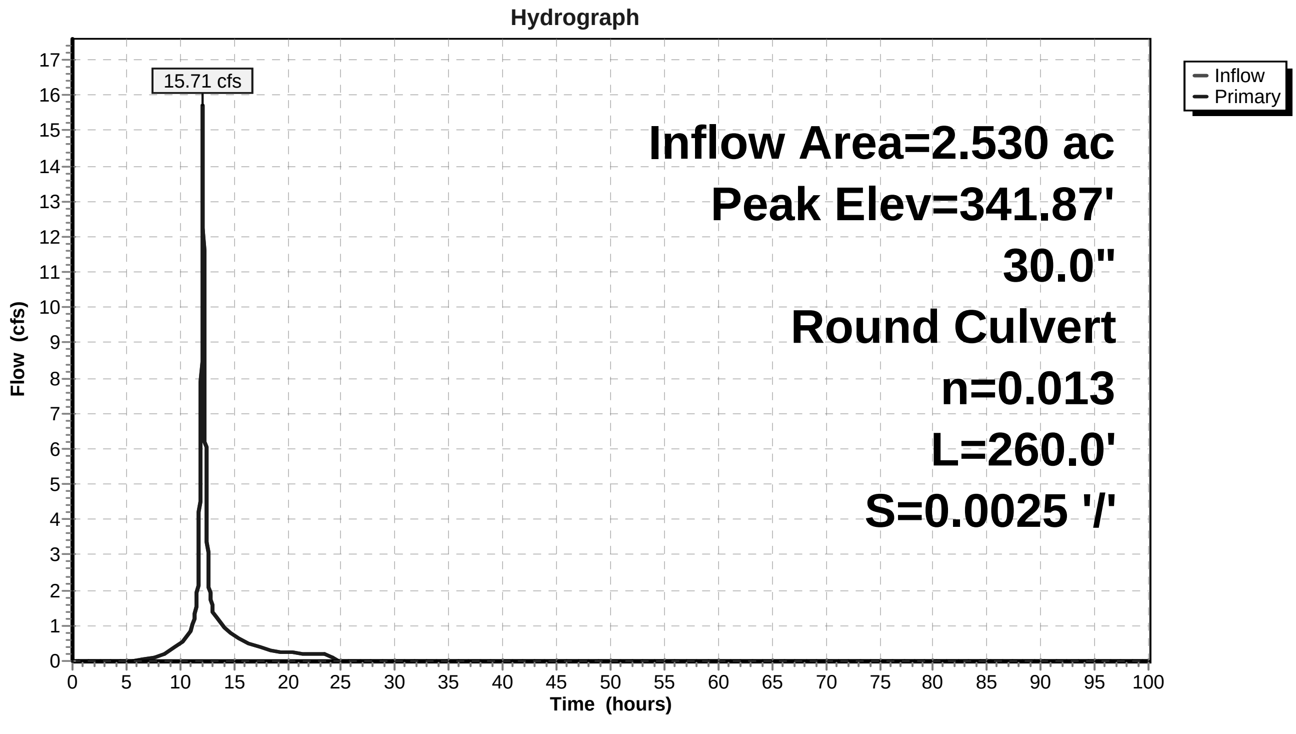
Inflow Area =	2.530 ac,	28.26% Impervious,	Inflow Depth = 5.69"	for 100 yr event
Inflow =	15.71 cfs @	12.10 hrs, Volume=	1.201 af	
Outflow =	15.71 cfs @	12.10 hrs, Volume=	1.201 af,	Atten= 0%, Lag= 0.0 min
Primary =	15.71 cfs @	12.10 hrs, Volume=	1.201 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 341.87' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	339.57'	**30.0" Round Culvert** L= 260.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 339.57' / 338.92' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.70 cfs @ 12.10 hrs HW=341.87' TW=340.86' (Dynamic Tailwater)
↑—**1=Culvert** (Outlet Controls 15.70 cfs @ 4.35 fps)

Pond CB-17A:



Summary for Pond CB-17B:

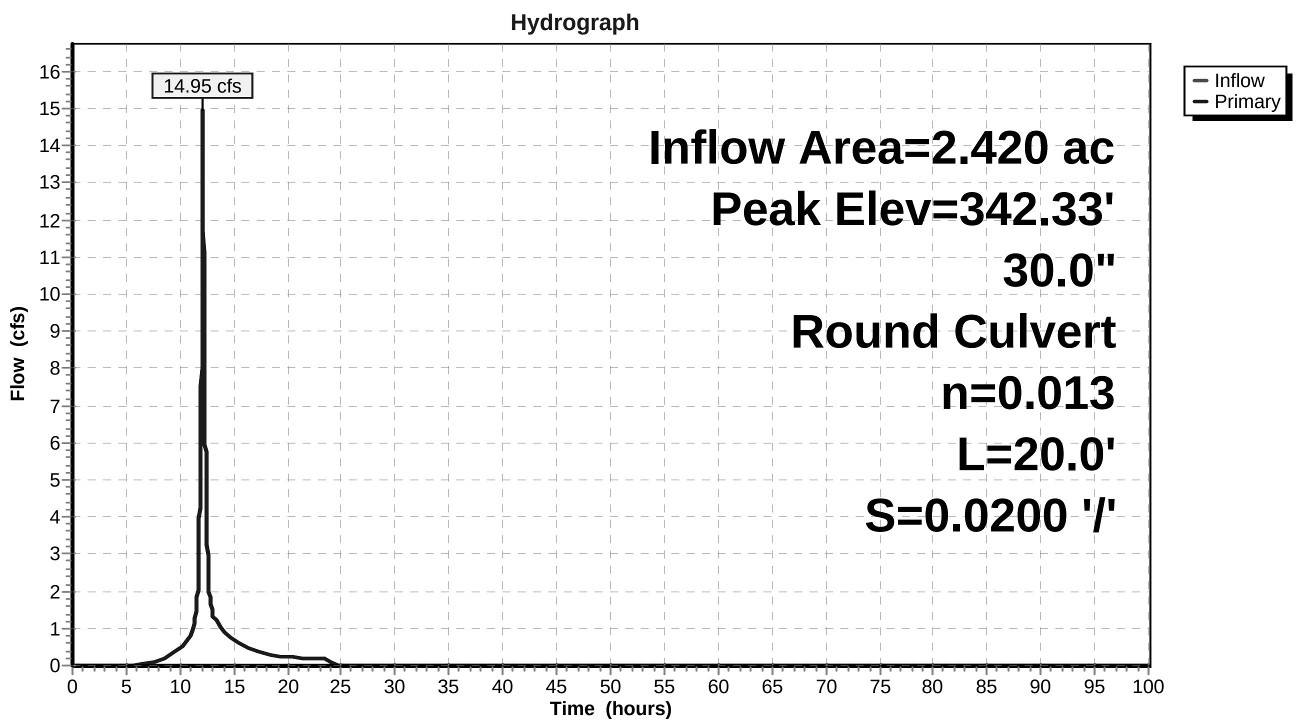
Inflow Area = 2.420 ac, 27.48% Impervious, Inflow Depth = 5.67" for 100 yr event
Inflow = 14.95 cfs @ 12.10 hrs, Volume= 1.144 af
Outflow = 14.95 cfs @ 12.10 hrs, Volume= 1.144 af, Atten= 0%, Lag= 0.0 min
Primary = 14.95 cfs @ 12.10 hrs, Volume= 1.144 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 342.33' @ 12.10 hrs
Flood Elev= 347.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.07'	**30.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.07' / 339.67' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=14.94 cfs @ 12.10 hrs HW=342.33' TW=341.87' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 14.94 cfs @ 4.23 fps)

Pond CB-17B:



Summary for Pond CB-18B:

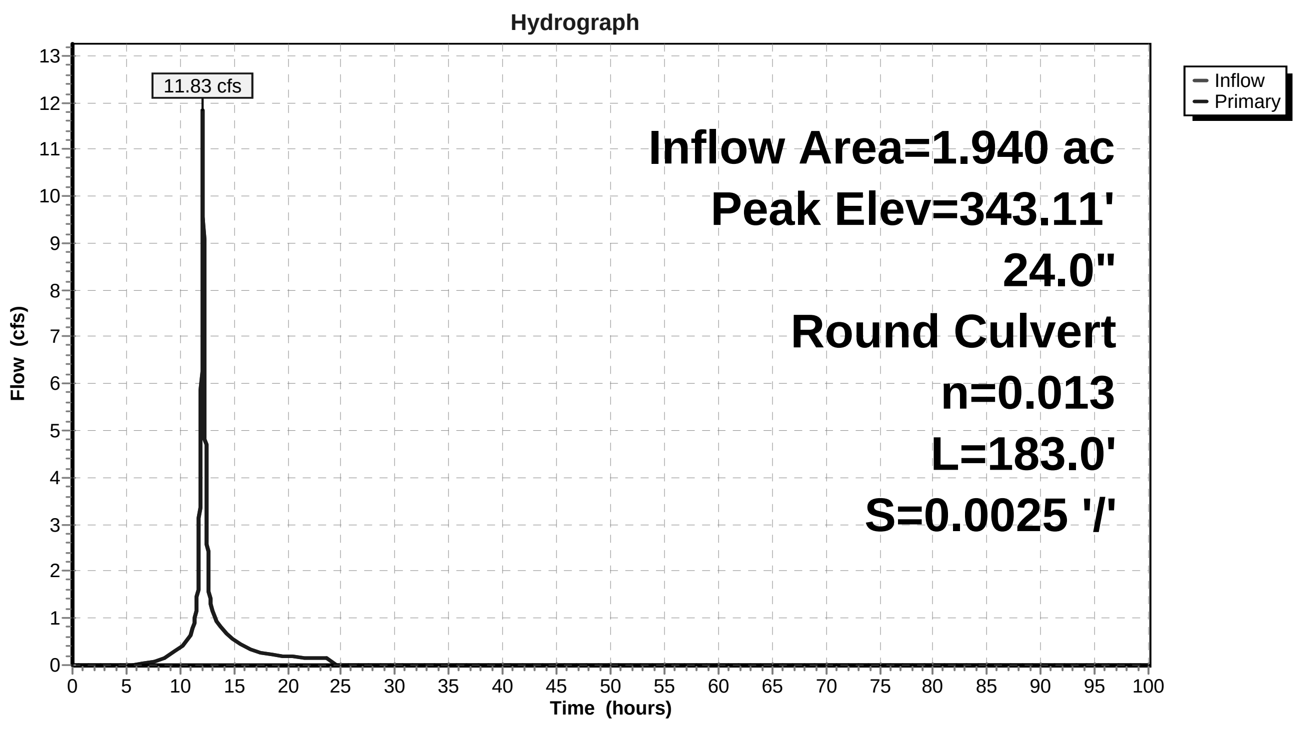
Inflow Area = 1.940 ac, 27.06% Impervious, Inflow Depth = 5.65" for 100 yr event
Inflow = 11.83 cfs @ 12.10 hrs, Volume= 0.914 af
Outflow = 11.83 cfs @ 12.10 hrs, Volume= 0.914 af, Atten= 0%, Lag= 0.0 min
Primary = 11.83 cfs @ 12.10 hrs, Volume= 0.914 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.11' @ 12.10 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.63'	**24.0" Round Culvert** L= 183.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 340.63' / 340.17' S= 0.0025 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=11.82 cfs @ 12.10 hrs HW=343.11' TW=342.32' (Dynamic Tailwater)
1=Culvert (Outlet Controls 11.82 cfs @ 3.88 fps)

Pond CB-18B:



Summary for Pond CB-1A:

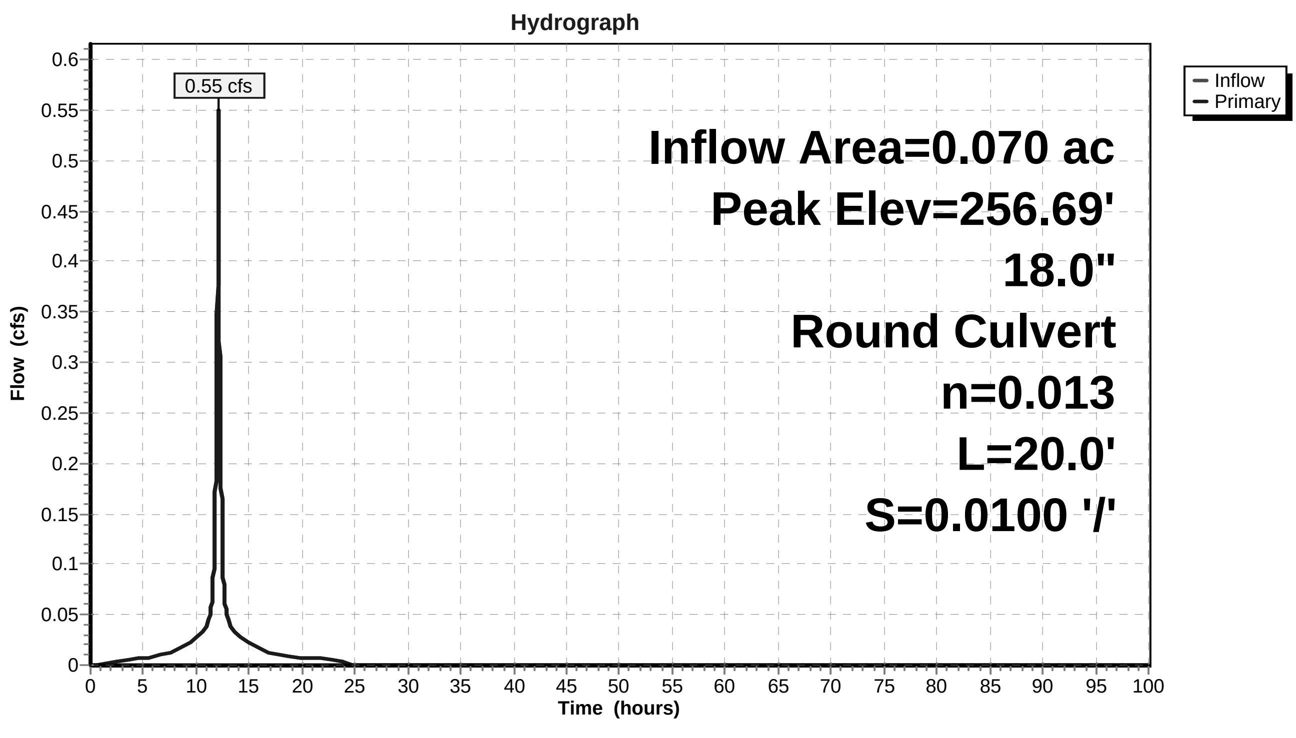
Inflow Area =	0.070 ac,100.00% Impervious,	Inflow Depth = 7.76"	for 100 yr event		
Inflow =	0.55 cfs @	12.08 hrs,	Volume=	0.045 af	
Outflow =	0.55 cfs @	12.08 hrs,	Volume=	0.045 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.55 cfs @	12.08 hrs,	Volume=	0.045 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.69' @ 12.25 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.50' / 255.30' S= 0.0100 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=0.55 cfs @ 12.08 hrs HW=256.30' TW=256.28' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.55 cfs @ 0.83 fps)

Pond CB-1A:



Summary for Pond CB-1B:

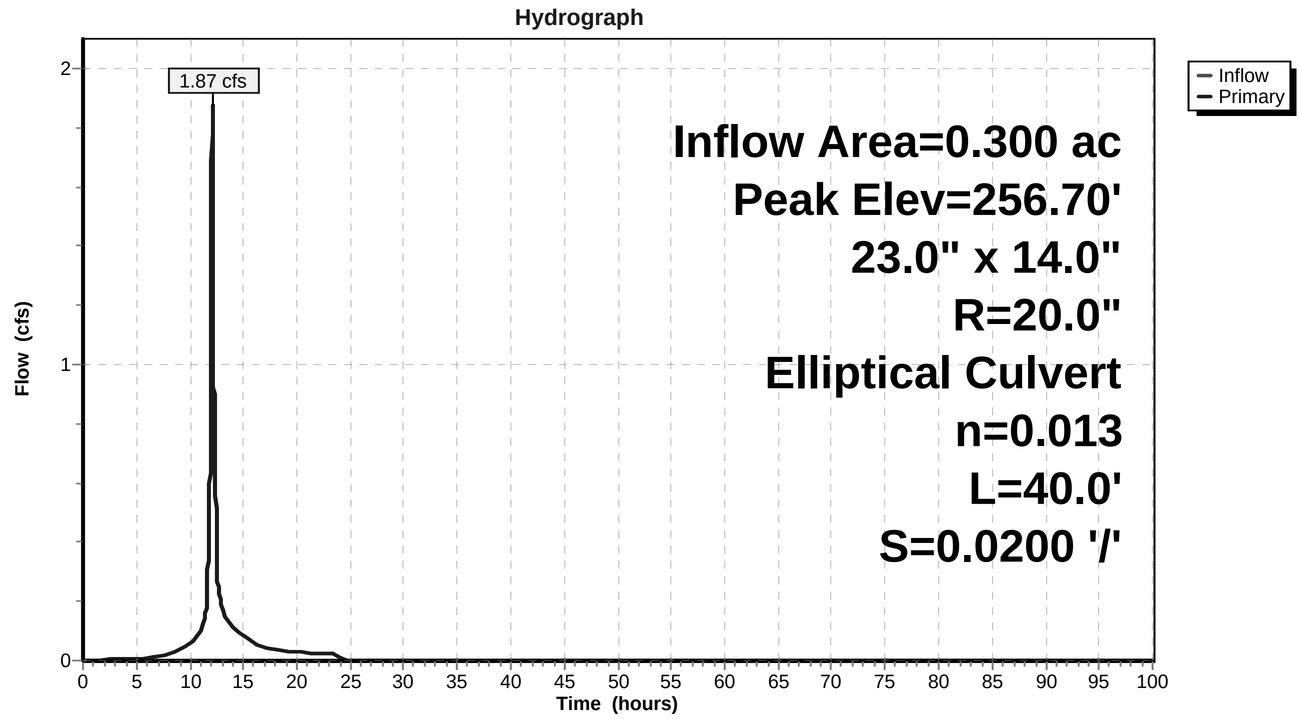
Inflow Area =	0.300 ac,	23.33% Impervious,	Inflow Depth = 5.59"	for 100 yr event	
Inflow =	1.87 cfs @	12.09 hrs,	Volume=	0.140 af	
Outflow =	1.87 cfs @	12.09 hrs,	Volume=	0.140 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.87 cfs @	12.09 hrs,	Volume=	0.140 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.70' @ 12.25 hrs
Flood Elev= 258.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.42'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 40.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.42' / 254.62' S= 0.0200 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.87 cfs @ 12.09 hrs HW=256.38' TW=256.30' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.87 cfs @ 1.60 fps)

Pond CB-1B:



Summary for Pond CB-1C:

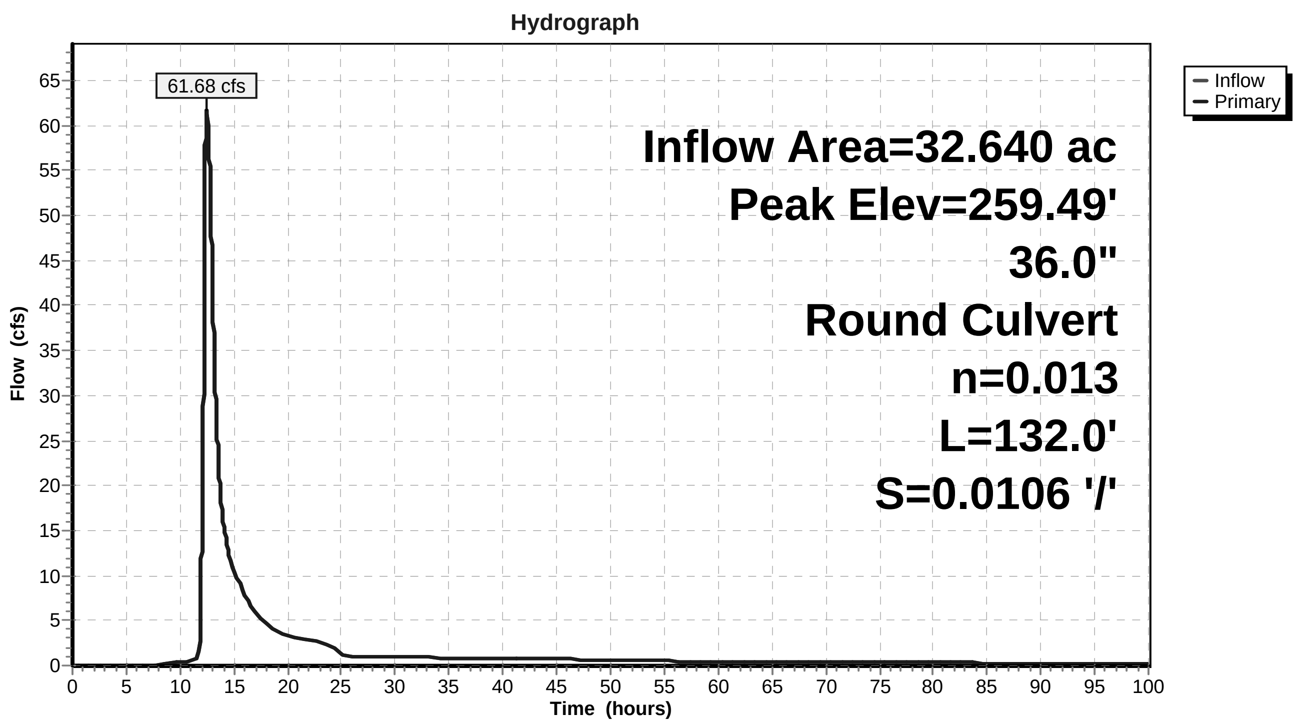
Inflow Area = 32.640 ac, 11.90% Impervious, Inflow Depth > 5.16" for 100 yr event
Inflow = 61.68 cfs @ 12.49 hrs, Volume= 14.046 af
Outflow = 61.68 cfs @ 12.49 hrs, Volume= 14.046 af, Atten= 0%, Lag= 0.0 min
Primary = 61.68 cfs @ 12.49 hrs, Volume= 14.046 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 259.49' @ 12.49 hrs
Flood Elev= 259.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	254.10'	**36.0" Round Culvert** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 254.10' / 252.70' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=61.68 cfs @ 12.49 hrs HW=259.49' TW=256.20' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 61.68 cfs @ 8.73 fps)

Pond CB-1C:



Summary for Pond CB-1D:

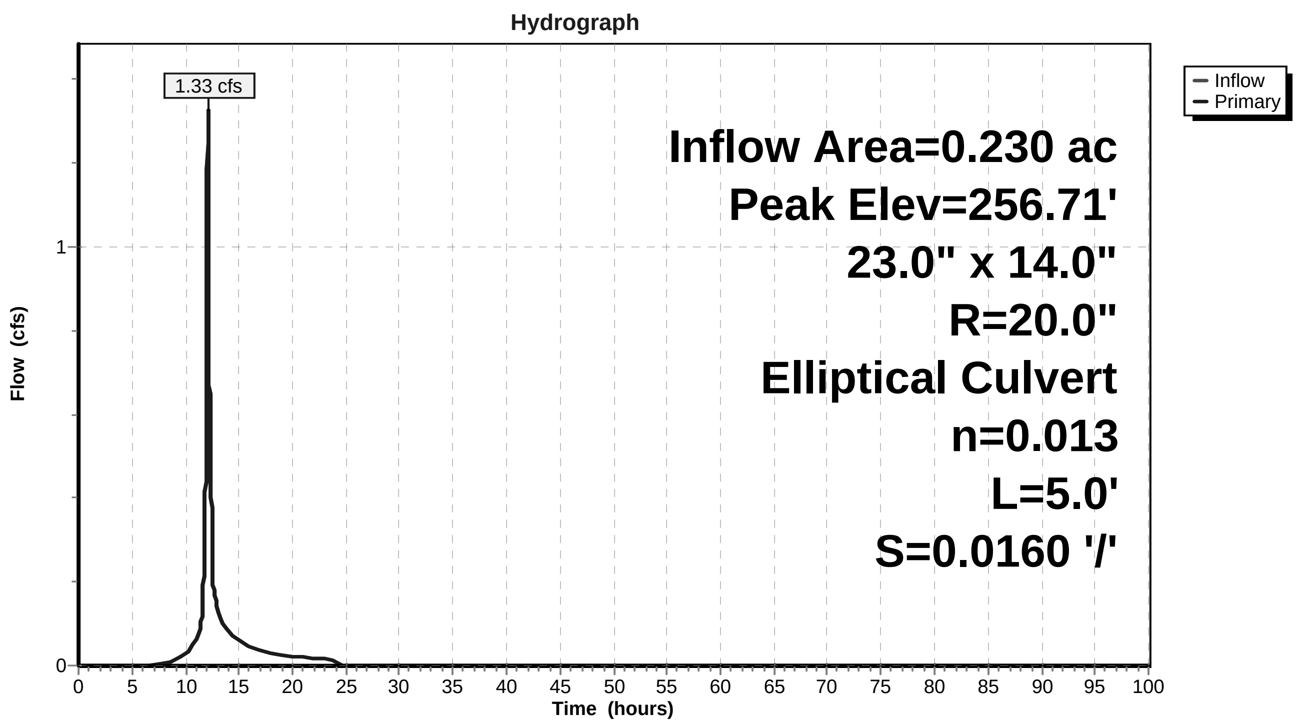
Inflow Area = 0.230 ac, 0.00% Impervious, Inflow Depth = 4.93" for 100 yr event
Inflow = 1.33 cfs @ 12.09 hrs, Volume= 0.094 af
Outflow = 1.33 cfs @ 12.09 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min
Primary = 1.33 cfs @ 12.09 hrs, Volume= 0.094 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.71' @ 12.24 hrs
Flood Elev= 257.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	255.60'	**23.0" W x 14.0" H, R=20.0" Elliptical Culvert** L= 5.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 255.60' / 255.52' S= 0.0160 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=1.32 cfs @ 12.09 hrs HW=256.43' TW=256.39' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.32 cfs @ 1.35 fps)

Pond CB-1D:



Summary for Pond CB-2A:

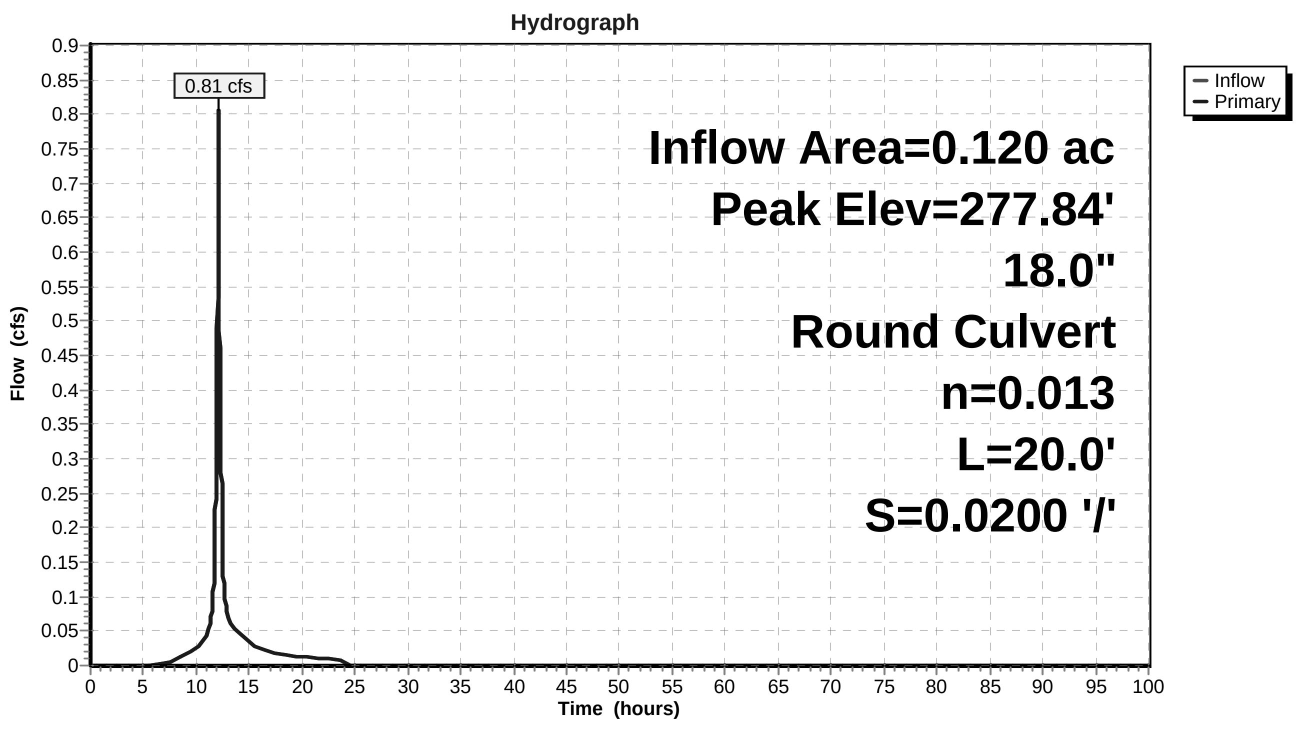
Inflow Area = 0.120 ac, 33.33% Impervious, Inflow Depth = 5.86" for 100 yr event
Inflow = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af
Outflow = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Primary = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 277.84' @ 12.09 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.44'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 277.44' / 277.04' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.80 cfs @ 12.09 hrs HW=277.84' TW=274.78' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 0.80 cfs @ 2.15 fps)

Pond CB-2A:



Summary for Pond CB-2B:

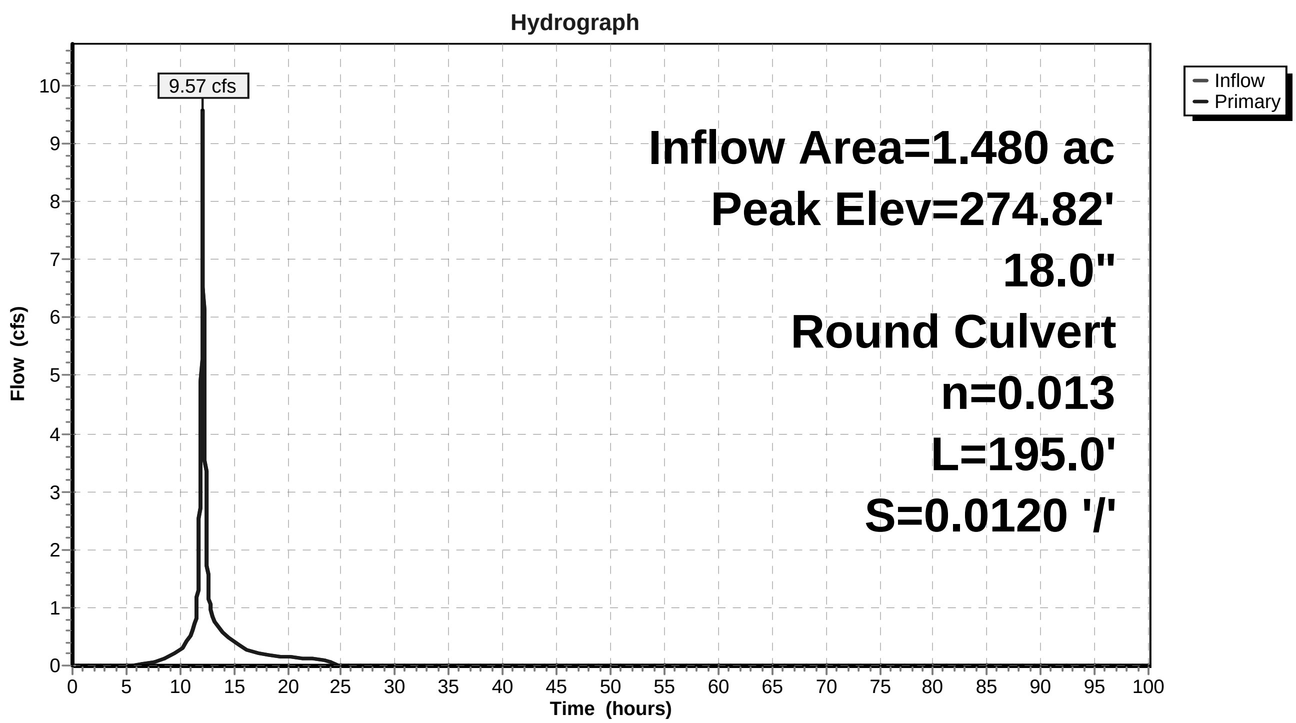
Inflow Area =	1.480 ac, 24.32% Impervious, Inflow Depth = 5.60" for 100 yr event			
Inflow =	9.57 cfs @	12.09 hrs, Volume=	0.691 af	
Outflow =	9.57 cfs @	12.09 hrs, Volume=	0.691 af,	Atten= 0%, Lag= 0.0 min
Primary =	9.57 cfs @	12.09 hrs, Volume=	0.691 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 274.82' @ 12.10 hrs
Flood Elev= 281.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.07'	**18.0" Round Culvert** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 272.07' / 269.73' S= 0.0120 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=9.56 cfs @ 12.09 hrs HW=274.79' TW=272.49' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 9.56 cfs @ 5.41 fps)

Pond CB-2B:



Summary for Pond CB-3A:

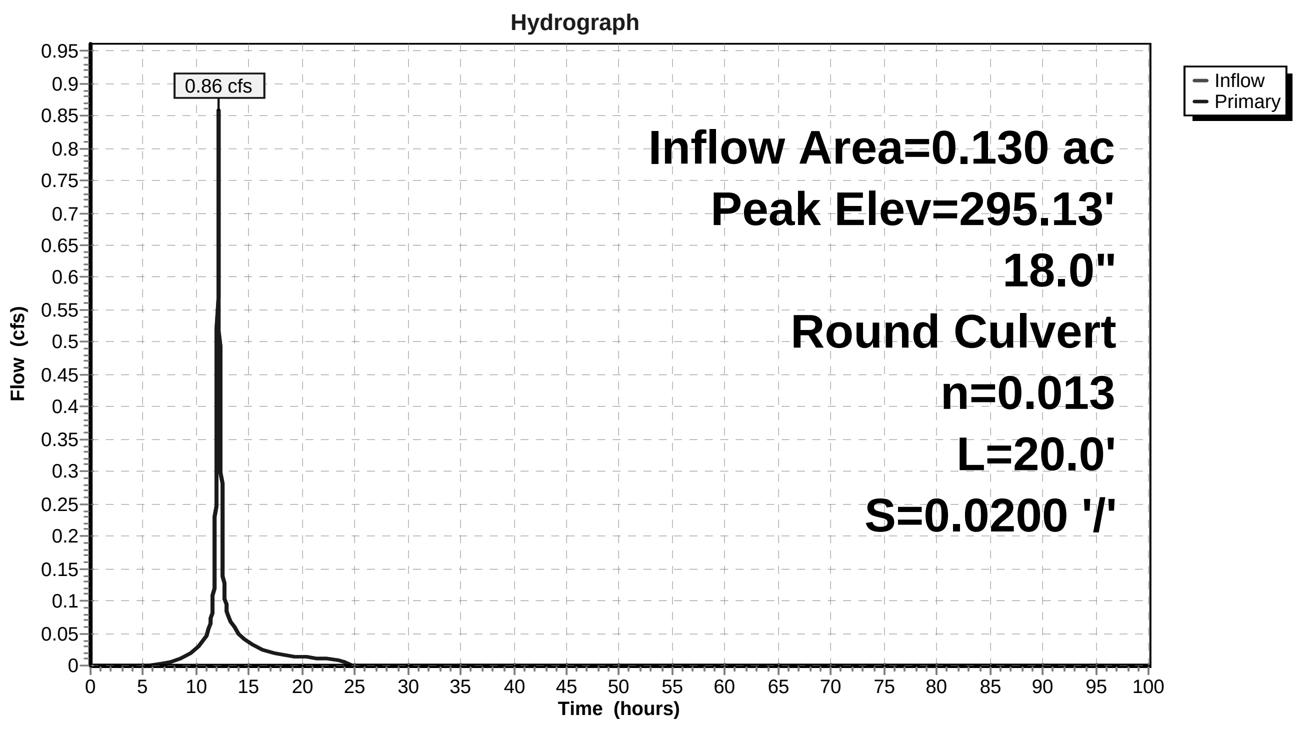
Inflow Area = 0.130 ac, 30.77% Impervious, Inflow Depth = 5.74" for 100 yr event
Inflow = 0.86 cfs @ 12.09 hrs, Volume= 0.062 af
Outflow = 0.86 cfs @ 12.09 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86 cfs @ 12.09 hrs, Volume= 0.062 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 295.13' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.50'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 294.50' / 294.10' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.86 cfs @ 12.09 hrs HW=295.13' TW=295.03' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.86 cfs @ 1.79 fps)

Pond CB-3A:



Summary for Pond CB-3B:

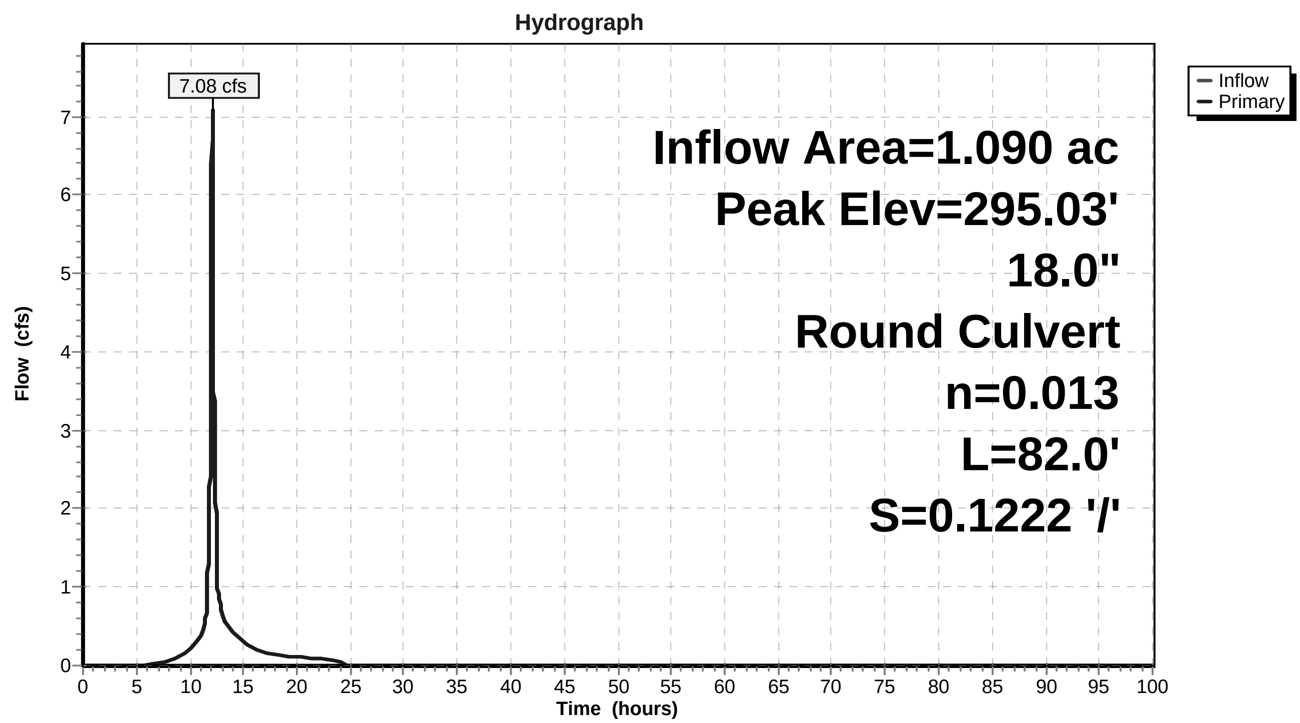
Inflow Area = 1.090 ac, 25.69% Impervious, Inflow Depth = 5.63" for 100 yr event
Inflow = 7.08 cfs @ 12.09 hrs, Volume= 0.511 af
Outflow = 7.08 cfs @ 12.09 hrs, Volume= 0.511 af, Atten= 0%, Lag= 0.0 min
Primary = 7.08 cfs @ 12.09 hrs, Volume= 0.511 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 295.03' @ 12.09 hrs
Flood Elev= 297.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	293.60'	**18.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 293.60' / 283.58' S= 0.1222 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=7.06 cfs @ 12.09 hrs HW=295.03' TW=284.62' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 7.06 cfs @ 4.07 fps)

Pond CB-3B:



Summary for Pond CB-4A:

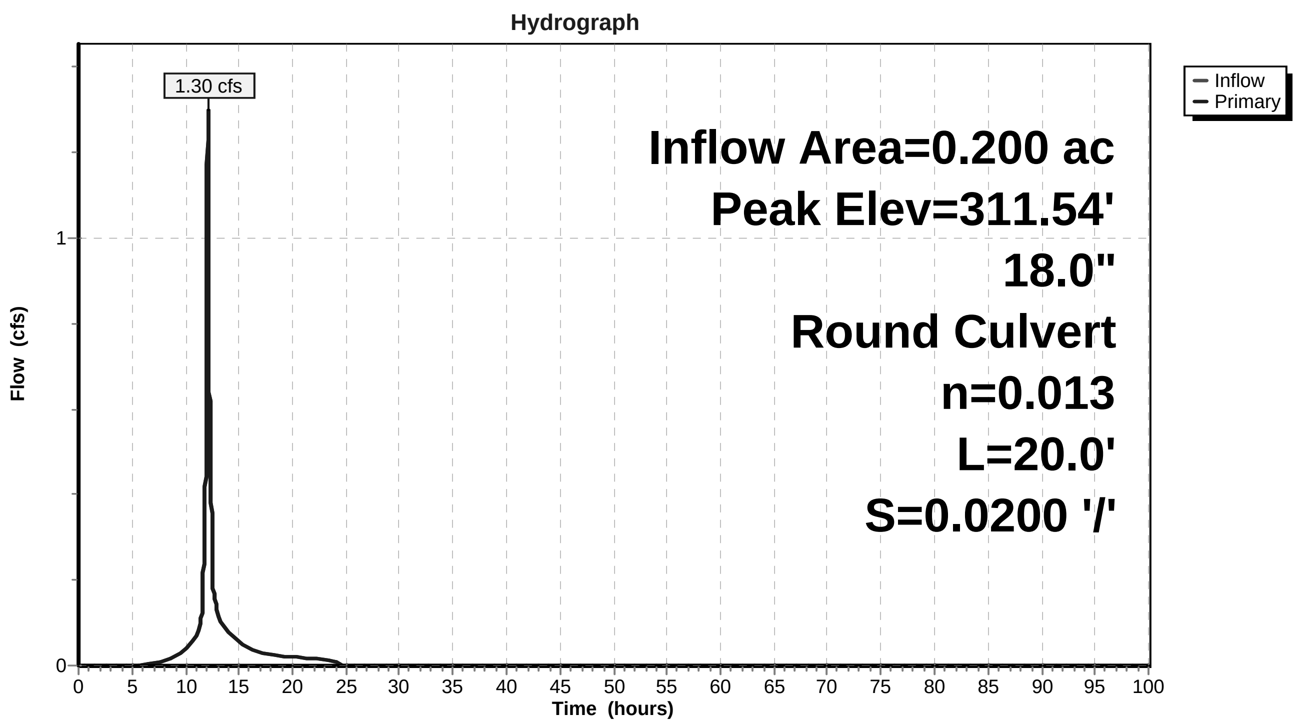
Inflow Area = 0.200 ac, 25.00% Impervious, Inflow Depth = 5.62" for 100 yr event
Inflow = 1.30 cfs @ 12.09 hrs, Volume= 0.094 af
Outflow = 1.30 cfs @ 12.09 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.09 hrs, Volume= 0.094 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.54' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.95'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.95' / 310.55' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.30 cfs @ 12.09 hrs HW=311.54' TW=311.25' (Dynamic Tailwater)
1=Culvert (Outlet Controls 1.30 cfs @ 2.97 fps)

Pond CB-4A:



Summary for Pond CB-4B:

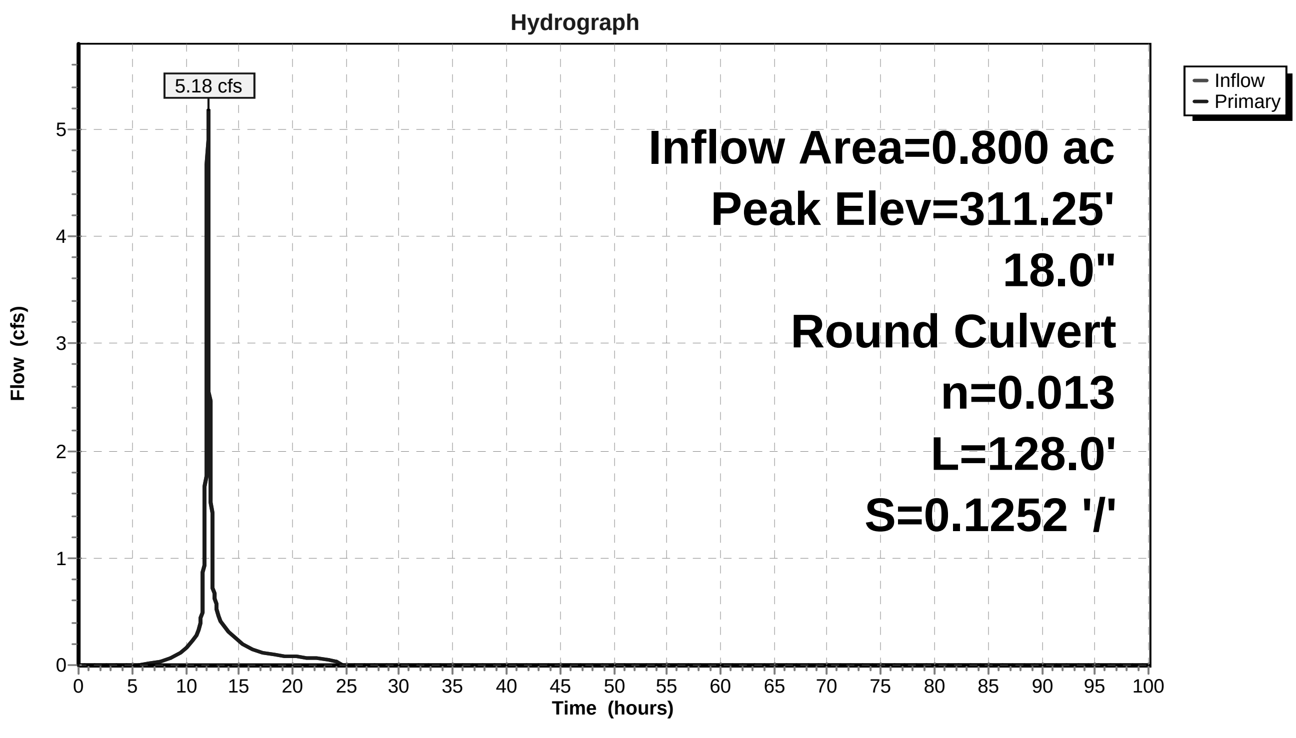
Inflow Area =	0.800 ac,	25.00% Impervious, Inflow Depth = 5.61" for 100 yr event		
Inflow =	5.18 cfs @	12.09 hrs, Volume=	0.374 af	
Outflow =	5.18 cfs @	12.09 hrs, Volume=	0.374 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.18 cfs @	12.09 hrs, Volume=	0.374 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 311.25' @ 12.09 hrs
Flood Elev= 314.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	310.12'	**18.0" Round Culvert** L= 128.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 310.12' / 294.10' S= 0.1252 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.17 cfs @ 12.09 hrs HW=311.25' TW=295.03' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.17 cfs @ 3.62 fps)

Pond CB-4B:



Summary for Pond CB-5A:

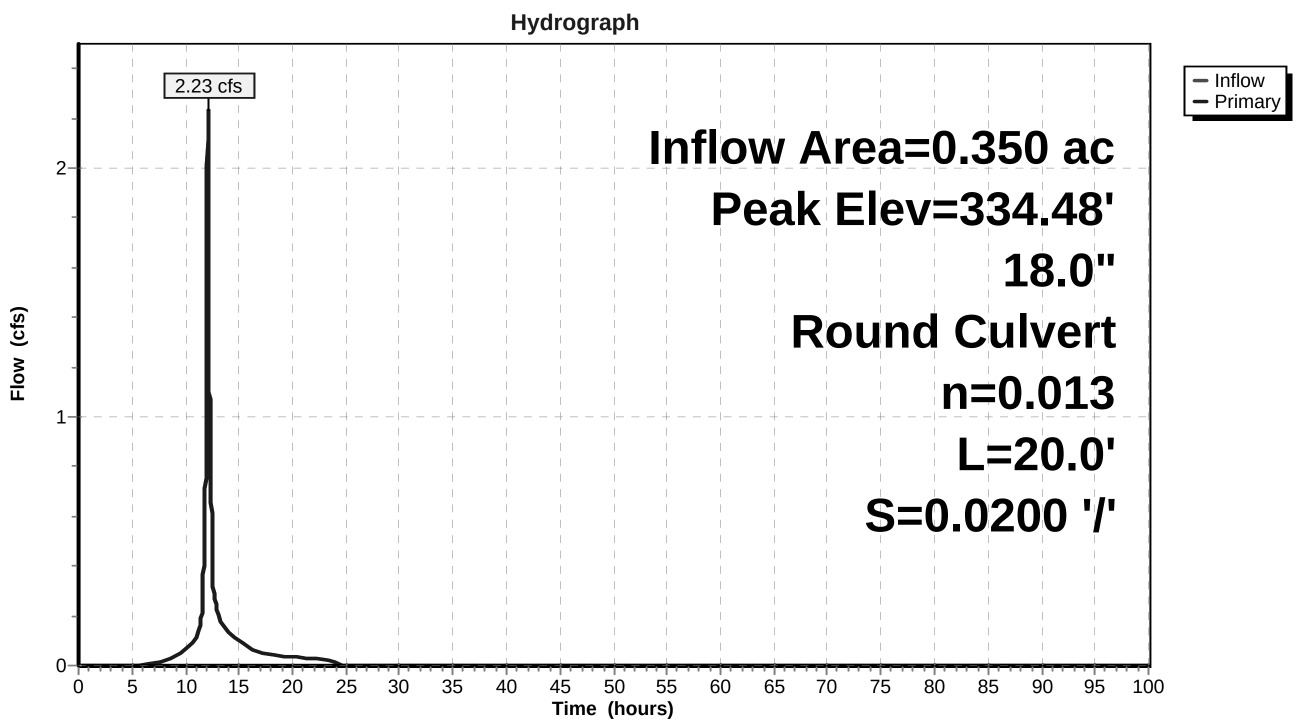
Inflow Area =	0.350 ac, 22.86% Impervious, Inflow Depth = 5.51" for 100 yr event			
Inflow =	2.23 cfs @	12.09 hrs, Volume=	0.161 af	
Outflow =	2.23 cfs @	12.09 hrs, Volume=	0.161 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.23 cfs @	12.09 hrs, Volume=	0.161 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.48' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.75' / 333.35' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.23 cfs @ 12.09 hrs HW=334.47' TW=334.01' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.23 cfs @ 3.86 fps)

Pond CB-5A:



Summary for Pond CB-5B:

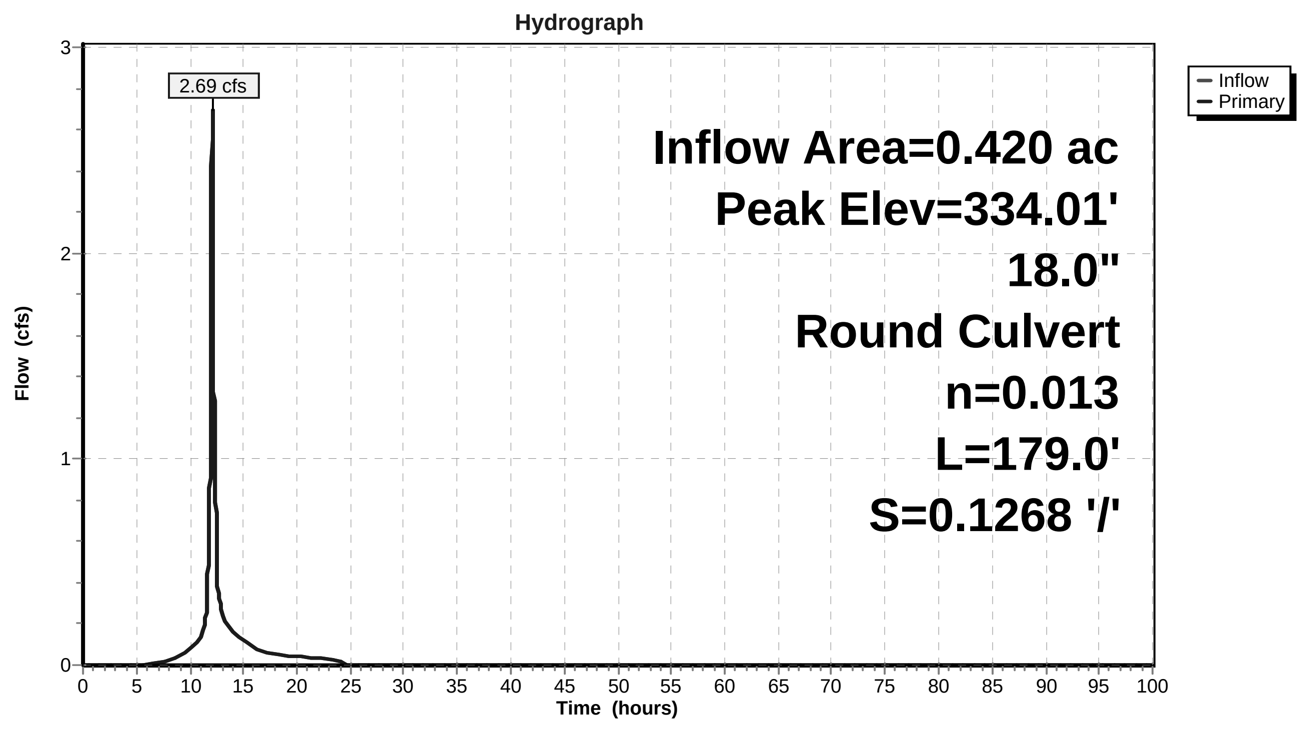
Inflow Area = 0.420 ac, 23.81% Impervious, Inflow Depth = 5.55" for 100 yr event
Inflow = 2.69 cfs @ 12.09 hrs, Volume= 0.194 af
Outflow = 2.69 cfs @ 12.09 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 2.69 cfs @ 12.09 hrs, Volume= 0.194 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 334.01' @ 12.09 hrs
Flood Elev= 336.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	333.25'	**18.0" Round Culvert** L= 179.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.25' / 310.55' S= 0.1268 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.69 cfs @ 12.09 hrs HW=334.01' TW=322.80' (Dynamic Tailwater)
1=Culvert (Inlet Controls 2.69 cfs @ 2.97 fps)

Pond CB-5B:



Summary for Pond CB-6A:

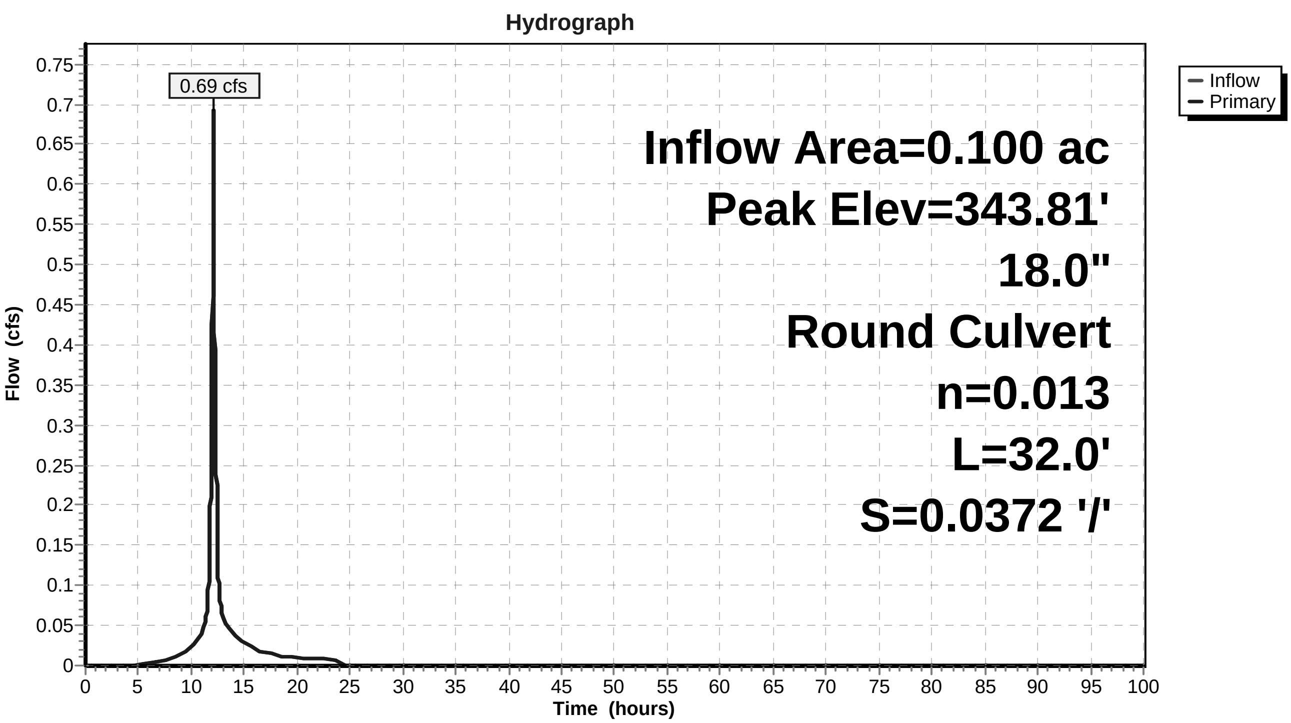
Inflow Area = 0.100 ac, 40.00% Impervious, Inflow Depth = 6.10" for 100 yr event
Inflow = 0.69 cfs @ 12.09 hrs, Volume= 0.051 af
Outflow = 0.69 cfs @ 12.09 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min
Primary = 0.69 cfs @ 12.09 hrs, Volume= 0.051 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.81' @ 12.09 hrs
Flood Elev= 346.44'

Device	Routing	Invert	Outlet Devices
#1	Primary	343.44'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 343.44' / 342.25' S= 0.0372 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.69 cfs @ 12.09 hrs HW=343.81' TW=343.10' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 0.69 cfs @ 2.06 fps)

Pond CB-6A:



Summary for Pond CB-6B:

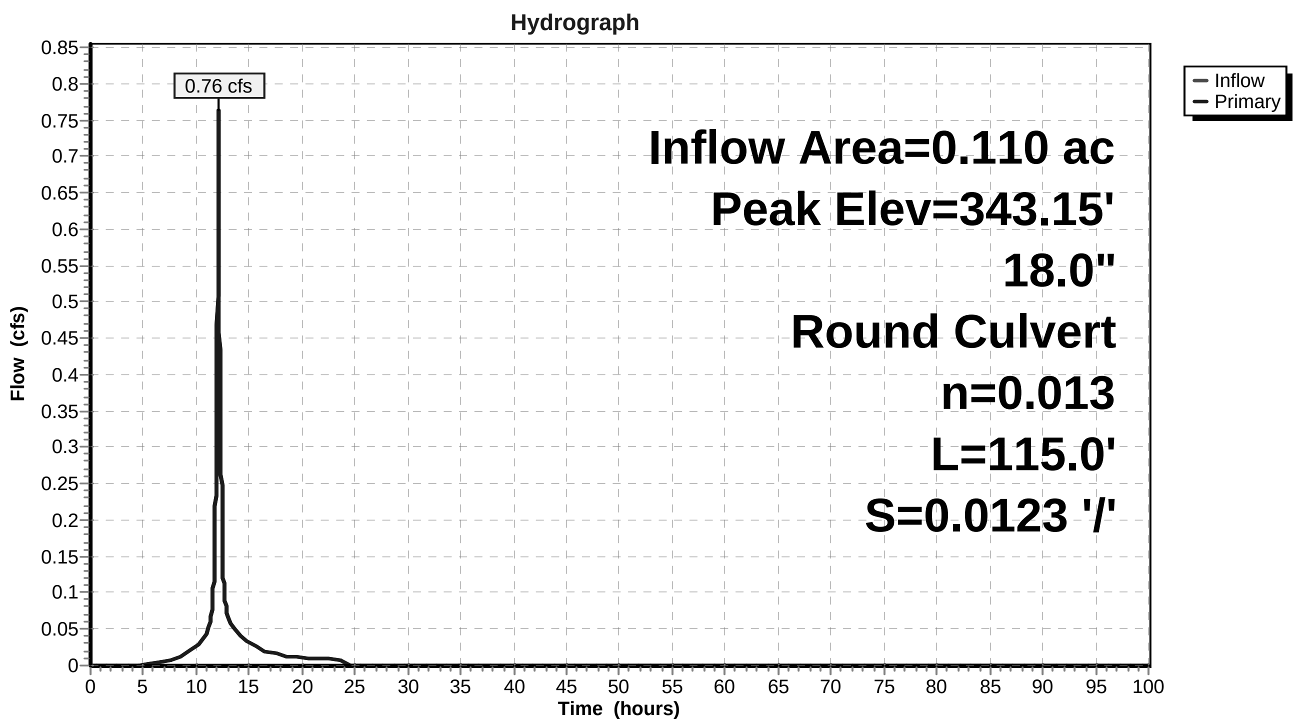
Inflow Area = 0.110 ac, 40.91% Impervious, Inflow Depth = 6.12" for 100 yr event
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.056 af
Outflow = 0.76 cfs @ 12.09 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 0.76 cfs @ 12.09 hrs, Volume= 0.056 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.15' @ 12.10 hrs
Flood Elev= 345.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	342.15'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 342.15' / 340.73' S= 0.0123 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.67 cfs @ 12.09 hrs HW=343.10' TW=343.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 0.67 cfs @ 0.81 fps)

Pond CB-6B:



Summary for Pond CB-7A:

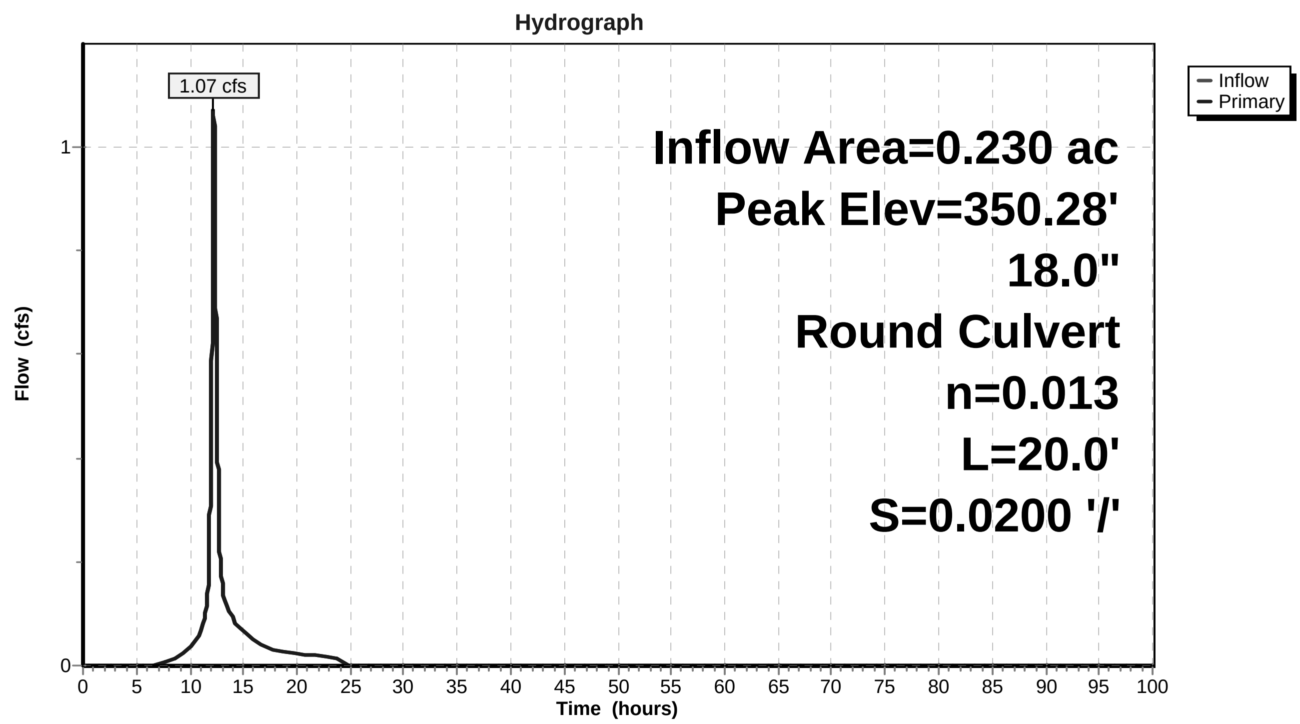
Inflow Area = 0.230 ac, 17.39% Impervious, Inflow Depth = 5.39" for 100 yr event
Inflow = 1.07 cfs @ 12.21 hrs, Volume= 0.103 af
Outflow = 1.07 cfs @ 12.21 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min
Primary = 1.07 cfs @ 12.21 hrs, Volume= 0.103 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.28' @ 12.21 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.82'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.82' / 349.42' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.07 cfs @ 12.21 hrs HW=350.28' TW=349.85' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 1.07 cfs @ 3.45 fps)

Pond CB-7A:



Summary for Pond CB-7B:

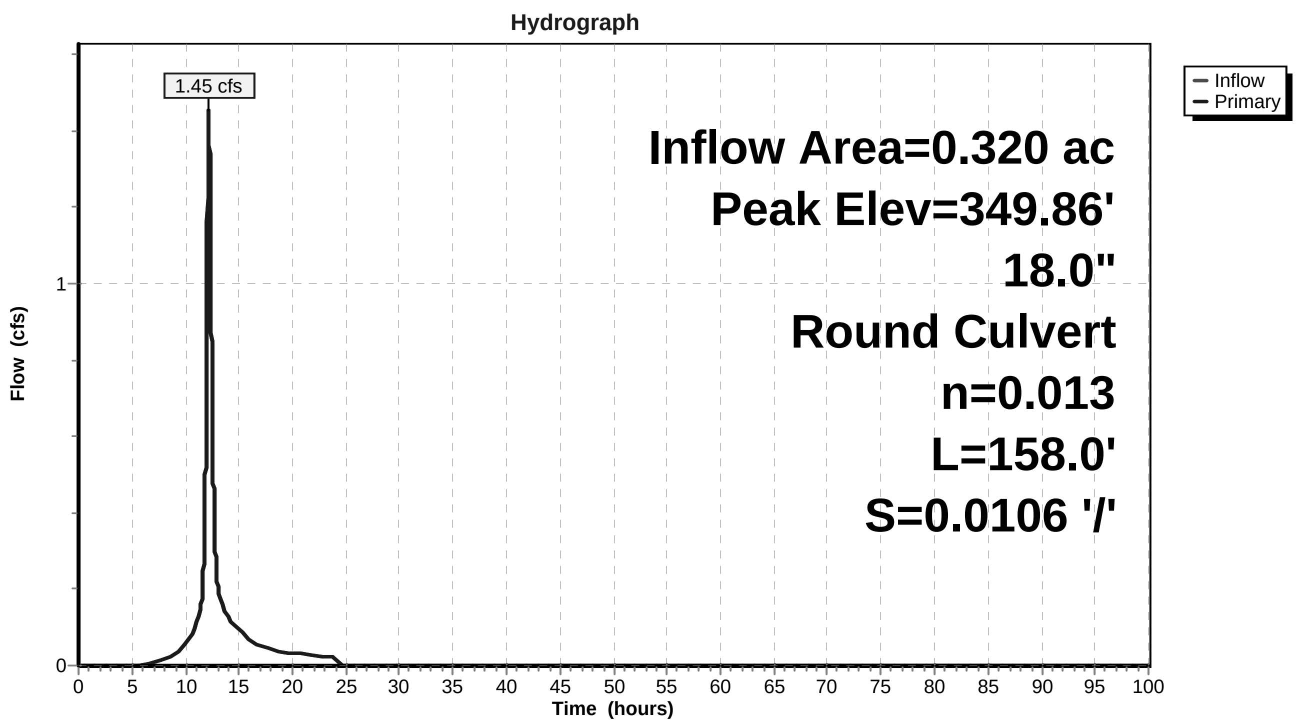
Inflow Area =	0.320 ac,	25.00% Impervious,	Inflow Depth = 5.62"	for 100 yr event
Inflow =	1.45 cfs @	12.15 hrs, Volume=	0.150 af	
Outflow =	1.45 cfs @	12.15 hrs, Volume=	0.150 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.45 cfs @	12.15 hrs, Volume=	0.150 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 349.86' @ 12.15 hrs
Flood Elev= 352.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	349.32'	**18.0" Round Culvert** L= 158.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 349.32' / 347.65' S= 0.0106 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=1.45 cfs @ 12.15 hrs HW=349.86' TW=348.31' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.45 cfs @ 2.51 fps)

Pond CB-7B:



Summary for Pond CB-8A:

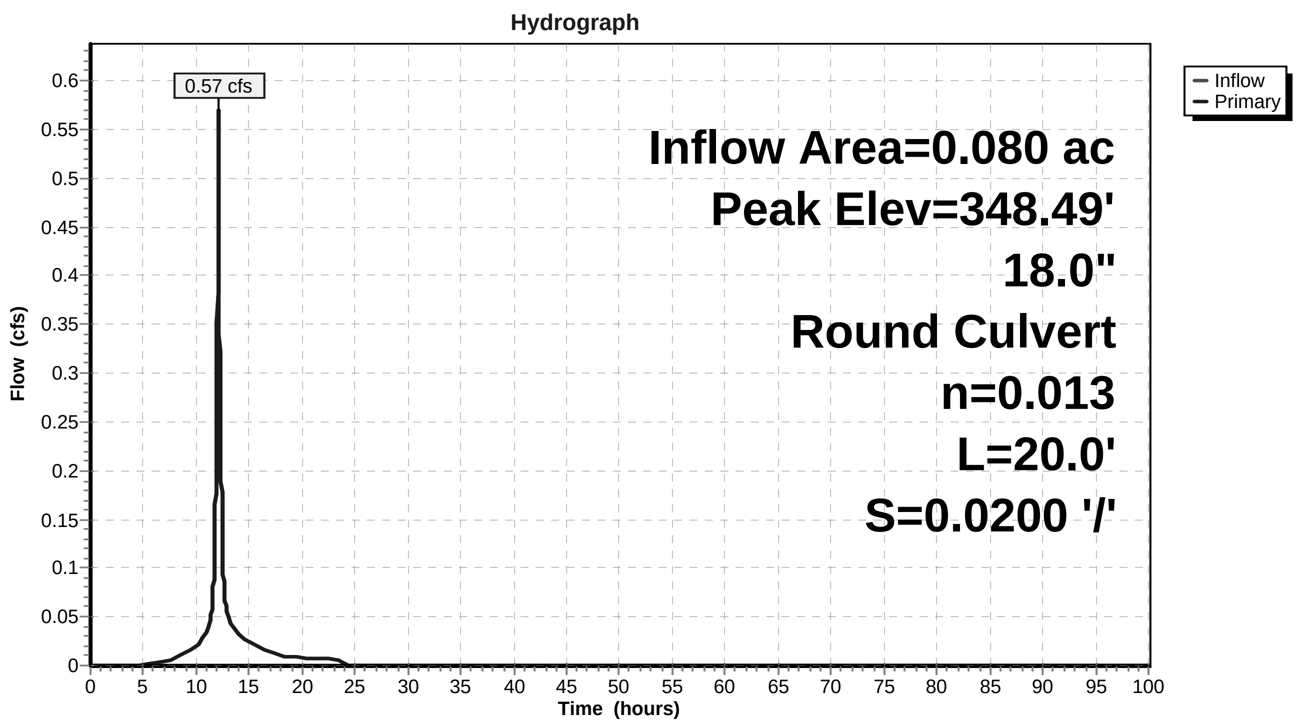
Inflow Area = 0.080 ac, 50.00% Impervious, Inflow Depth = 6.33" for 100 yr event
Inflow = 0.57 cfs @ 12.08 hrs, Volume= 0.042 af
Outflow = 0.57 cfs @ 12.08 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.08 hrs, Volume= 0.042 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.49' @ 12.09 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	348.05'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 348.05' / 347.65' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=0.57 cfs @ 12.08 hrs HW=348.49' TW=348.35' (Dynamic Tailwater)
└—**1=Culvert** (Outlet Controls 0.57 cfs @ 1.96 fps)

Pond CB-8A:



Summary for Pond CB-8B:

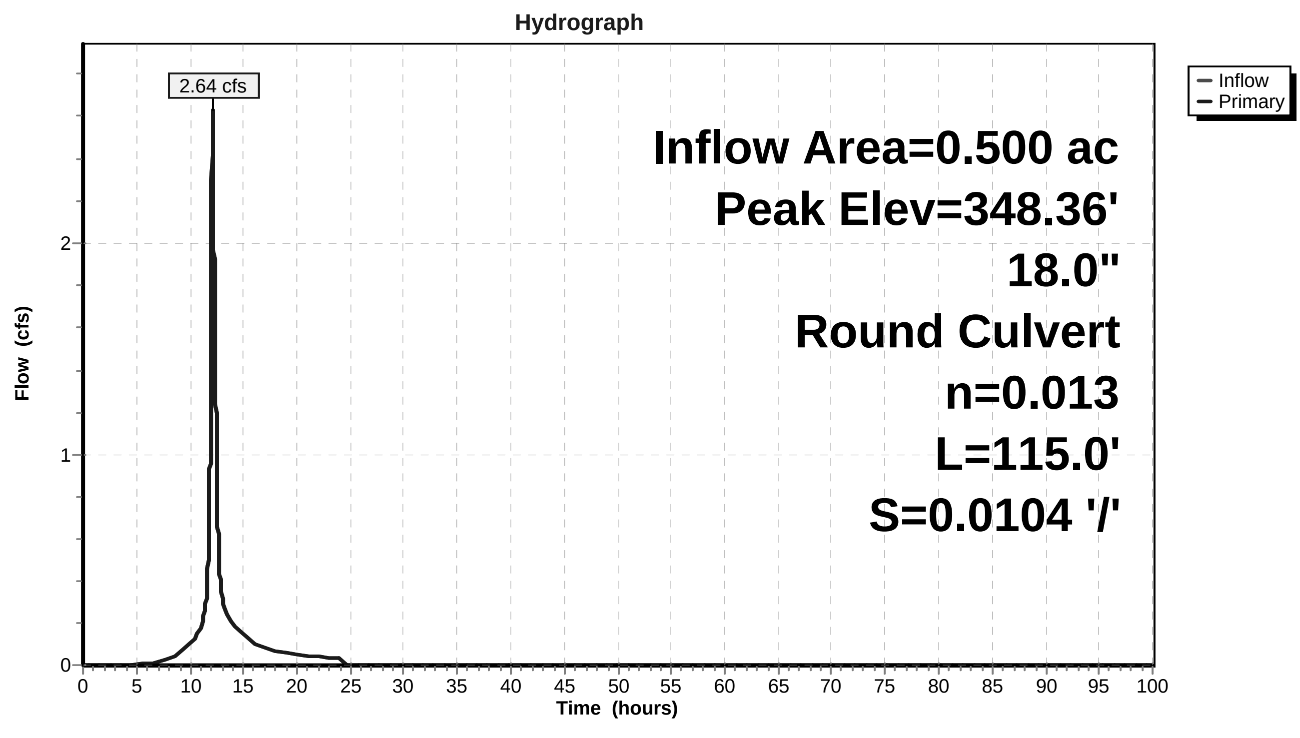
Inflow Area = 0.500 ac, 32.00% Impervious, Inflow Depth = 5.83" for 100 yr event
Inflow = 2.64 cfs @ 12.10 hrs, Volume= 0.243 af
Outflow = 2.64 cfs @ 12.10 hrs, Volume= 0.243 af, Atten= 0%, Lag= 0.0 min
Primary = 2.64 cfs @ 12.10 hrs, Volume= 0.243 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.36' @ 12.10 hrs
Flood Elev= 351.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.55'	**18.0" Round Culvert** L= 115.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.55' / 346.35' S= 0.0104 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.64 cfs @ 12.10 hrs HW=348.36' TW=347.37' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 2.64 cfs @ 3.96 fps)

Pond CB-8B:



Summary for Pond CB-9A:

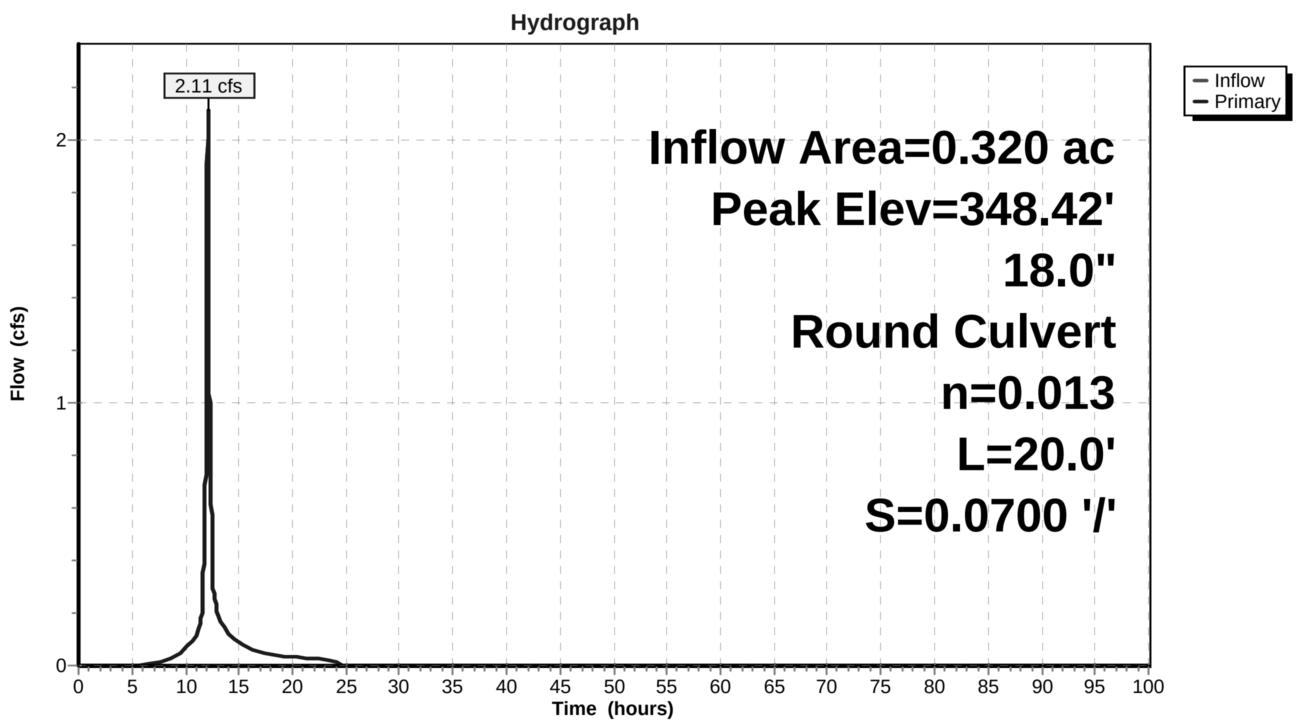
Inflow Area = 0.320 ac, 31.25% Impervious, Inflow Depth = 5.74" for 100 yr event
Inflow = 2.11 cfs @ 12.09 hrs, Volume= 0.153 af
Outflow = 2.11 cfs @ 12.09 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min
Primary = 2.11 cfs @ 12.09 hrs, Volume= 0.153 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 348.42' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.75'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.75' / 346.35' S= 0.0700 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=2.11 cfs @ 12.09 hrs HW=348.42' TW=347.37' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.11 cfs @ 2.78 fps)

Pond CB-9A:



Summary for Pond CB-9B:

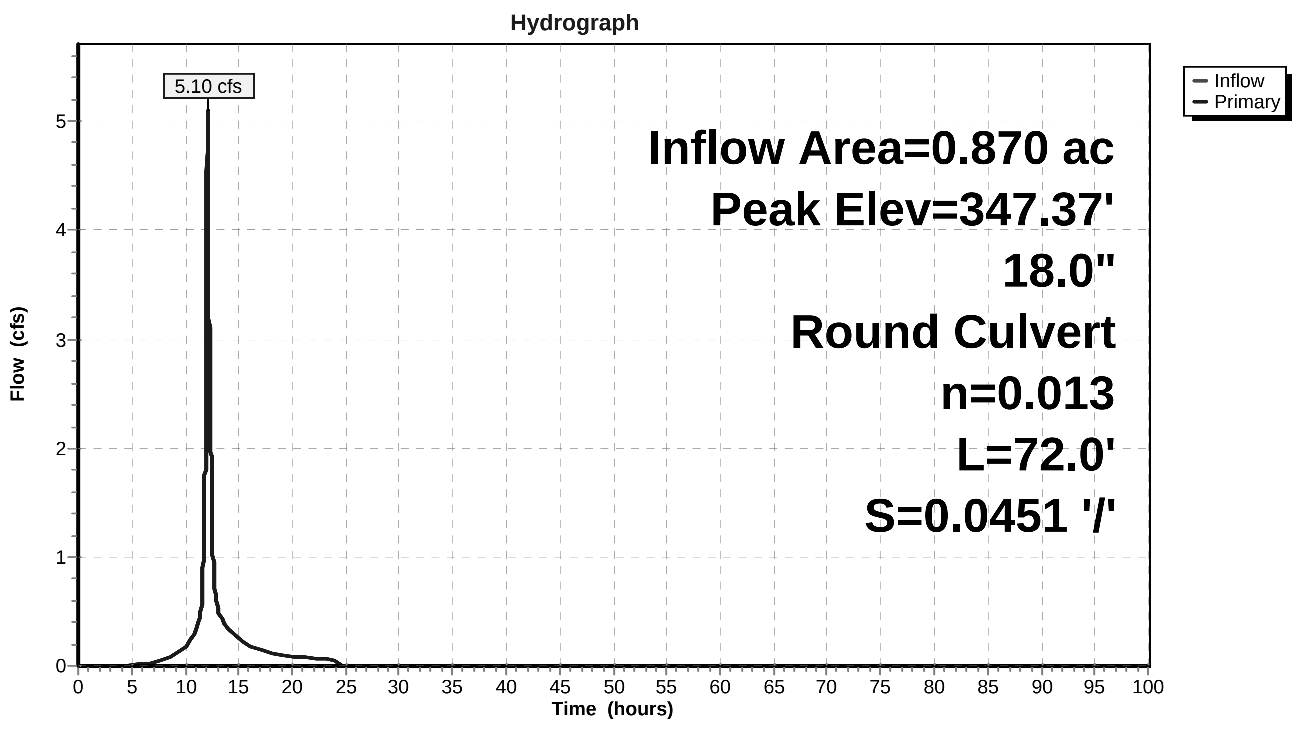
Inflow Area = 0.870 ac, 33.33% Impervious, Inflow Depth = 5.84" for 100 yr event
Inflow = 5.10 cfs @ 12.09 hrs, Volume= 0.423 af
Outflow = 5.10 cfs @ 12.09 hrs, Volume= 0.423 af, Atten= 0%, Lag= 0.0 min
Primary = 5.10 cfs @ 12.09 hrs, Volume= 0.423 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 347.37' @ 12.09 hrs
Flood Elev= 349.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	346.25'	**18.0" Round Culvert** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 346.25' / 343.00' S= 0.0451 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=5.09 cfs @ 12.09 hrs HW=347.37' TW=336.98' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 5.09 cfs @ 3.60 fps)

Pond CB-9B:



Summary for Pond CB18-A:

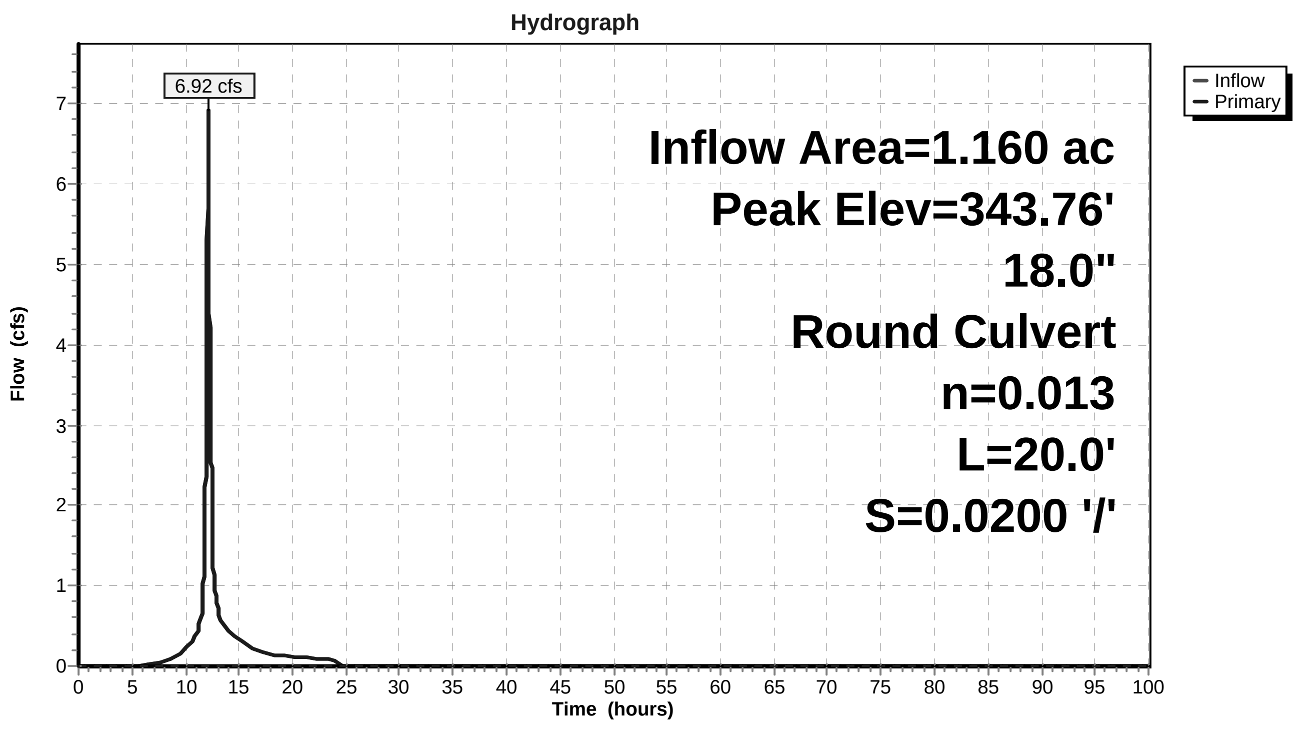
Inflow Area = 1.160 ac, 26.72% Impervious, Inflow Depth = 5.62" for 100 yr event
Inflow = 6.92 cfs @ 12.12 hrs, Volume= 0.544 af
Outflow = 6.92 cfs @ 12.12 hrs, Volume= 0.544 af, Atten= 0%, Lag= 0.0 min
Primary = 6.92 cfs @ 12.12 hrs, Volume= 0.544 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.76' @ 12.11 hrs
Flood Elev= 344.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	341.13'	**18.0" Round Culvert** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 341.13' / 340.73' S= 0.0200 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=6.96 cfs @ 12.12 hrs HW=343.73' TW=343.07' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.96 cfs @ 3.94 fps)

Pond CB18-A:



Summary for Pond DMH#1:

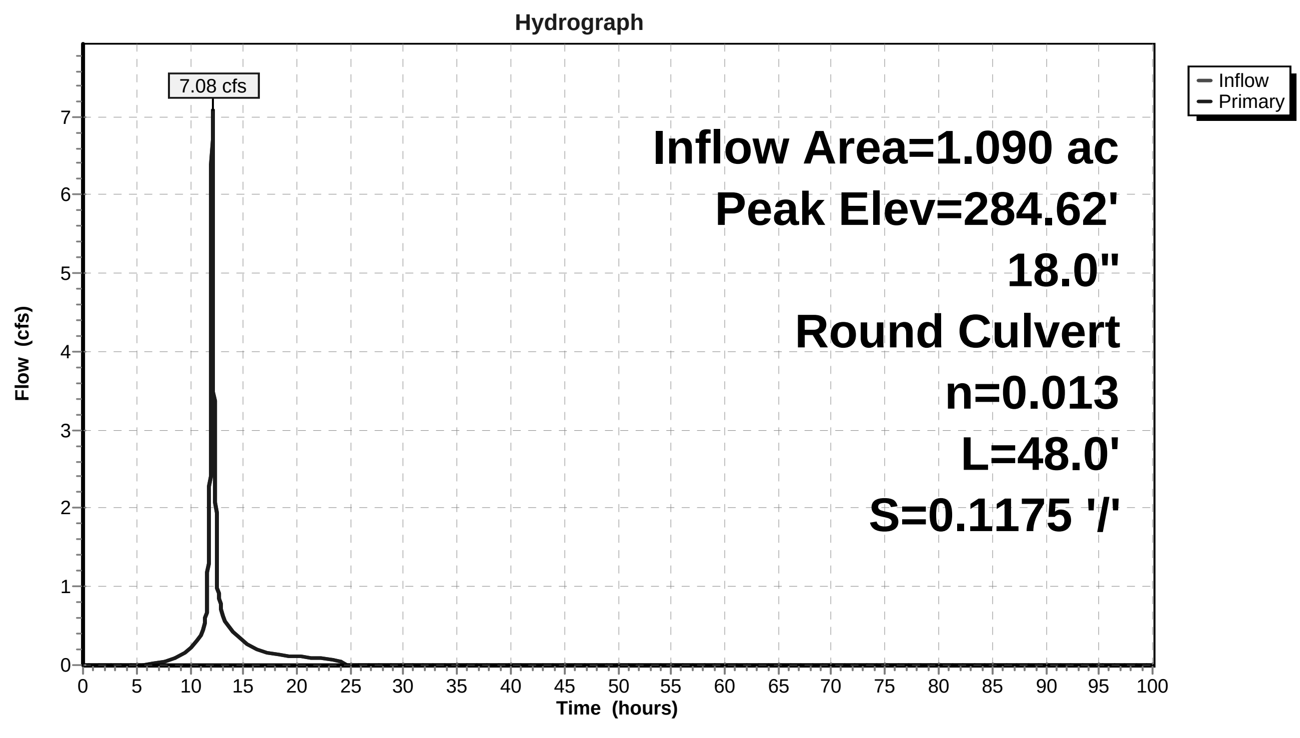
Inflow Area =	1.090 ac,	25.69% Impervious,	Inflow Depth = 5.63"	for 100 yr event
Inflow =	7.08 cfs @	12.09 hrs,	Volume=	0.511 af
Outflow =	7.08 cfs @	12.09 hrs,	Volume=	0.511 af, Atten= 0%, Lag= 0.0 min
Primary =	7.08 cfs @	12.09 hrs,	Volume=	0.511 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 284.62' @ 12.09 hrs
Flood Elev= 288.17'

Device	Routing	Invert	Outlet Devices
#1	Primary	283.19'	**18.0" Round Culvert** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 283.19' / 277.55' S= 0.1175 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=7.06 cfs @ 12.09 hrs HW=284.62' TW=274.78' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 7.06 cfs @ 4.07 fps)

Pond DMH#1:



Summary for Pond DMH#2:

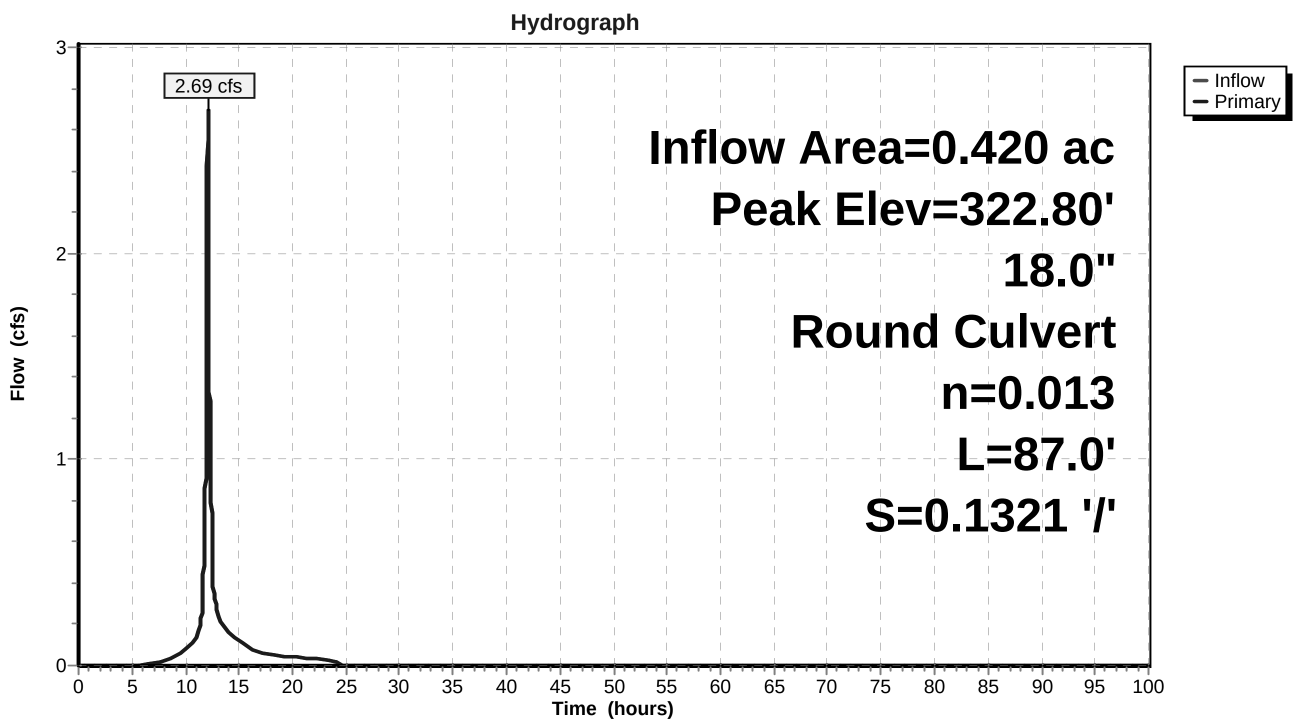
Inflow Area =	0.420 ac, 23.81% Impervious,	Inflow Depth = 5.55" for 100 yr event	
Inflow =	2.69 cfs @ 12.09 hrs,	Volume=	0.194 af
Outflow =	2.69 cfs @ 12.09 hrs,	Volume=	0.194 af, Atten= 0%, Lag= 0.0 min
Primary =	2.69 cfs @ 12.09 hrs,	Volume=	0.194 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 322.80' @ 12.09 hrs
Flood Elev= 326.58'

Device	Routing	Invert	Outlet Devices
#1	Primary	322.04'	**18.0" Round Culvert** L= 87.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 322.04' / 310.55' S= 0.1321 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=2.69 cfs @ 12.09 hrs HW=322.80' TW=311.25' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 2.69 cfs @ 2.97 fps)

Pond DMH#2:



Summary for Pond DMHA:

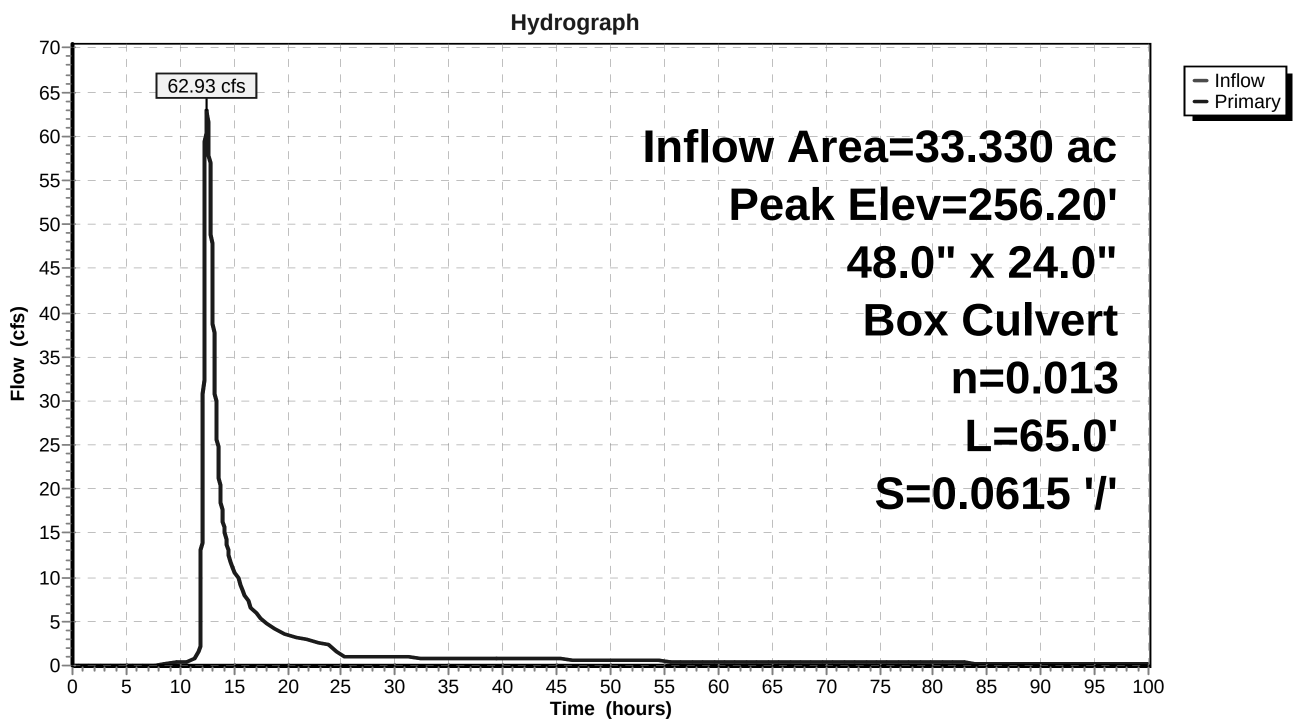
Inflow Area = 33.330 ac, 12.08% Impervious, Inflow Depth > 5.15" for 100 yr event
Inflow = 62.93 cfs @ 12.49 hrs, Volume= 14.316 af
Outflow = 62.93 cfs @ 12.49 hrs, Volume= 14.316 af, Atten= 0%, Lag= 0.0 min
Primary = 62.93 cfs @ 12.49 hrs, Volume= 14.316 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.20' @ 12.49 hrs
Flood Elev= 256.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	252.50'	**48.0" W x 24.0" H Box Culvert** L= 65.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 252.50' / 248.50' S= 0.0615 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections

Primary OutFlow Max=62.92 cfs @ 12.49 hrs HW=256.20' TW=252.50' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 62.92 cfs @ 7.87 fps)

Pond DMHA:



Summary for Pond P:

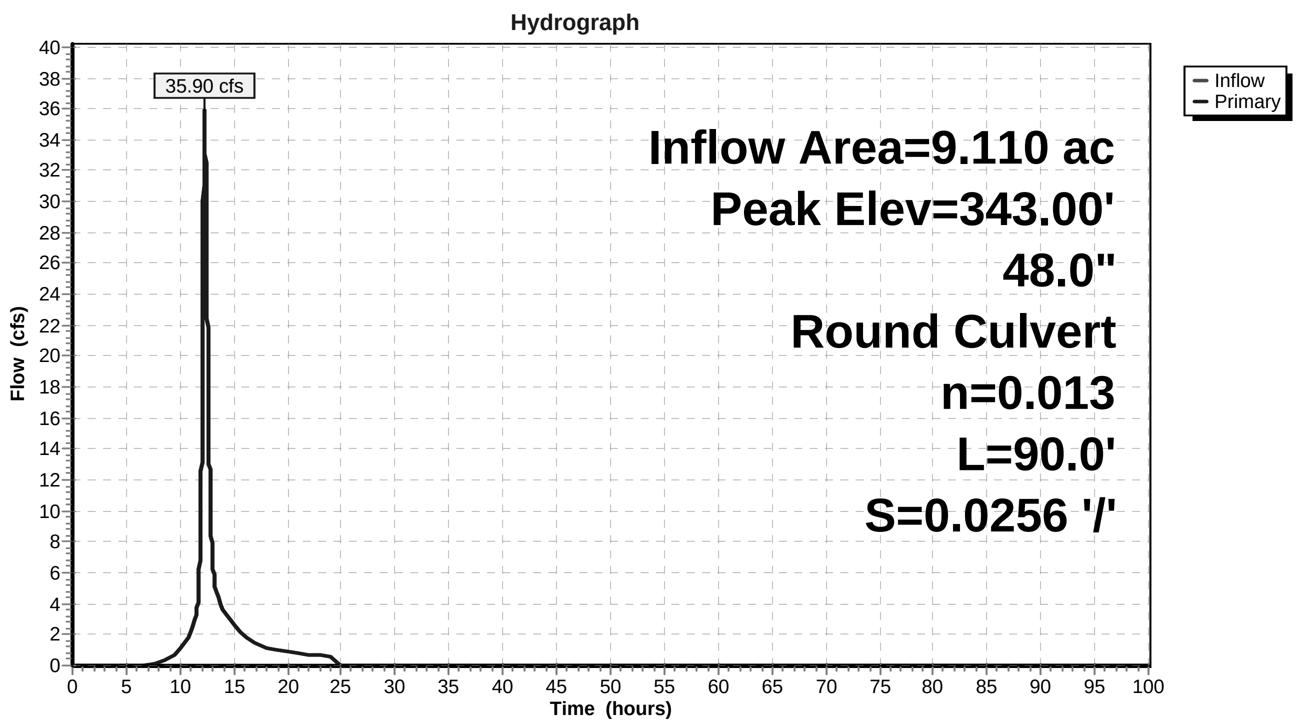
Inflow Area = 9.110 ac, 6.26% Impervious, Inflow Depth = 5.04" for 100 yr event
Inflow = 35.90 cfs @ 12.27 hrs, Volume= 3.827 af
Outflow = 35.90 cfs @ 12.27 hrs, Volume= 3.827 af, Atten= 0%, Lag= 0.0 min
Primary = 35.90 cfs @ 12.27 hrs, Volume= 3.827 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 343.00' @ 12.27 hrs
Flood Elev= 345.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	340.80'	**48.0" Round Culvert** L= 90.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 340.80' / 338.50' S= 0.0256 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=35.89 cfs @ 12.27 hrs HW=343.00' TW=338.30' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 35.89 cfs @ 5.06 fps)

Pond P:



Summary for Pond P-1:

Inflow Area = 5.780 ac, 9.52% Impervious, Inflow Depth = 5.19" for 100 yr event
Inflow = 24.73 cfs @ 12.16 hrs, Volume= 2.498 af
Outflow = 10.96 cfs @ 12.52 hrs, Volume= 2.496 af, Atten= 56%, Lag= 21.6 min
Primary = 10.96 cfs @ 12.52 hrs, Volume= 2.496 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 268.55' Surf.Area= 1,982 sf Storage= 2,439 cf
Peak Elev= 274.00' @ 12.52 hrs Surf.Area= 11,204 sf Storage= 42,708 cf (40,269 cf above start)

Plug-Flow detention time= 387.5 min calculated for 2.440 af (98% of inflow)
Center-of-Mass det. time= 362.9 min (1,180.4 - 817.5)

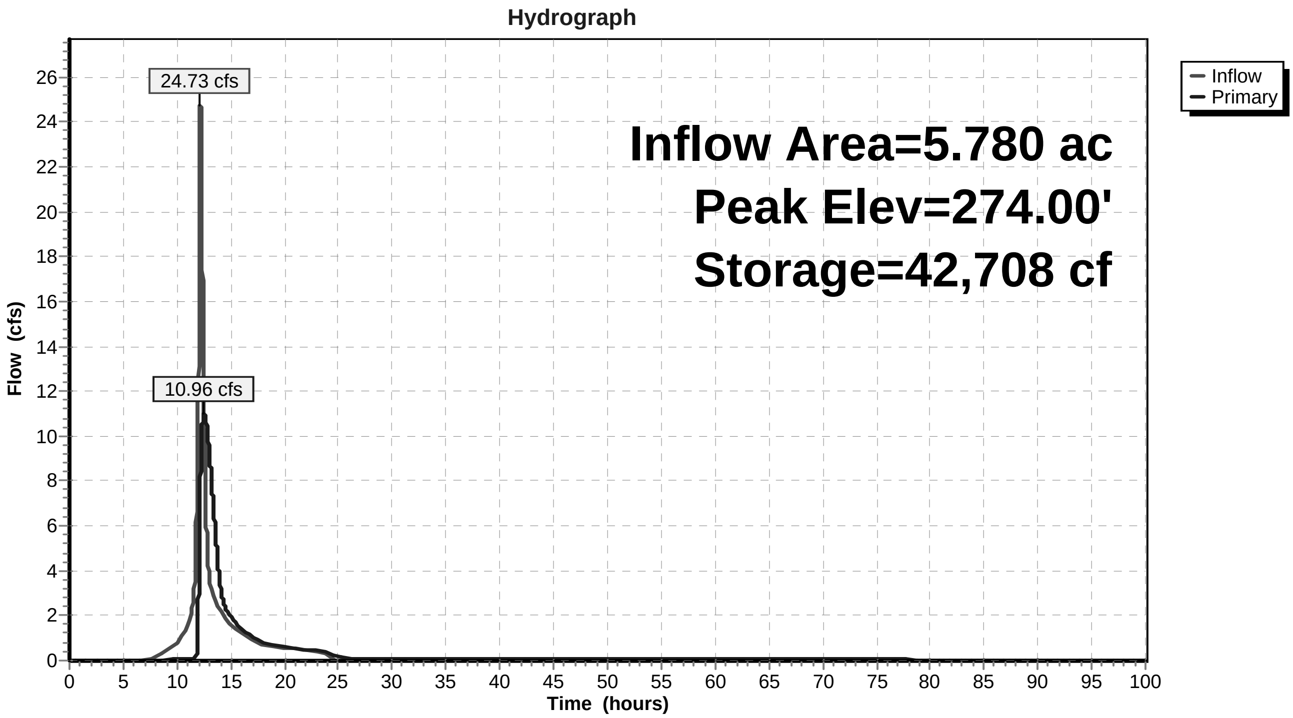
Volume	Invert	Avail.Storage	Storage Description
#1	264.55'	54,362 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
264.55	130	50.0	0	0	130
266.00	385	90.0	357	357	587
268.00	950	115.0	1,293	1,650	1,044
270.00	6,500	200.0	6,623	8,274	3,197
272.00	8,400	400.0	14,859	23,133	12,765
274.00	11,200	435.0	19,533	42,666	15,236
275.00	12,200	405.0	11,696	54,362	17,285

Device	Routing	Invert	Outlet Devices
#1	Primary	264.45'	**18.0" Round Culvert** L= 138.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 264.45' / 262.69' S= 0.0128 '/' Cc= 0.900 n= 0.013
#2	Device 1	268.55'	**1.5" Vert. Orifice** C= 0.600
#3	Device 1	271.25'	**18.0" W x 12.0" H Vert. Grate** C= 0.600
#4	Primary	274.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=10.96 cfs @ 12.52 hrs HW=274.00' TW=264.74' (Dynamic Tailwater)
1=Culvert (Passes 10.96 cfs of 21.52 cfs potential flow)
2=Orifice (Orifice Controls 0.14 cfs @ 11.18 fps)
3=Grate (Orifice Controls 10.82 cfs @ 7.21 fps)
4=Broad-Crested Rectangular Weir (Weir Controls 0.00 cfs @ 0.15 fps)

Pond P-1:


Hydrograph
24.73 cfs
10.96 cfs
Inflow
Primary
Inflow Area=5.780 ac
Peak Elev=274.00'
Storage=42,708 cf
Flow (cfs)
Time (hours)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P2:

Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth = 5.22" for 100 yr event
Inflow = 90.75 cfs @ 12.22 hrs, Volume= 9.960 af
Outflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af, Atten= 52%, Lag= 21.4 min
Primary = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 333.05' Surf.Area= 3,307 sf Storage= 6,206 cf
Peak Elev= 339.01' @ 12.58 hrs Surf.Area= 43,992 sf Storage= 188,599 cf (182,393 cf above start)
Flood Elev= 344.75' Surf.Area= 52,000 sf Storage= 259,185 cf (252,979 cf above start)

Plug-Flow detention time= 703.9 min calculated for 9.652 af (97% of inflow)
Center-of-Mass det. time= 673.7 min (1,493.9 - 820.2)

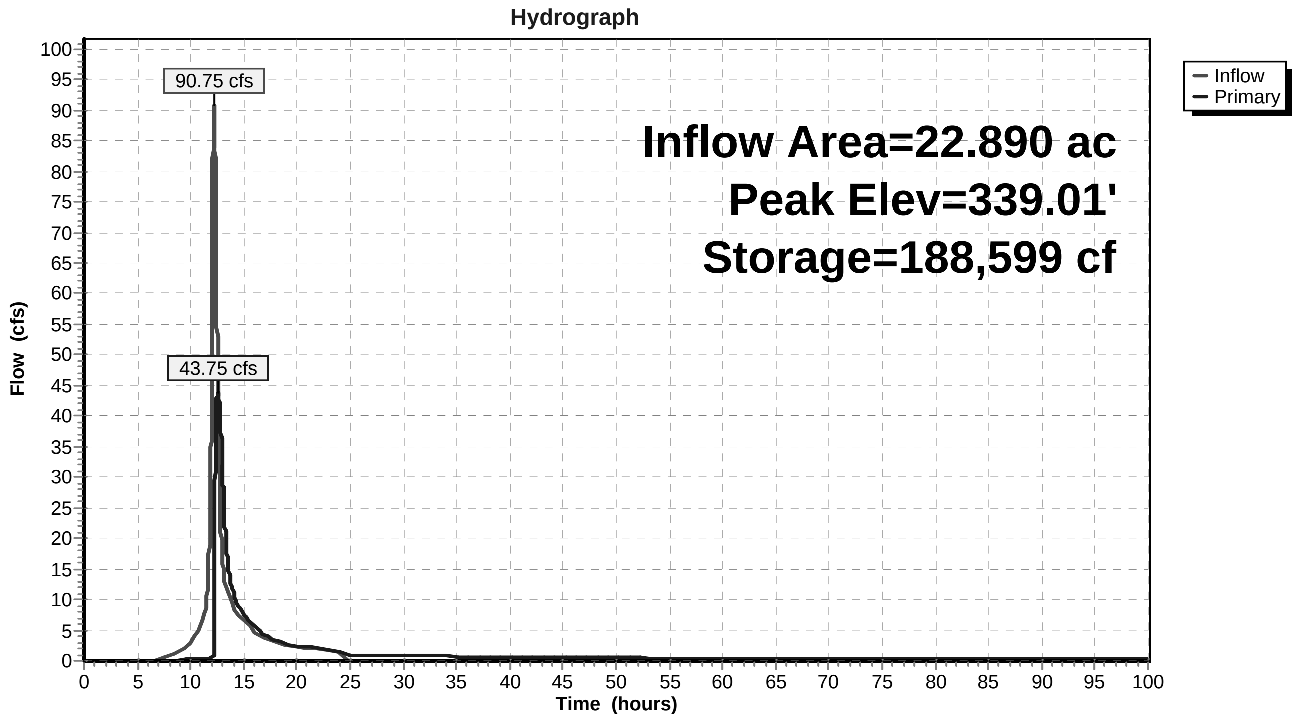
Volume	Invert	Avail.Storage	Storage Description
#1	329.05'	259,185 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
329.05	600	100.0	0	0	600
329.50	1,050	140.0	367	367	1,366
331.50	1,650	165.0	2,677	3,044	2,045
333.00	2,400	190.0	3,020	6,064	2,800
333.50	18,000	625.0	4,495	10,559	31,013
335.50	28,871	750.0	46,445	57,004	44,759
337.50	39,800	860.0	68,379	125,384	58,944
339.50	45,400	900.0	85,139	210,522	64,816
340.50	52,000	925.0	48,663	259,185	68,560

Device	Routing	Invert	Outlet Devices
#1	Primary	333.00'	**36.0" Round Culvert** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 333.00' / 332.87' S= 0.0050 '/' Cc= 0.900 n= 0.013
#2	Device 1	333.05'	**3.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	335.40'	**3.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	337.50'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600

Primary OutFlow Max=43.75 cfs @ 12.58 hrs HW=339.01' TW=336.96' (Dynamic Tailwater)
1=Culvert (Passes 43.75 cfs of 48.76 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.34 cfs @ 6.90 fps)
3=Orifice/Grate (Orifice Controls 0.34 cfs @ 6.90 fps)
4=Orifice/Grate (Orifice Controls 43.07 cfs @ 4.79 fps)

Pond P2:


Hydrograph
90.75 cfs
43.75 cfs
Inflow Area=22.890 ac
Peak Elev=339.01'
Storage=188,599 cf
Inflow
Primary
Flow (cfs)
Time (hours)

Summary for Pond P2-DMH1:

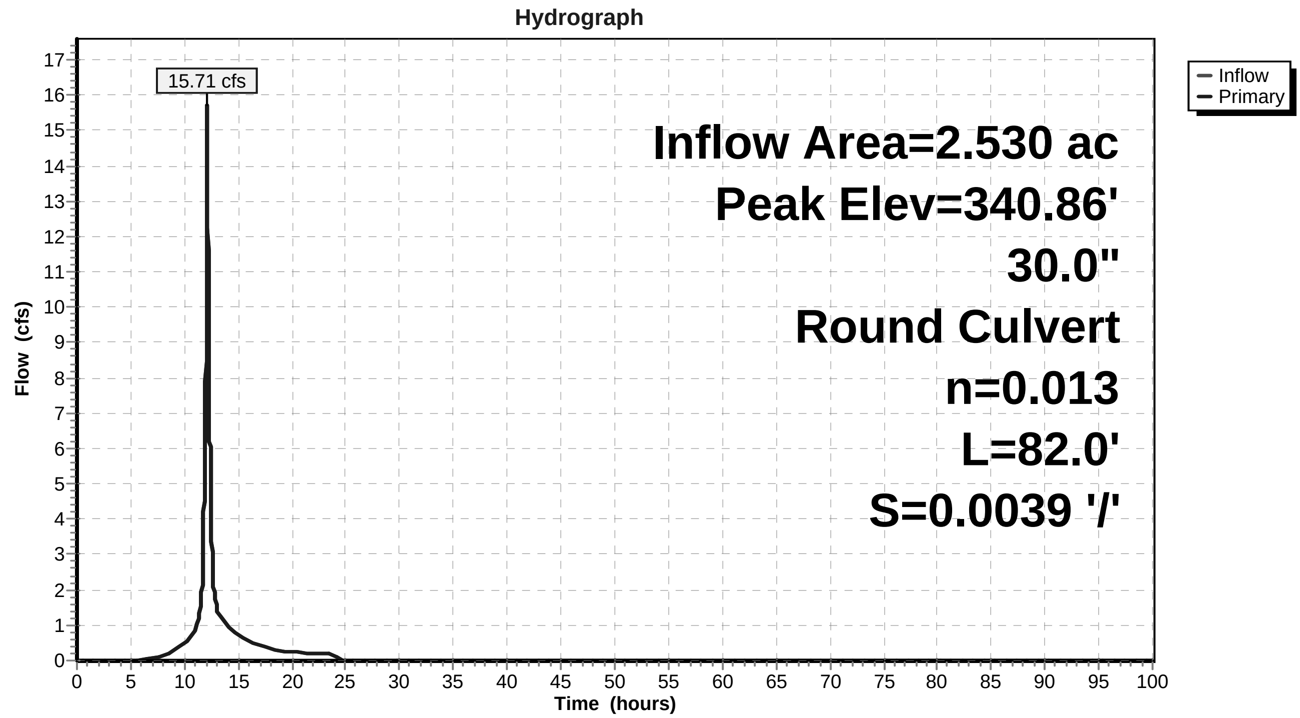
Inflow Area = 2.530 ac, 28.26% Impervious, Inflow Depth = 5.69" for 100 yr event
Inflow = 15.71 cfs @ 12.10 hrs, Volume= 1.201 af
Outflow = 15.71 cfs @ 12.10 hrs, Volume= 1.201 af, Atten= 0%, Lag= 0.0 min
Primary = 15.71 cfs @ 12.10 hrs, Volume= 1.201 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 340.86' @ 12.10 hrs
Flood Elev= 345.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	338.82'	**30.0" Round Culvert** L= 82.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 338.82' / 338.50' S= 0.0039 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=15.70 cfs @ 12.10 hrs HW=340.86' TW=337.03' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 15.70 cfs @ 4.98 fps)

Pond P2-DMH1:



Summary for Pond P2-DMH2:

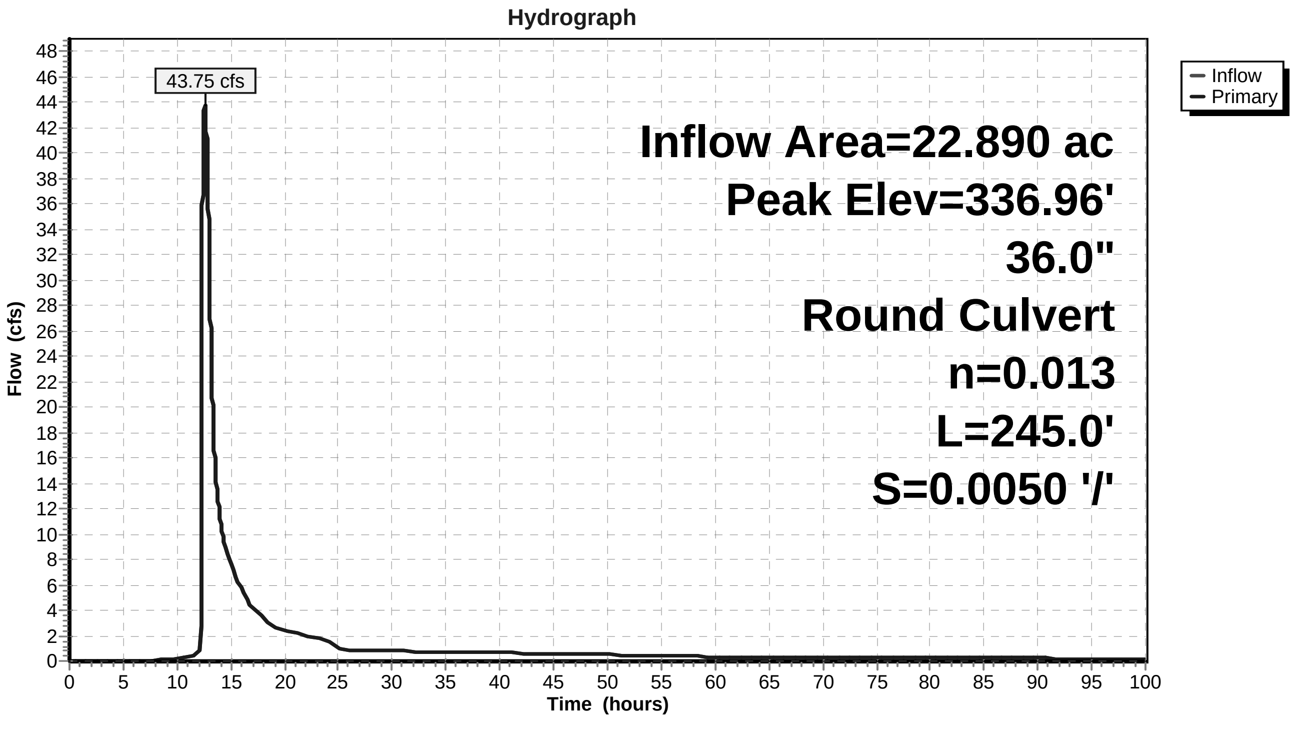
Inflow Area =	22.890 ac, 11.90% Impervious, Inflow Depth > 5.13" for 100 yr event		
Inflow =	43.75 cfs @ 12.58 hrs, Volume=	9.795 af	
Outflow =	43.75 cfs @ 12.58 hrs, Volume=	9.795 af,	Atten= 0%, Lag= 0.0 min
Primary =	43.75 cfs @ 12.58 hrs, Volume=	9.795 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 336.96' @ 12.58 hrs
Flood Elev= 345.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	332.77'	**36.0" Round Culvert** L= 245.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 332.77' / 331.54' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=43.75 cfs @ 12.58 hrs HW=336.96' TW=335.01' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 43.75 cfs @ 6.19 fps)

Pond P2-DMH2:



Summary for Pond P2-DMH3:

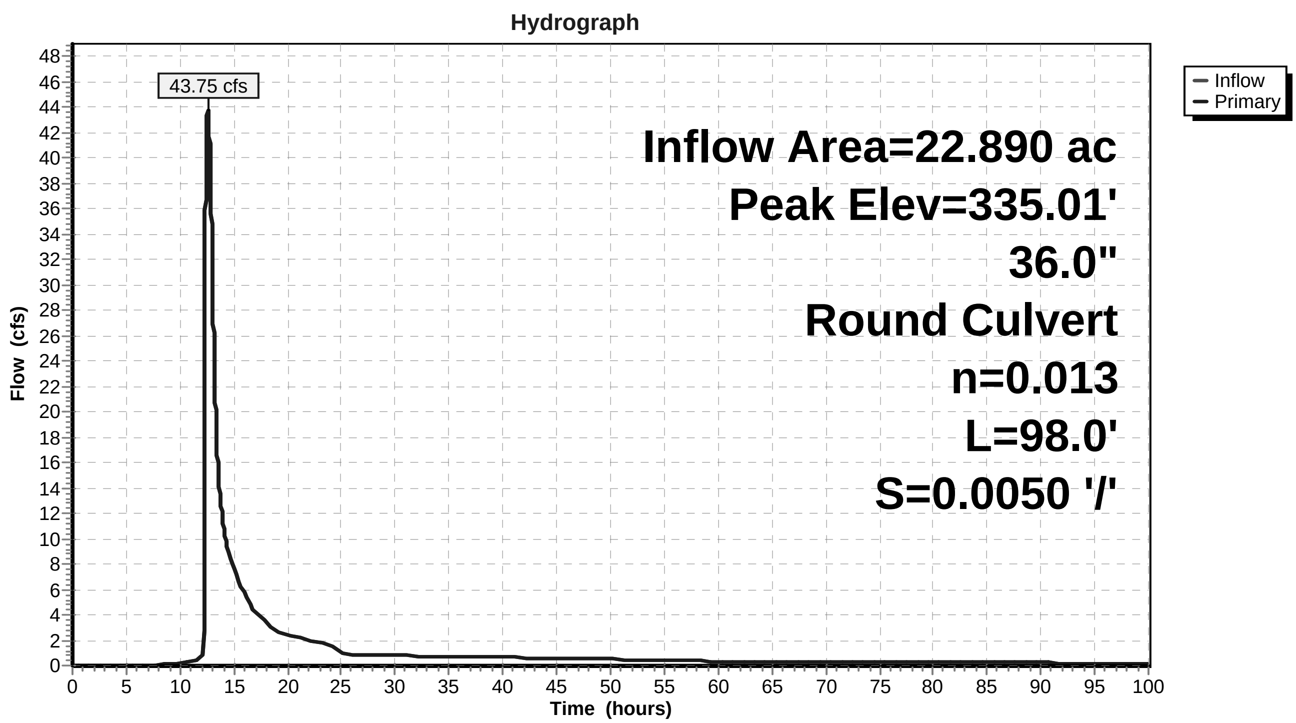
Inflow Area =	22.890 ac,	11.90% Impervious,	Inflow Depth > 5.13"	for 100 yr event	
Inflow =	43.75 cfs @	12.58 hrs,	Volume=	9.795 af	
Outflow =	43.75 cfs @	12.58 hrs,	Volume=	9.795 af,	Atten= 0%, Lag= 0.0 min
Primary =	43.75 cfs @	12.58 hrs,	Volume=	9.795 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 335.01' @ 12.58 hrs
Flood Elev= 348.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	331.44'	**36.0" Round Culvert** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 331.44' / 330.95' S= 0.0050 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=43.75 cfs @ 12.58 hrs HW=335.01' TW=333.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 43.75 cfs @ 6.57 fps)

Pond P2-DMH3:



Summary for Pond P2-DMH4:

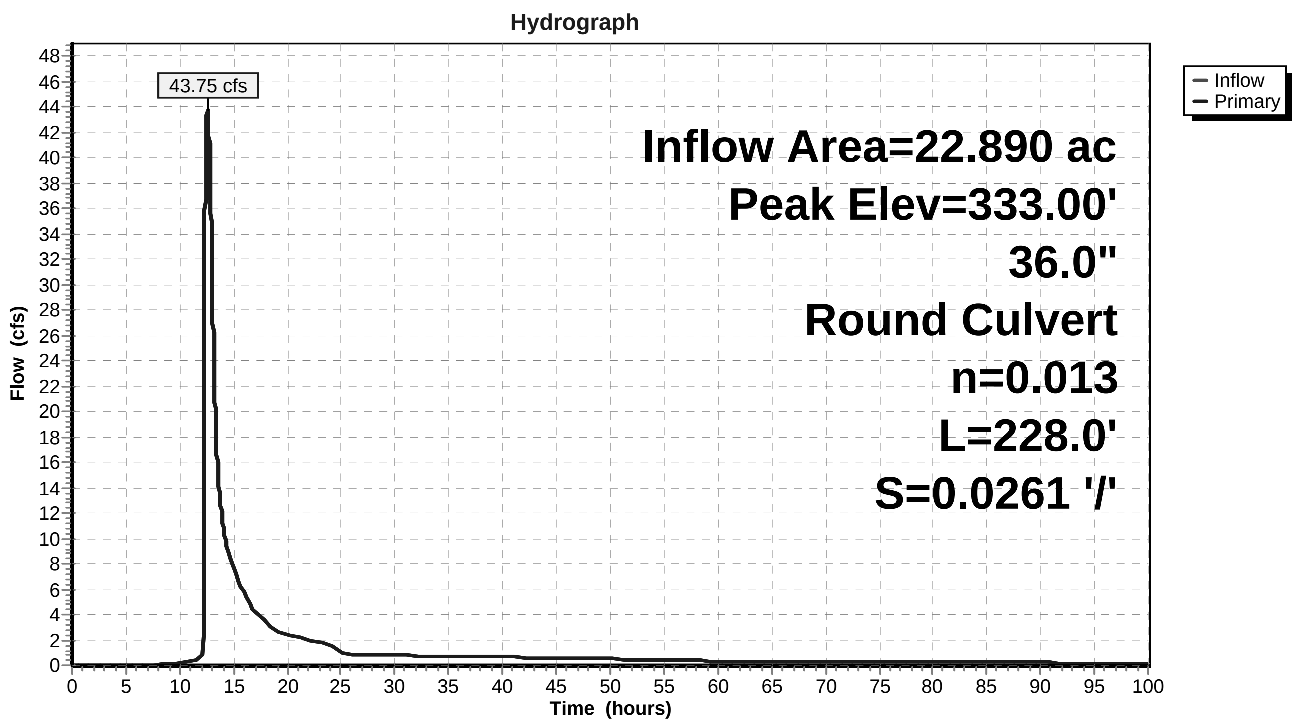
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 5.13" for 100 yr event
Inflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af
Outflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af, Atten= 0%, Lag= 0.0 min
Primary = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 333.00' @ 12.58 hrs
Flood Elev= 350.14'

Device	Routing	Invert	Outlet Devices
#1	Primary	329.85'	**36.0" Round Culvert** L= 228.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 329.85' / 323.91' S= 0.0261 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=43.75 cfs @ 12.58 hrs HW=333.00' TW=316.96' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 43.75 cfs @ 6.19 fps)

Pond P2-DMH4:



Summary for Pond P2-DMH5:

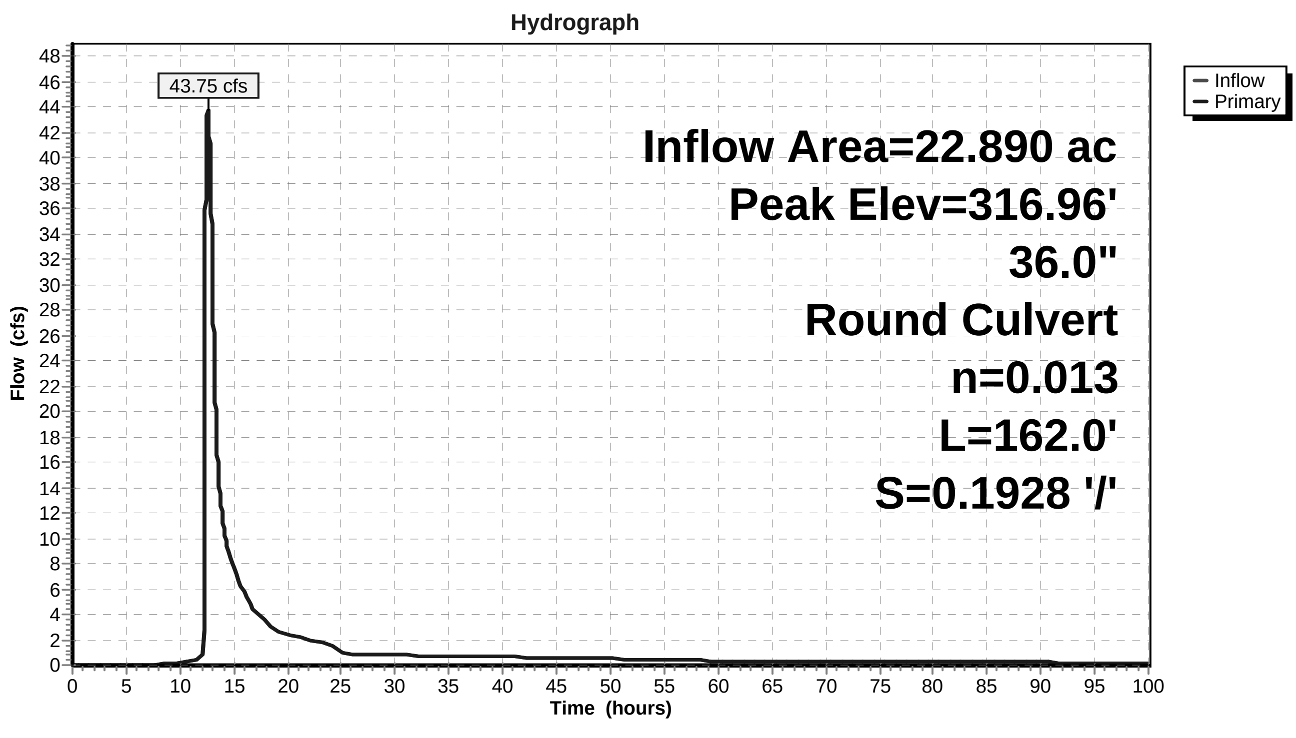
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 5.13" for 100 yr event
Inflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af
Outflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af, Atten= 0%, Lag= 0.0 min
Primary = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 316.96' @ 12.58 hrs
Flood Elev= 332.81'

Device	Routing	Invert	Outlet Devices
#1	Primary	313.81'	**36.0" Round Culvert** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 313.81' / 282.58' S= 0.1928 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=43.75 cfs @ 12.58 hrs HW=316.96' TW=281.47' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 43.75 cfs @ 6.19 fps)

Pond P2-DMH5:



Summary for Pond P2-DMH6:

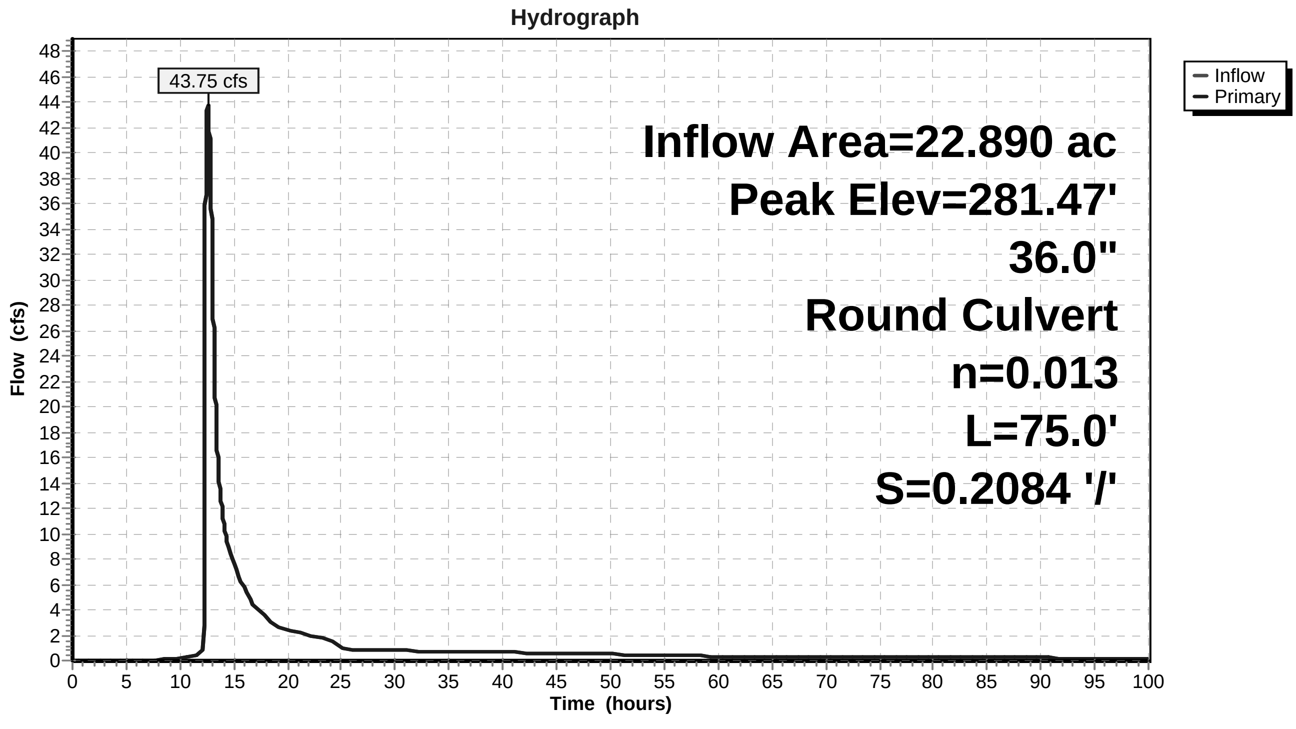
Inflow Area = 22.890 ac, 11.90% Impervious, Inflow Depth > 5.13" for 100 yr event
Inflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af
Outflow = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af, Atten= 0%, Lag= 0.0 min
Primary = 43.75 cfs @ 12.58 hrs, Volume= 9.795 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 281.47' @ 12.58 hrs
Flood Elev= 287.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.32'	**36.0" Round Culvert** L= 75.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 278.32' / 262.69' S= 0.2084 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=43.75 cfs @ 12.58 hrs HW=281.47' TW=264.63' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 43.75 cfs @ 6.19 fps)

Pond P2-DMH6:



Summary for Pond P2-DMH7:

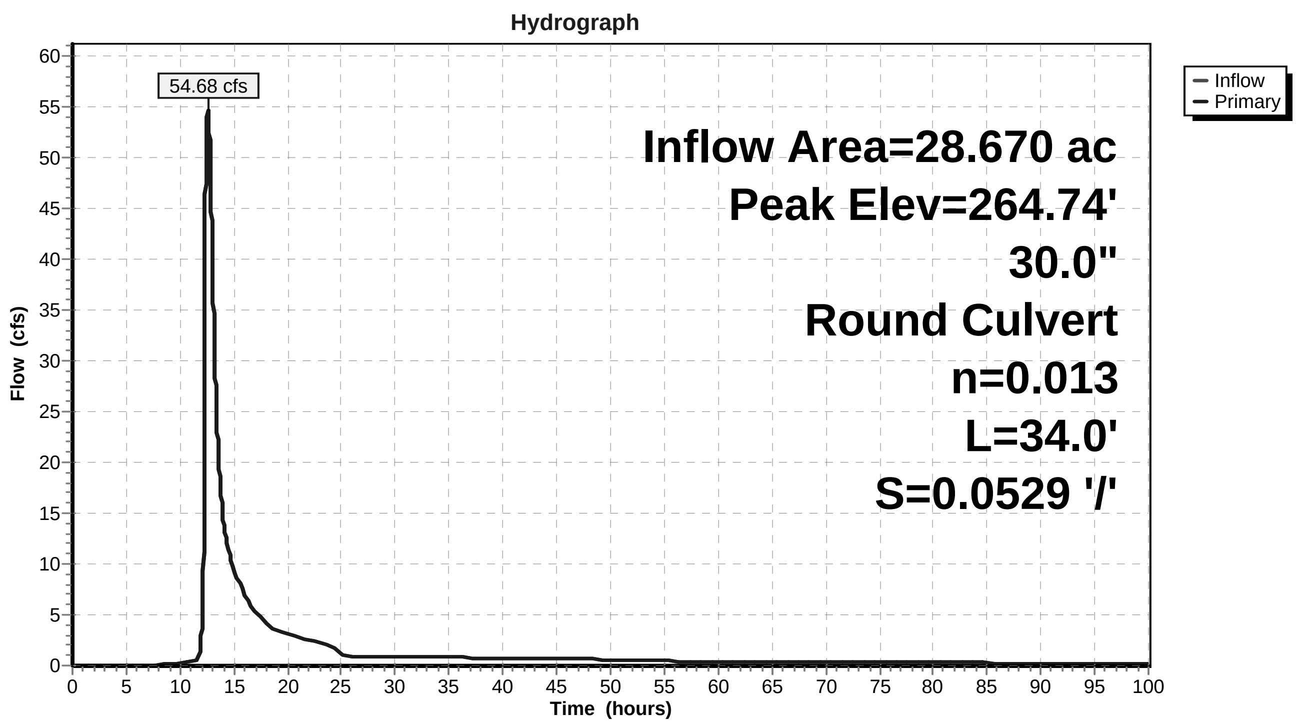
Inflow Area = 28.670 ac, 11.42% Impervious, Inflow Depth > 5.14" for 100 yr event
Inflow = 54.68 cfs @ 12.57 hrs, Volume= 12.291 af
Outflow = 54.68 cfs @ 12.57 hrs, Volume= 12.291 af, Atten= 0%, Lag= 0.0 min
Primary = 54.68 cfs @ 12.57 hrs, Volume= 12.291 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 264.74' @ 12.53 hrs
Flood Elev= 272.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	256.09'	**30.0" Round Culvert** L= 34.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 256.09' / 254.29' S= 0.0529 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=54.66 cfs @ 12.57 hrs HW=264.66' TW=259.31' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 54.66 cfs @ 11.14 fps)

Pond P2-DMH7:



Summary for Pond P3:

Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth = 5.31" for 100 yr event
Inflow = 18.21 cfs @ 12.11 hrs, Volume= 1.534 af
Outflow = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af, Atten= 6%, Lag= 2.4 min
Primary = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Starting Elev= 298.76' Surf.Area= 1,250 sf Storage= 1,395 cf
Peak Elev= 302.71' @ 12.15 hrs Surf.Area= 5,027 sf Storage= 15,211 cf (13,817 cf above start)

Plug-Flow detention time= 439.0 min calculated for 1.498 af (98% of inflow)
Center-of-Mass det. time= 413.6 min (1,225.0 - 811.4)

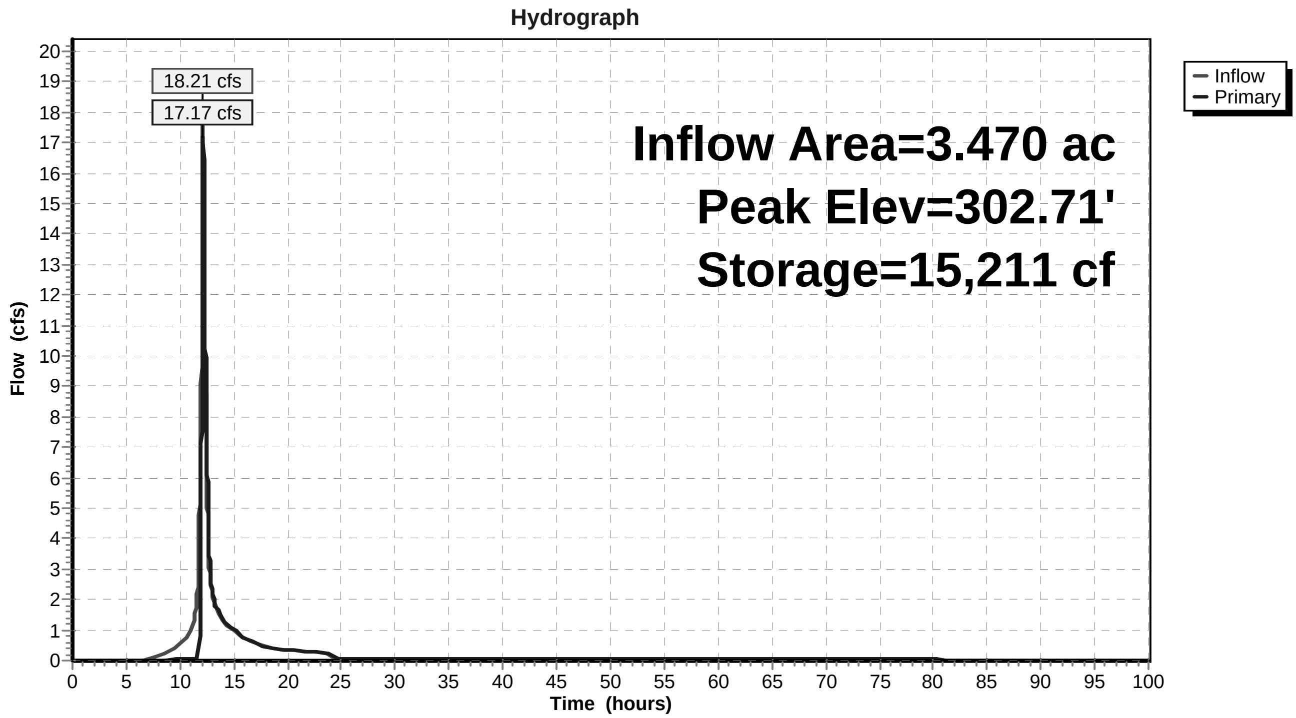
Volume	Invert	Avail.Storage	Storage Description
#1	295.50'	25,269 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
295.50	100	50.0	0	0	100
296.00	200	60.0	74	74	192
298.00	500	75.0	677	751	402
300.00	3,200	250.0	3,310	4,061	4,940
302.00	4,600	300.0	7,758	11,819	7,196
304.50	6,200	310.0	13,450	25,269	8,100

Device	Routing	Invert	Outlet Devices
#1	Primary	295.45'	**18.0" Round Culvert** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 295.45' / 290.93' S= 0.0753 '/' Cc= 0.900 n= 0.013
#2	Device 1	298.76'	**1.1" Vert. Orifice** C= 0.600
#3	Device 1	302.00'	**36.0" W x 12.0" H Vert. Orifice/Grate X 3.00** C= 0.600
#4	Primary	303.00'	**8.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=17.16 cfs @ 12.15 hrs HW=302.70' TW=294.18' (Dynamic Tailwater)
- **1=Culvert** (Passes 17.16 cfs of 21.70 cfs potential flow)
  - **2=Orifice** (Orifice Controls 0.06 cfs @ 9.51 fps)
  - **3=Orifice/Grate** (Orifice Controls 17.10 cfs @ 2.70 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond P3:


Hydrograph
18.21 cfs
17.17 cfs
Inflow Area=3.470 ac
Peak Elev=302.71'
Storage=15,211 cf
Inflow
Primary
Flow (cfs)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
Time (hours)
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

Summary for Pond P3-DMH1:

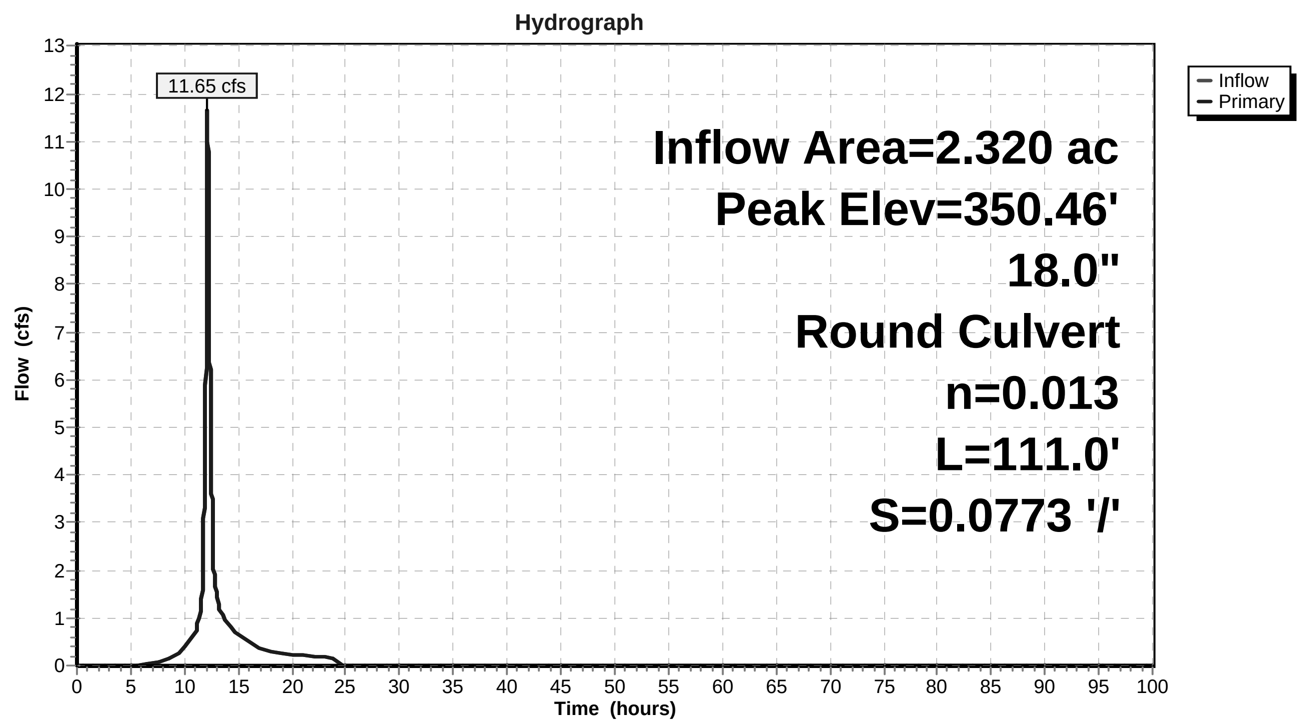
Inflow Area =	2.320 ac, 18.10% Impervious,	Inflow Depth = 5.38"	for 100 yr event
Inflow =	11.65 cfs @ 12.12 hrs,	Volume= 1.040 af	
Outflow =	11.65 cfs @ 12.12 hrs,	Volume= 1.040 af,	Atten= 0%, Lag= 0.0 min
Primary =	11.65 cfs @ 12.12 hrs,	Volume= 1.040 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 350.46' @ 12.12 hrs
Flood Elev= 366.83'

Device	Routing	Invert	Outlet Devices
#1	Primary	347.83'	**18.0" Round Culvert** L= 111.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 347.83' / 339.25' S= 0.0773 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=11.64 cfs @ 12.12 hrs HW=350.45' TW=326.17' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 11.64 cfs @ 6.59 fps)

Pond P3-DMH1:



Summary for Pond P3-DMH2:

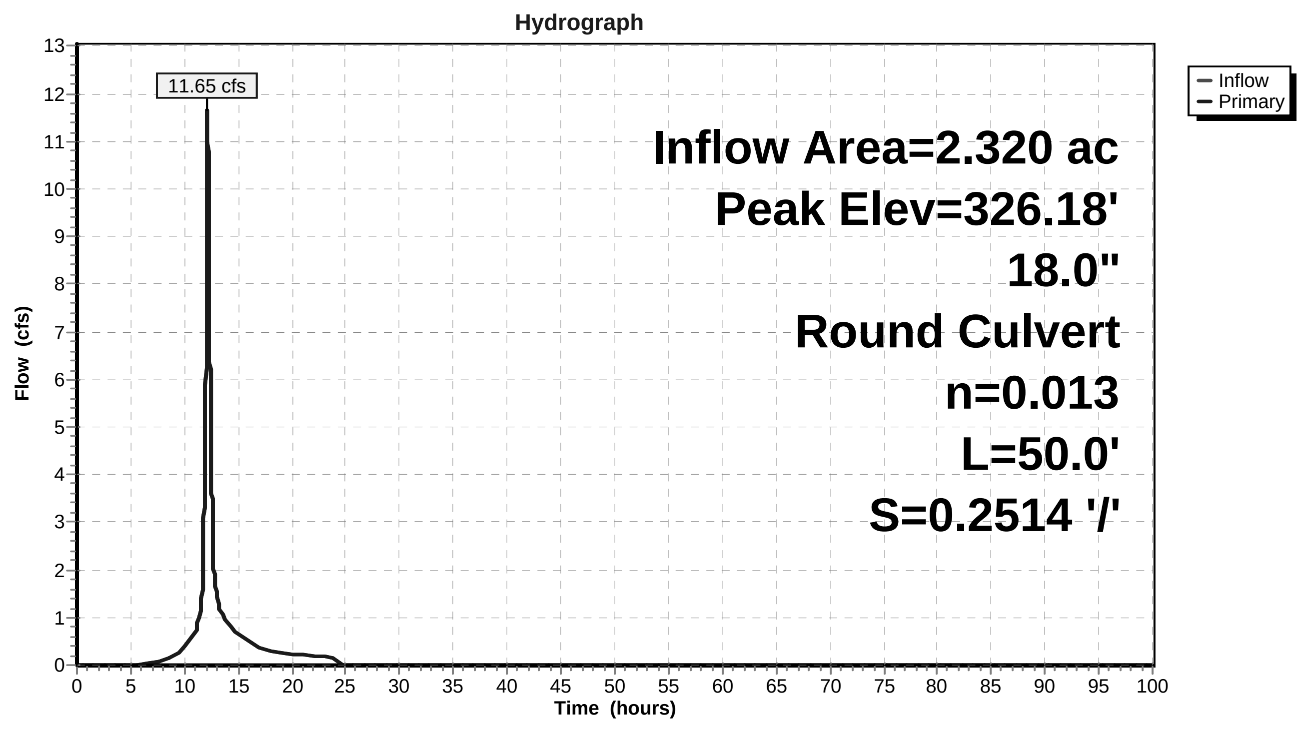
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 5.38" for 100 yr event
Inflow = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af
Outflow = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af, Atten= 0%, Lag= 0.0 min
Primary = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 326.18' @ 12.12 hrs
Flood Elev= 342.55'

Device	Routing	Invert	Outlet Devices
#1	Primary	323.55'	**18.0" Round Culvert** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 323.55' / 310.98' S= 0.2514 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=11.64 cfs @ 12.12 hrs HW=326.17' TW=306.90' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 11.64 cfs @ 6.59 fps)

Pond P3-DMH2:



Summary for Pond P3-DMH3A:

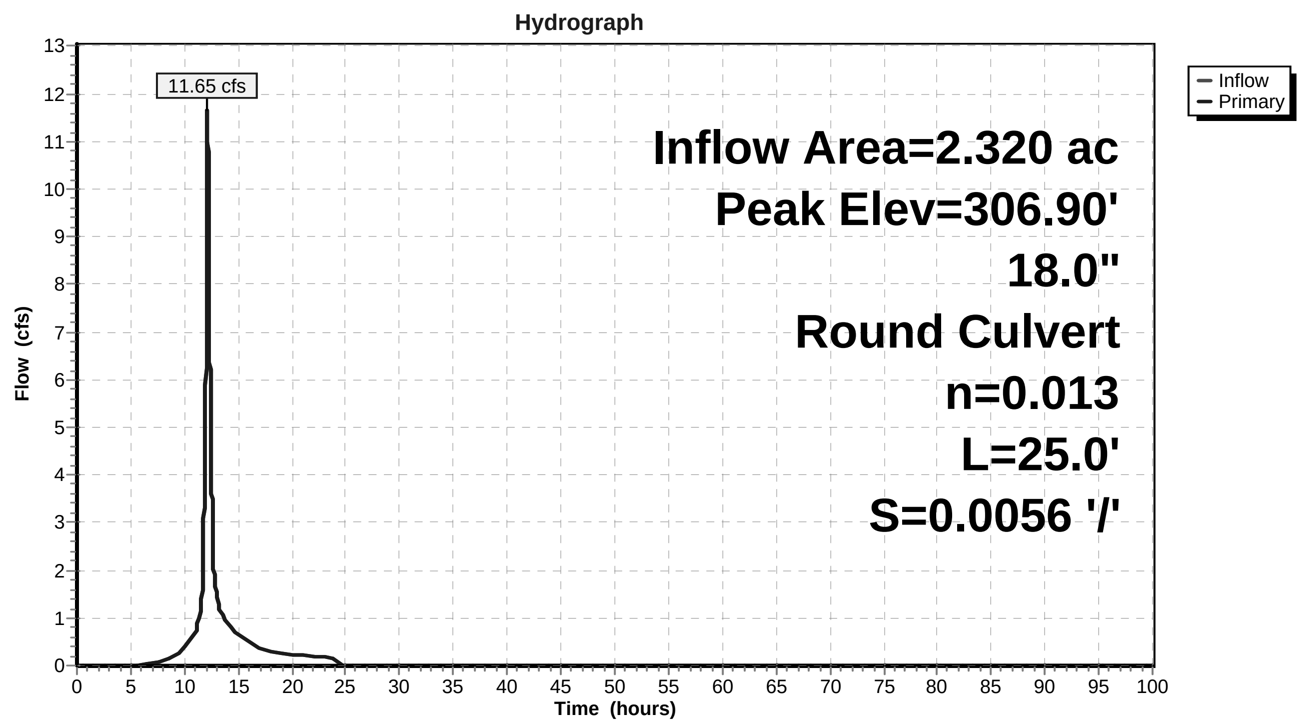
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 5.38" for 100 yr event
Inflow = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af
Outflow = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af, Atten= 0%, Lag= 0.0 min
Primary = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 306.90' @ 12.12 hrs
Flood Elev= 321.09'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.64'	**18.0" Round Culvert** L= 25.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.64' / 302.50' S= 0.0056 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=11.64 cfs @ 12.12 hrs HW=306.90' TW=305.02' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 11.64 cfs @ 6.59 fps)

Pond P3-DMH3A:



Summary for Pond P3-DMH3B:

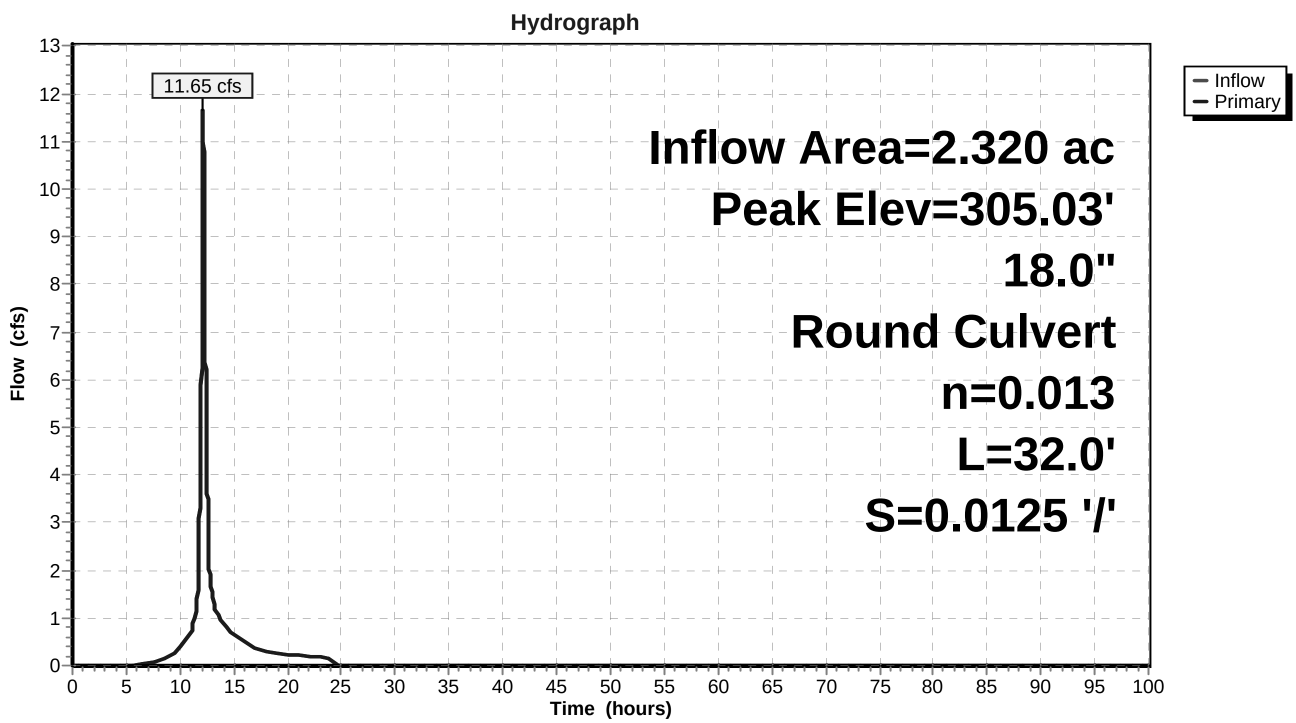
Inflow Area = 2.320 ac, 18.10% Impervious, Inflow Depth = 5.38" for 100 yr event
Inflow = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af
Outflow = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af, Atten= 0%, Lag= 0.0 min
Primary = 11.65 cfs @ 12.12 hrs, Volume= 1.040 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 305.03' @ 12.12 hrs
Flood Elev= 305.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	302.40'	**18.0" Round Culvert** L= 32.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 302.40' / 302.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=11.64 cfs @ 12.12 hrs HW=305.02' TW=302.69' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 11.64 cfs @ 6.59 fps)

Pond P3-DMH3B:



Summary for Pond P3-DMH4:

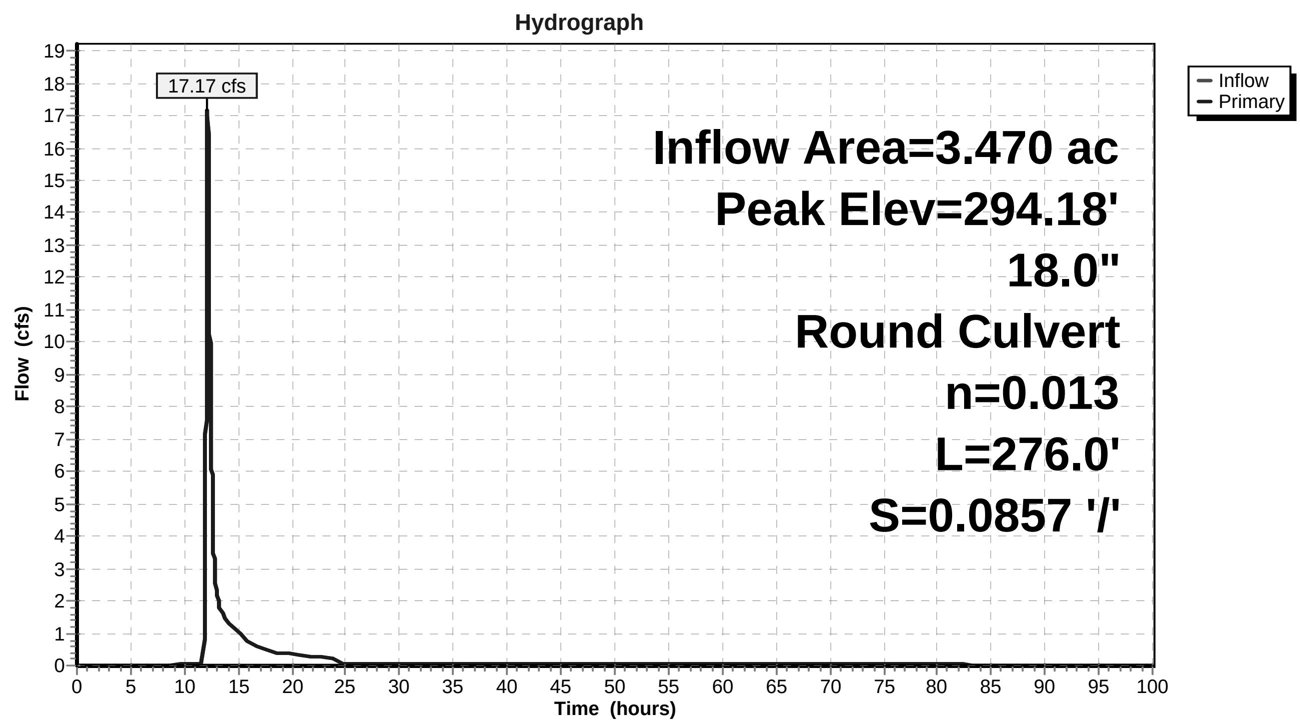
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 5.29" for 100 yr event
Inflow = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af
Outflow = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af, Atten= 0%, Lag= 0.0 min
Primary = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 294.18' @ 12.15 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	290.83'	**18.0" Round Culvert** L= 276.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 290.83' / 267.17' S= 0.0857 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior

Primary OutFlow Max=17.16 cfs @ 12.15 hrs HW=294.18' TW=267.82' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 17.16 cfs @ 9.71 fps)

Pond P3-DMH4:



Summary for Pond P3-DMH5:

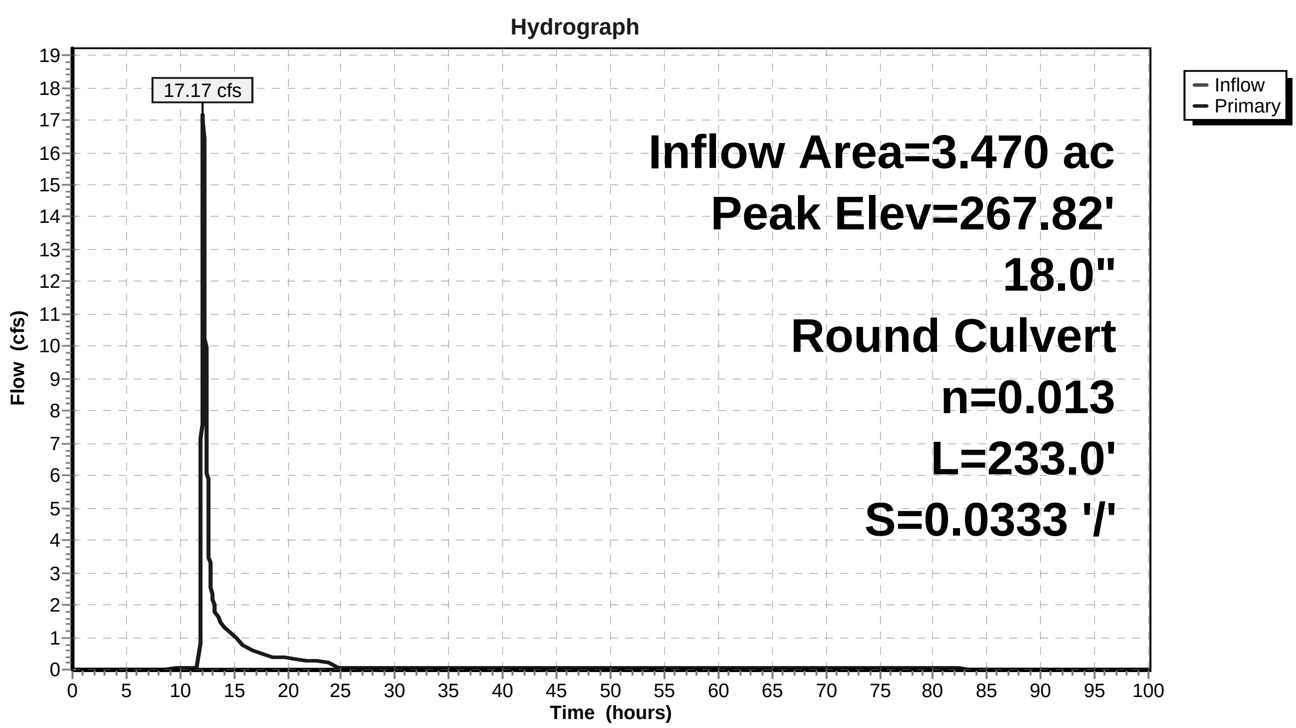
Inflow Area = 3.470 ac, 15.27% Impervious, Inflow Depth > 5.29" for 100 yr event
Inflow = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af
Outflow = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af, Atten= 0%, Lag= 0.0 min
Primary = 17.17 cfs @ 12.15 hrs, Volume= 1.530 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 267.82' @ 12.15 hrs
Flood Elev= 271.42'

Device	Routing	Invert	Outlet Devices
#1	Primary	263.00'	**18.0" Round Culvert** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 263.00' / 255.25' S= 0.0333 '/' Cc= 0.900 n= 0.013

Primary OutFlow Max=17.16 cfs @ 12.15 hrs HW=267.82' TW=256.32' (Dynamic Tailwater)
1=Culvert (Inlet Controls 17.16 cfs @ 9.71 fps)

Pond P3-DMH5:



Summary for Pond WQV-P:

Inflow Area = 0.690 ac, 20.29% Impervious, Inflow Depth = 5.50" for 100 yr event
Inflow = 4.02 cfs @ 12.10 hrs, Volume= 0.316 af
Outflow = 2.21 cfs @ 12.25 hrs, Volume= 0.270 af, Atten= 45%, Lag= 9.1 min
Primary = 2.21 cfs @ 12.25 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 256.69' @ 12.25 hrs Surf.Area= 1,708 sf Storage= 4,135 cf
Flood Elev= 258.00' Surf.Area= 2,100 sf Storage= 6,625 cf

Plug-Flow detention time= 126.4 min calculated for 0.270 af (85% of inflow)
Center-of-Mass det. time= 62.0 min (857.9 - 795.8)

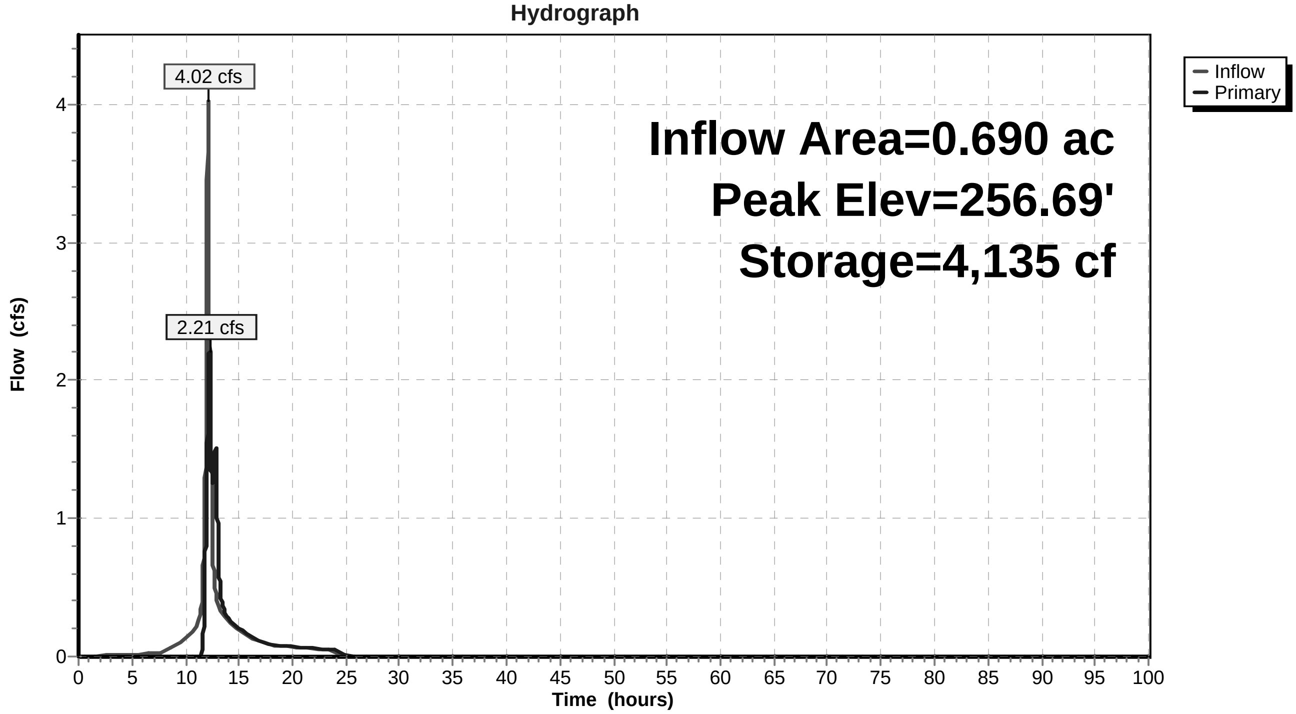
Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	6,625 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
252.00	175	0	0
254.00	675	850	850
256.00	1,500	2,175	3,025
258.00	2,100	3,600	6,625

Device	Routing	Invert	Outlet Devices
#1	Primary	255.25'	**8.0" Round Culvert** L= 22.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 255.25' / 254.00' S= 0.0568 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#2	Device 1	255.25'	**36.0" W x 24.0" H Vert. Orifice/Grate X 2.00** C= 0.600

Primary OutFlow Max=2.21 cfs @ 12.25 hrs HW=256.69' TW=254.87' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 2.21 cfs @ 6.34 fps)
  └─**2=Orifice/Grate** (Passes 2.21 cfs of 33.35 cfs potential flow)

Pond WQV-P:


Hydrograph
4.02 cfs
2.21 cfs
Inflow
Primary
Inflow Area=0.690 ac
Peak Elev=256.69'
Storage=4,135 cf
Flow (cfs)
Time (hours)
0
1
2
3
4
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100

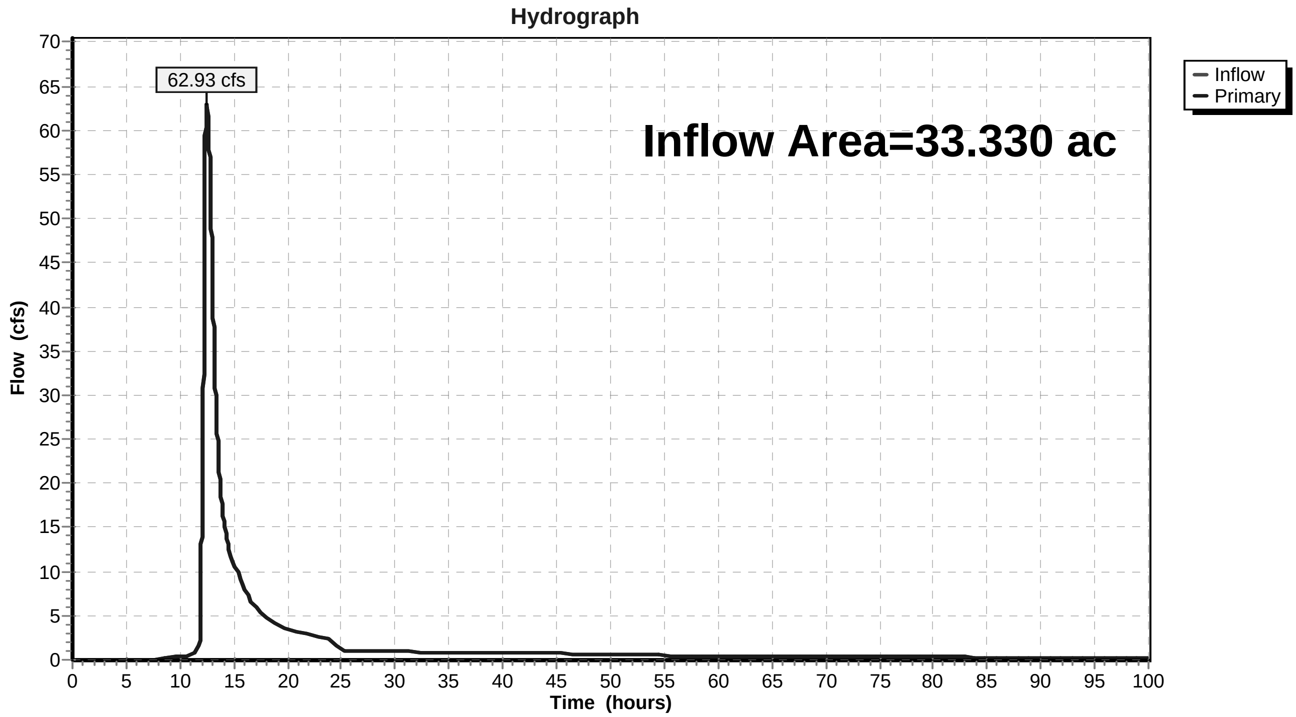
Summary for Link FP: FLOOD PLAIN - 252.5

Inflow Area = 33.330 ac, 12.08% Impervious, Inflow Depth > 5.15" for 100 yr event
Inflow = 62.93 cfs @ 12.49 hrs, Volume= 14.316 af
Primary = 62.93 cfs @ 12.49 hrs, Volume= 14.316 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-100.00 hrs, dt= 0.01 hrs

Fixed water surface Elevation= 252.50'

Link FP: FLOOD PLAIN - 252.5



Appendix C

Unified Stormwater Sizing Criteria Calculations

Pond - Water Quality Volume Calculations

WQv = (P X Rv X A) / 12
Rv = 0.05 + 0.009(I) > Min. Rv = 0.2
I = Impervious Cover (%)
P = 90% Rainfall event (Design Manual, pg. 4-2)
A = Drainage area (acres)

0.2

Pond	Pond	Total Area (Ac)	Impervious Area (Ac)	Impervious Cover	Rv	Rv	P	WQv (cf)
1	1	5.78	0.50	9%	0.13	0.20	1.1	4,616
2	2	20.98	3.385	16%	0.2	0.20	1.1	16,755
3	3	3.47	0.420	12%	0.16	0.20	1.1	2,771
Wqv-P	Water Quality	0.69	0.140	20%	0.23	0.23	1.1	641

Stream Channel Protection - Cpv

Pond #1	5.78	Ac	P1-yr	2.8	in

cn	ia	ia/P1-yr	Tc (hrs)	Qu(csm/in.) Ex. #4-III	T(hrs)	Qo/Qi (Fig. 8.5)	Vs/Vr App. B	Q (ac-ft)	Vs = Cpv (acre-ft)
76	0.631578947	0.23	0.25	500	24	0.035	0.628	0.3	0.19

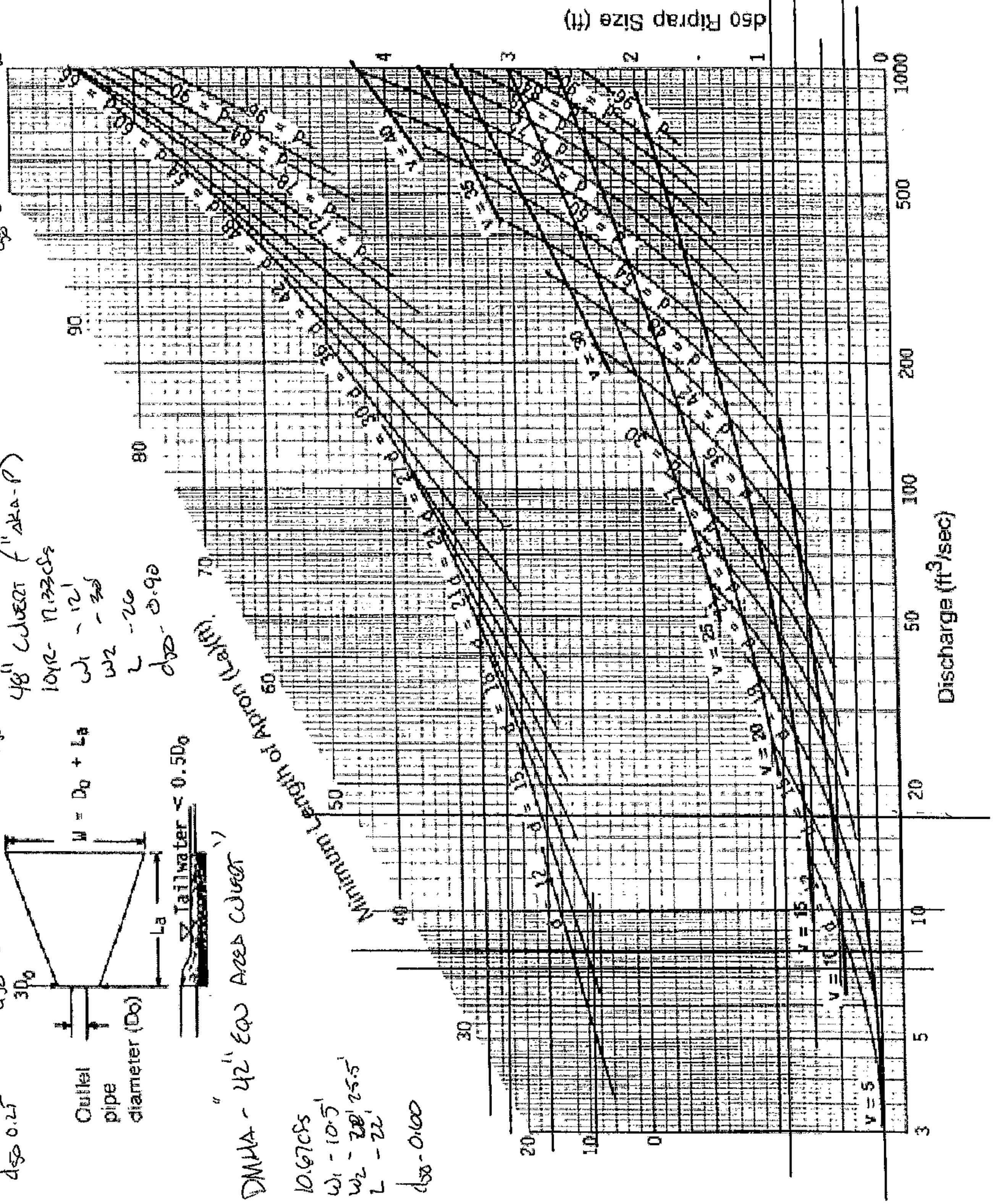
Pond #2	20.98	Ac	P1-yr	2.8	in

cn	ia	ia/P1-yr	Tc (hrs)	Qu(csm/in.) Ex. #4-III	T(hrs)	Qo/Qi (Fig. 8.5)	Vs/Vr App. B	Q (ac-ft)	Vs = Cpv (acre-ft)
77	0.597402597	0.21	0.25	475	24	0.048	0.628	1.26	0.79

Pond #3	3.47	Ac	P1-yr	2.8	in

cn	ia	ia/P1-yr	Tc (hrs)	Qu(csm/in.) Ex. #4-III	T(hrs)	Qo/Qi (Fig. 8.5)	Vs/Vr App. B	Q (ac-ft)	Vs = Cpv (acre-ft)
78	0.564102564	0.20	0.25	475	24	0.048	0.628	0.21	0.13

Figure 5B.12
Outlet Protection Design—Minimum Tailwater Condition
(Design of Outlet Protection from a Round Pipe Flowing Full, Minimum Tailwater Condition: $T_w < 0.5D_o$) (USDA - NRCS)



CB1B 10YR - 0.98cfs 23x14" ~ 18"
W1 - 4.5'
W2 10.5'
L - 9
d50 - 0.25

CB1A 10YR - 0.34cfs 18"
W1 - 4.5'
W2 - 10.5'
L - 9'
d50 - 0.25

CB2B 10YR - 4.99cfs -18"
W1 - 4.5'
W2 - 10.5'
L - 9'
d50 0.25

P-3-DMH3B 10YR - 5.90 cfs -18"
W1 - 4.5'
W2 - 10.5'
L - 9
d50 - 0.25

P-2-DMH1 10YR - 8.27cfs 30"
W1 - 7.5'
W2 18.5'
L - 16
d50 - 0.50

48" CULVERT ("aka P")
10YR - 17.33cfs
W1 - 12'
W2 - 30'
L - 26
d50 - 0.90

CB10-3 18" 10YR - 7.8cfs
W1 4.5'
W2 10.5
L - 9'
d50 - 0.40

CB#9B 10YR - 2.74cfs
W1 - 4.5'
W2 - 10.5'
L - 9
d50 0.25
18"

DMHA - 42" EQ ARCH CULVERT
10.67cfs
W1 - 10.5'
W2 - ~~28'~~ 25.5'
L - 22'
d50 - 0.60

Bottom Grade

The outlet protection apron shall be constructed with no slope along its length. There shall be no overfall at the end the apron. The elevation of the downstream end of the apron shall be equal to the elevation of the receiving channel or adjacent ground.

Alignment

The outlet protection apron shall be located so that there are no bends in the horizontal alignment.

Materials

The outlet protection may be done using rock riprap, grouted riprap, or gabions.

Riprap shall be composed of a well-graded mixture of stone size so that 50 percent of the pieces, by weight, shall be larger than the d_{50} size determined by using the charts. A well-graded mixture, as used herein, is defined as a mixture composed primarily of larger stone sizes, but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone size in such a mixture shall be 1.5 times the d_{50} size.

Thickness

The minimum thickness of the riprap layer shall be 1.5 times the maximum stone diameter for d_{50} of 15 inches or , and 1.2 times the maximum stone size for d_{50} greater than 15 inches. The following chart lists some examples:

D_{50} (inches)	d_{max} (inches)	Minimum Blanket Thickness (inches)
4	6	9
6	9	14
9	14	20
12	18	27
15	22	32
18	27	32
21	32	38
24	36	43

Stone Quality

Stone for riprap shall consist of field stone or rough unhewn quarry stone. The stone shall be hard and angular and of a quality that will not disintegrate on exposure to water or weathering. The specific gravity of the individual stones shall be at least 2.5.

ycled concrete equivalent may be used provided it has a density of at least 150 pounds per cubic foot, and does not have any exposed steel or reinforcing bars.

Filter

A filter is a layer of material placed between the riprap and the underlying soil surface to prevent soil movement into and through the riprap. Riprap shall have a filter placed under it in all cases.

A filter can be of two general forms: a gravel layer or a plastic filter cloth. The plastic filter cloth can be woven or non-woven monofilament yarns, and shall meet these base requirements: thickness 20-60 mils, grab strength 90-120 lbs; and shall conform to ASTM D-1777 and ASTM D-1682.

Gravel filter blanket, when used, shall be designed by comparing particle sizes of the overlying material and the base material. Design criteria are available in Standard and Specification for Riprap Slope Protection on page 5B.57.

Gabions

Gabions shall be made of hexagonal triple twist mesh with heavily galvanized steel wire. The maximum linear dimension of the mesh opening shall not exceed 4 ½ inches and the area of the mesh opening shall not exceed 10 square inches.

Gabions shall be fabricated in such a manner that the sides, ends, and lid can be assembled at the construction site into a rectangular basket of the specified sizes. Gabions shall be of single unit construction and shall be installed according to manufacturers recommendations.

The area on which the gabion is to be installed shall be graded as shown on the drawings. Foundation conditions shall be the same as for placing rock riprap, and filter cloth shall be placed under all gabions. Where necessary, key, or tie, the structure into the bank to prevent undermining of the main gabion structure.

Maintenance

Once a riprap outlet has been installed, the maintenance needs are very low. It should be inspected after high flows for evidence of scour beneath the riprap or for dislodged stones. Repairs should be made immediately.

Design Procedure

1. Investigate the downstream channel to assure that nonerosive velocities can be maintained.

2. Determine the tailwater condition at the outlet to establish which curve to use.
3. Enter the appropriate chart with the design discharge to

flow's critical slope must be avoided unless the channel is straight. Velocities exceeding critical will be restricted to straight reaches.

Design Flow Depth (ft.)	Maximum Velocity (ft./sec.)
0.0 – 0.5	25
0.5 – 1.0	15
Greater than 1.0	10

2. Waterways or outlets with velocities exceeding critical shall discharge into an energy dissipater to reduce velocity to less than critical, or to a velocity the downstream soil and vegetative conditions will allow.

Cross Section

The cross section shall be triangular, parabolic, or trapezoidal. Monolithic concrete or gabions may be rectangular.

Freeboard

The minimum freeboard for lined waterways or outlets shall be 0.25 feet above design high water in areas where erosion resistant vegetation cannot be grown adjacent to the paved side slopes. No freeboard is required where good vegetation can be grown and is maintained.

Side Slope

Steepest permissible side slopes, horizontal to vertical will be as follows:

1. Non-Reinforced Concrete
   Hand-placed, formed concrete
   Height of lining, 1.5 ft or less............ Vertical
   Hand placed screened concrete or mortared
   In-place flagstone
   Height of lining, less than 2 ft............ 1 to 1
   Height of lining, more than 2 ft.......... 2 to 1
2. Slip form concrete:
   Height of lining, less than 3 ft........... 1 to 1
3. Rock Riprap..................................... 2 to 1
4. Gabions... Vertical
5. Pre-cast Concrete Sections................... Vertical

Lining Thickness

Minimum lining thickness shall be as follows:

1. Concrete...................4 in. (In most problem areas, shall be 5 in. with welded wire fabric reinforcing.)

2. Rock Riprap......1.5 x maximum stone size plus thickness of filter or bedding.
3. Flagstone.............4 in. including mortar bed.

Related Structures

Side inlets, drop structures, and energy dissipaters shall meet the hydraulic and structural requirements of the site.

Filters or Bedding

Filters or bedding to prevent piping, reduce uplift pressure, and collect water will be used as required and will be designed in accordance with sound engineering principles. Weep holes and drains should be provided as needed.

Concrete

Concrete used for lining shall be so proportioned that it is plastic enough for thorough consolidation and stiff enough to stay in place on side slopes. A dense product will be required. A mix that can be certified as suitable to produce a minimum strength of at least 3,000 pounds per square inch will be required. Cement used shall be Portland Cement, Type I, II, IV, or V. Aggregate used shall have a maximum diameter of 1 ½ inches.

Weep holes should be provided in concrete footings and retaining walls to allow free drainage of water. Pipe used for weep holes shall be non-corrosive.

Mortar

Mortar used for mortared in-place flagstone shall consist of a mix of cement, sand, and water. Follow directions on the bag of mortar for proper mixing of mortar and water.

Contraction Joints

Contraction joints in concrete linings, where required, shall be formed transversely to a depth of about one third the thickness of the lining at a uniform spacing in the range of 10 to 15 feet.

Rock Riprap or Flagstone

Stone used for riprap or gabions shall be dense and hard enough to withstand exposure to air, water, freezing, and thawing. Flagstone shall be flat for ease of placement and have the strength to resist exposure and breaking. Rock riprap maximum size shall be as follows:

Velocity, f.p.s.	dmax, inches
5.0	6
8.5	12
10	18
12	24
15	36

A complete riprap gradations is provided in Table 5B.4, page 5B.38.

Figure 5A.31(1)
Anti-Seep Collar Design

This procedure provides the anti-seep collar dimensions for only temporary sediment basins to increase the seepage length by 15% for various pipe slopes, embankment slopes and riser heights.

The first step in designing anti-seep collars is to determine the length of pipe within the saturated zone of the embankment. This can be done graphically or by the following equation, assuming that the upstream slope of the embankment intersects the invert of the pipe at its upstream end. (See embankment-invert intersection on the drawing below:

$$L_s = y\,(z + 4)\left[1 + \frac{\text{pipe slope}}{0.25 - \text{pipe slope}}\right]$$

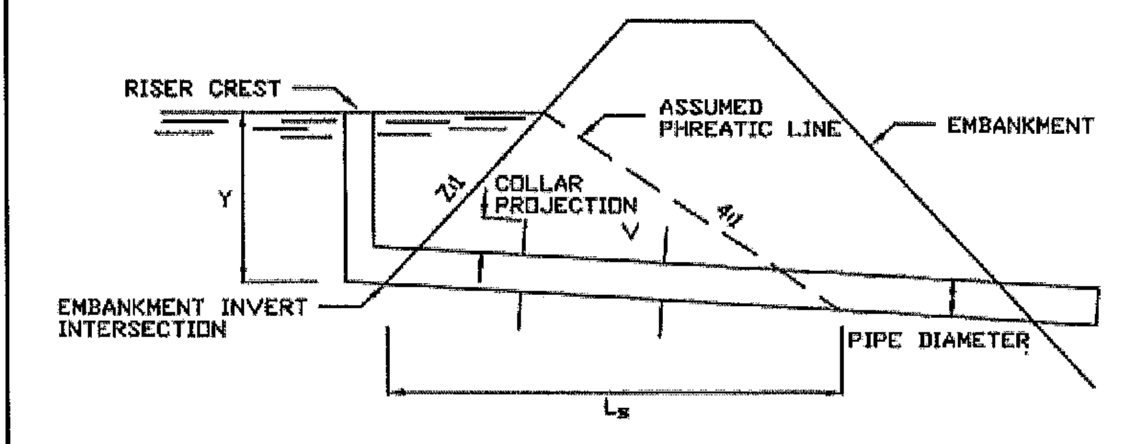
Where: L_s = length of pipe in the saturated zone (ft.)

y = distance in feet from upstream invert of pipe to highest normal water level expected to occur during the life of the structure, usually the top of the riser.

z = slope of upstream embankment as a ratio of z ft. horizontal to one ft. vertical.

pipe slope = slope of pipe in feet per foot.

This procedure is based on the approximation of the phreatic line as shown in the drawing below:



ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

ANTI-SEEP COLLAR DESIGN

P-2

$L_S = Y(z+4)\left[1 + \frac{\text{Pipe slope}}{0.25 - \text{pipe s.}}\right]$

$Y = 12.5$

$z = 2$

Pipe S = 0.012

$L_S = 79$

3 Collars @ 7.5' x 7.5'

P-3

$L_S = Y(z+4)\left[1 + \frac{\text{Pipe slope}}{0.25 - \text{pipe slope}}\right]$

$L_S = 89.5'$

$Y = 10.5'$

$z = 2$

Pipe slope = 0.075

≈ 7.5' x 7.5' x 3 collars

THREE Collars 7.5' x 7.5' = P-3

Figure 5A.31(2)

Anti-Seep Collar Design Charts (USDA - NRCS)

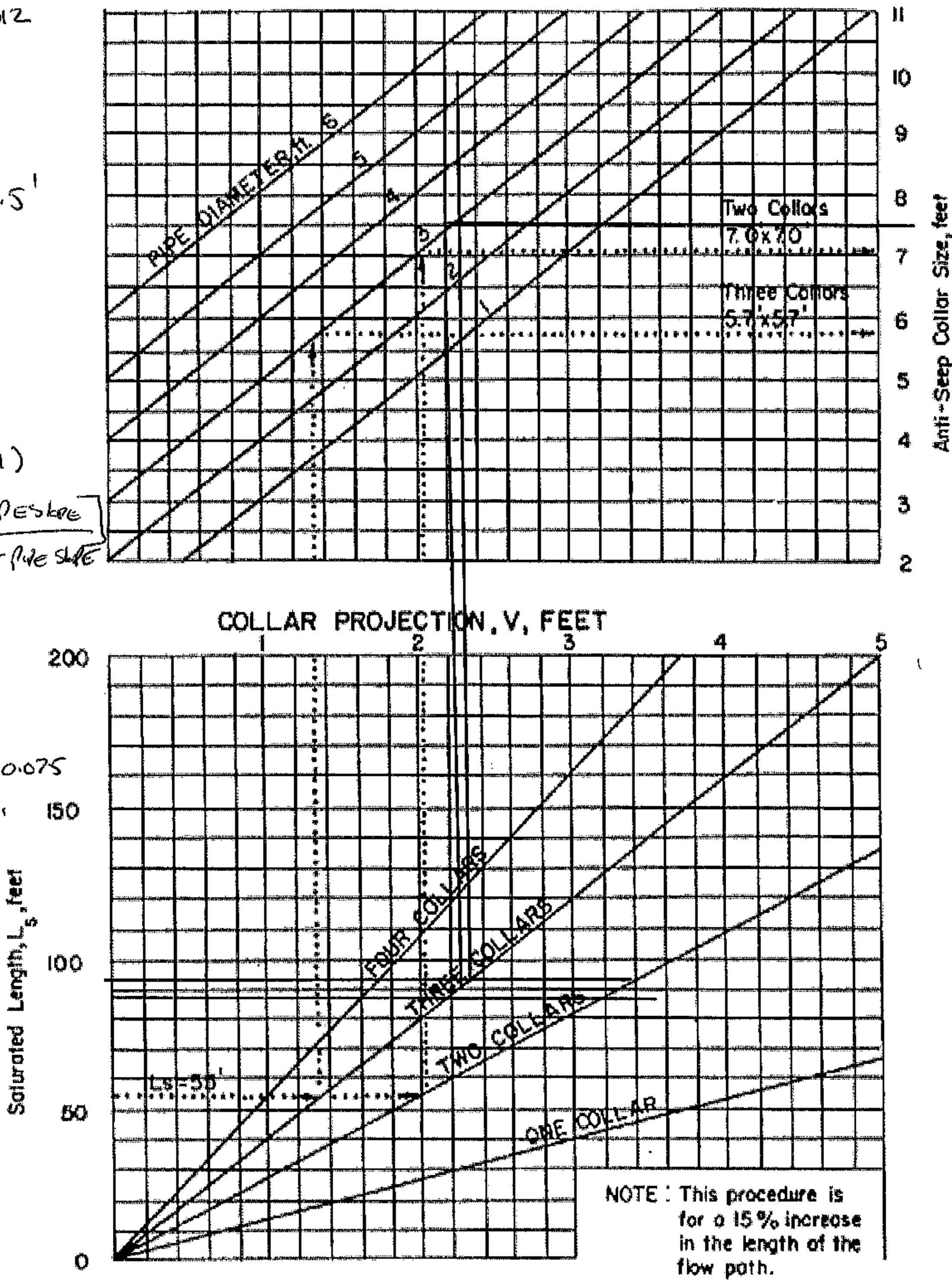
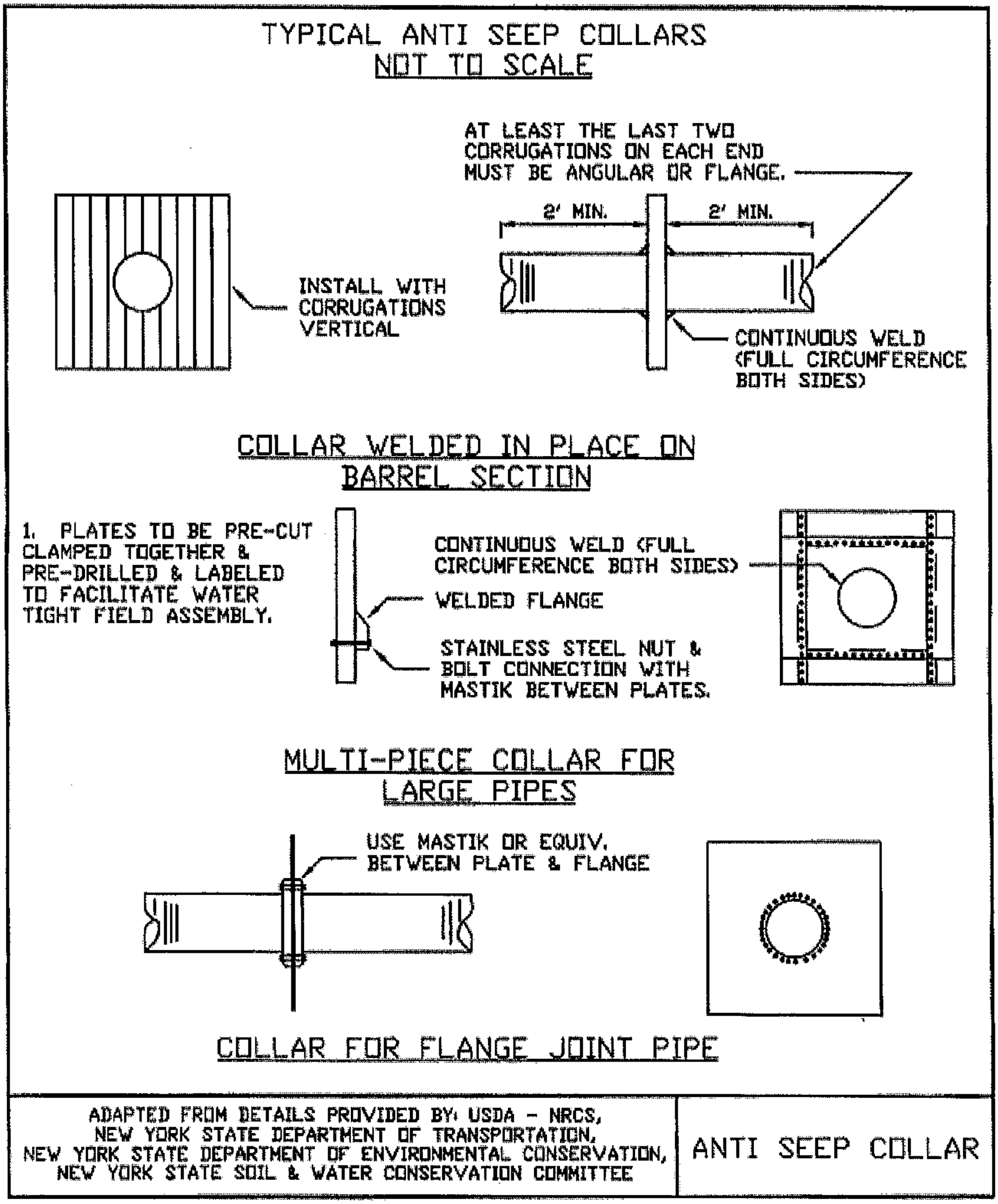


Figure 5A.32
Anti-Seep Collar Design



Appendix D

Notice of Intent

MS4 SWPPP Acceptance Letter

Notice of Termination

The NOI and MS4 Acceptance Letter will be required to be filled out and submitted to the NYSDEC prior to the commencement of site construction.

The NOI and MS4 document have been enclosed as an acknowledgment of the action to be taken.

Prior to Construction, the applicant shall forward the Town and Town Engineer a copy of the NOI acknowledgement from the NYSDEC to demonstrate General Permit coverage.

0669273036

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR ______ (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State

Zip -

Phone (Owner/Operator) - -

Fax (Owner/Operator) - -

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

0457273031

Project Site Information

Project/Site Name

Street Address (NOT P.O. BOX)

Side of Street

○ **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)

State: N Y

Zip: -

County

DEC Region

Name of Nearest Cross Street

Distance to Nearest Cross Street (Feet)

Project In Relation to Cross Street

○ **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

Y Coordinates (Northing) 4

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in imperviousness**

○ **Redevelopment with no increase in imperviousness**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ◯ FOREST
- ◯ PASTURE/OPEN LAND
- ◯ CULTIVATED LAND
- ◯ SINGLE FAMILY HOME
- ◯ SINGLE FAMILY SUBDIVISION
- ◯ TOWN HOME RESIDENTIAL
- ◯ MULTIFAMILY RESIDENTIAL
- ◯ INSTITUTIONAL/SCHOOL
- ◯ INDUSTRIAL
- ◯ COMMERCIAL
- ◯ ROAD/HIGHWAY
- ◯ RECREATIONAL/SPORTS FIELD
- ◯ BIKE PATH/TRAIL
- ◯ LINEAR UTILITY
- ◯ PARKING LOT
- ◯ OTHER

Post-Development Future Land Use

- ◯ SINGLE FAMILY HOME
- ◯ SINGLE FAMILY SUBDIVISION — Number of Lots
- ◯ TOWN HOME RESIDENTIAL
- ◯ MULTIFAMILY RESIDENTIAL
- ◯ INSTITUTIONAL/SCHOOL
- ◯ INDUSTRIAL
- ◯ COMMERCIAL
- ◯ MUNICIPAL
- ◯ ROAD/HIGHWAY
- ◯ RECREATIONAL/SPORTS FIELD
- ◯ BIKE PATH/TRAIL
- ◯ LINEAR UTILITY (water, sewer, gas, etc.)
- ◯ PARKING LOT
- ◯ CLEARING/GRADING ONLY
- ◯ DEMOLITION, NO REDEVELOPMENT
- ◯ OTHER

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ◯ **Yes** ◯ **No**

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ◯ **Yes** ◯ **No**

6. Is this property owned by a state authority, state agency or local government? ◯ **Yes** ◯ **No**

7. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	**Acreage To Be Disturbed**	**Existing Impervious Area Within Disturbed**	**Future Impervious Area Within Disturbed**
.	.	.	.

8. Do you plan to disturb more than 5 acres of soil at any one time? ◯ **Yes** ◯ **No**

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	**B**	**C**	**D**
%	%	%	%

10. Is this a phased project? ○ Yes ○ No

11. Enter the planned start and end dates of the disturbance activities.

Start Date __ / __ / ____ - End Date __ / __ / ____

12. Identify the nearest, natural, surface waterbody(ies) to which construction site runoff will discharge.

Name

12a. Type of waterbody identified in Question 12?

- ○ Wetland / State Jurisdiction On Site (Answer 12b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 12b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

12b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment in Appendix E of GP-0-10-001? ○ Yes ○ No

14. Is this project located in one of the Watersheds identified in Appendix C of GP-0-10-001? ○ Yes ○ No

15. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? **If no, skip question 16.** ○ Yes ○ No

16. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ Yes ○ No
If Yes, what is the acreage to be disturbed?

17. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ Yes ○ No

18. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ Yes ○ No ○ Unknown
(If No, skip question 19)

19. What is the name of the municipality/entity that owns the separate storm sewer system?

20. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ○ No ○ Unknown

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ○ Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) ○ Yes ○ No
(If No, skip questions 23 and 27-35)

23. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ○ Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State

Zip -

Phone - -

Fax - -

Email

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-10-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name

MI

Last Name

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ◯ Yes ◯ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ◯ Check Dams
- ◯ Construction Road Stabilization
- ◯ Dust Control
- ◯ Earth Dike
- ◯ Level Spreader
- ◯ Perimeter Dike/Swale
- ◯ Pipe Slope Drain
- ◯ Portable Sediment Tank
- ◯ Rock Dam
- ◯ Sediment Basin
- ◯ Sediment Traps
- ◯ Silt Fence
- ◯ Stabilized Construction Entrance
- ◯ Storm Drain Inlet Protection
- ◯ Straw/Hay Bale Dike
- ◯ Temporary Access Waterway Crossing
- ◯ Temporary Stormdrain Diversion
- ◯ Temporary Swale
- ◯ Turbidity Curtain
- ◯ Water bars

Biotechnical

- ◯ Brush Matting
- ◯ Wattling

Vegetative Measures

- ◯ Brush Matting
- ◯ Dune Stabilization
- ◯ Grassed Waterway
- ◯ Mulching
- ◯ Protecting Vegetation
- ◯ Recreation Area Improvement
- ◯ Seeding
- ◯ Sodding
- ◯ Straw/Hay Bale Dike
- ◯ Streambank Protection
- ◯ Temporary Swale
- ◯ Topsoiling
- ◯ Vegetating Waterways

Permanent Structural

- ◯ Debris Basin
- ◯ Diversion
- ◯ Grade Stabilization Structure
- ◯ Land Grading
- ◯ Lined Waterway (Rock)
- ◯ Paved Channel (Concrete)
- ◯ Paved Flume
- ◯ Retaining Wall
- ◯ Riprap Slope Protection
- ◯ Rock Outlet Protection
- ◯ Streambank Protection

Other

9312273030

Water Quality and Quantity Control

Important: **Completion of Questions 27-35 is not required if response to Question 22 is No.**

Post-Construction Stormwater Management Practices

27. Indicate **all** Stormwater Management Practice(s) that will be installed/constructed on this site:

Ponds
- ○ **Micropool Extended Detention (P-1)**
- ○ **Wet Pond (P-2)**
- ○ **Wet Extended Detention (P-3)**
- ○ **Multiple Pond System (P-4)**
- ○ **Pocket Pond (P-5)**

Filtering
- ○ **Surface Sand Filter (F-1)**
- ○ **Underground Sand Filter (F-2)**
- ○ **Perimeter Sand Filter (F-3)**
- ○ **Organic Filter (F-4)**
- ○ **Bioretention (F-5)**
- ○ **Other** ____________

Wetlands
- ○ **Shallow Wetland (W-1)**
- ○ **Extended Detention Wetland (W-2)**
- ○ **Pond/Wetland System (W-3)**
- ○ **Pocket Wetland (W-4)**

Infiltration
- ○ **Infiltration Trench (I-1)**
- ○ **Infiltration Basin (I-2)**
- ○ **Dry Well (I-3)**
- ○ **Underground Infiltration System**

Open Channels
- ○ **Dry Swale (O-1)**
- ○ **Wet Swale (O-2)**

Alternative Practice
- ○ **Rain Garden**
- ○ **Cistern**
- ○ **Green Roof**
- ○ **Stormwater Planters**
- ○ **Permeable Paving (Modular Block)**

Verified Proprietary Practice
- ○ **Hydrodynamic**
- ○ **Wet Vault**
- ○ **Media Filter**

28. Describe other stormwater management practices not listed above or explain any deviations from the technical standards.

29. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

30. Provide the total water quality volume required and the total provided for the site.

WQv Required ___ . ___ **acre-feet**

WQv Provided ___ . ___ **acre-feet**

31. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required ___ . ___ **acre-feet**

CPv Provided ___ . ___ **acre-feet**

31a. The need to provide for channel protection has been waived because:

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ___ . ___ **CFS**

Post-development ___ . ___ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ___ . ___ **CFS**

Post-development ___ . ___ **CFS**

31b. The need to provide for flood control has been waived because:

○ **Site discharges directly to fourth order stream or larger**

○ **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 31 and 32, impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s). (Total Drainage Area = Project Site + Offsite areas)

32. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. ___ %

33. Post-Construction Impervious Area - As a percent of the Total Drainage Area, enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. ___ %

34. Indicate the total number of post-construction stormwater management practices to be installed/constructed. ___

35. Provide the total number of stormwater discharge points from the site. (include discharges to either surface waters or to separate storm sewer systems) ___

36. Identify other DEC permits that are required for this project.

DEC Permits

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Other SPDES
- ○ Solid Waste
- ○ None
- ○ Other
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15

37. Does this project require a US Army Corps of Engineers Wetland Permit? ○ Yes ○ No
If Yes, Indicate Size of Impact. .

38. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ Yes ○ No
(If No, skip question 39)

39. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ Yes ○ No

40. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. N Y R

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name **MI**

Print Last Name

Owner/Operator Signature

Date / /

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

MS4 Stormwater Pollution Prevention Plan (SWPPP) Acceptance Form

for

Construction Activities Seeking Authorization Under SPDES General Permit

*(NOTE: Attach Completed Form to Notice Of Intent and Submit to Address Above)

I. Project Owner/Operator Information
1. Owner/Operator Name:
2. Contact Person:
3. Street Address:
4. City/State/Zip:
II. Project Site Information
5. Project/Site Name:
6. Street Address:
7. City/State/Zip:
III. Stormwater Pollution Prevention Plan (SWPPP) Review and Acceptance Information
8. SWPPP Reviewed by:
9. Title/Position:
10. Date Final SWPPP Reviewed and Accepted:
IV. Regulated MS4 Information
11. Name of MS4:
12. MS4 SPDES Permit Identification Number: NYR20A ________________________
13. Contact Person:
14. Street Address:
15. City/State/Zip:
16. Telephone Number:

(NYS DEC - MS4 SWPPP Acceptance Form - January 2010)

MS4 SWPPP Acceptance Form - continued

V. Certification Statement - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative

I hereby certify that the final Stormwater Pollution Prevention Plan (SWPPP) for the construction project identified in question 5 has been reviewed and meets the substantive requirements in the SPDES General Permit For Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s).
Note: The MS4, through the acceptance of the SWPPP, assumes no responsibility for the accuracy and adequacy of the design included in the SWPPP. In addition, review and acceptance of the SWPPP by the MS4 does not relieve the owner/operator or their SWPPP preparer of responsibility or liability for errors or omissions in the plan.

Printed Name:

Title/Position:

Signature:

Date:

VI. Additional Information

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505
(NOTE: Submitted completed form to address above)

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity

Please indicate your permit identification number: NYR ___ ___ ___ ___ ___ ___

I. Owner or Operator Information

1. Owner/Operator Name:
2. Street Address:
3. City/State/Zip:
4. Contact Person: 4a.Telephone:
5. Contact Person E-Mail:

II. Project Site Information

5. Project/Site Name:
6. Street Address:
7. City/Zip:
8. County:

III. Reason for Termination

9a. ☐ All disturbed areas have achieved final stabilization in accordance with the general permit and SWPPP.
***Date final stabilization completed** (month/year): ____

9b. ☐ Permit coverage has been transferred to new owner/operator. Indicate new owner/operator's permit identification number: NYR ___ ___ ___ ___ ___ ___
(Note: Permit coverage can not be terminated by owner identified in I.1. above until new owner/operator obtains coverage under the general permit)

9c. ☐ Other (Explain on Page 2)

IV. Final Site Information:

10a. Did this construction activity require the development of a SWPPP that includes post-construction stormwater management practices? ☐ yes ☐ no (If no, go to question 10f.)

10b. Have all post-construction stormwater management practices included in the final SWPPP been constructed?
☐ yes ☐ no (If no, explain on Page 2)

10c. Identify the entity responsible for long-term operation and maintenance of practice(s)?

____

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

10d. Has the entity responsible for long-term operation and maintenance been given a copy of the operation and maintenance plan required by the general permit? ☐ yes ☐ no

10e. Indicate the method used to ensure long-term operation and maintenance of the post-construction stormwater management practice(s):

☐ Post-construction stormwater management practice(s) and any right-of-way(s) needed to maintain practice(s) have been deeded to the municipality.

☐ Executed maintenance agreement is in place with the municipality that will maintain the post-construction stormwater management practice(s).

☐ For post-construction stormwater management practices that are privately owned, the deed of record has been modified to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

☐ For post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, policy and procedures are in place that ensures operation and maintenance of the practice(s) in accordance with the operation and maintenance plan.

10f. Provide the total area of impervious surface (i.e. roof, pavement, concrete, gravel, etc.) constructed within the disturbance area? ______________________ (acres)

11. Is this project subject to the requirements of a regulated, traditional land use control MS4? ☐ yes ☐ no
(If Yes, complete section VI - "MS4 Acceptance" statement

V. Additional Information/Explanation:
(Use this section to answer questions 9c. and 10b., if applicable)

VI. MS4 Acceptance - MS4 Official (principal executive officer or ranking elected official) or Duly Authorized Representative (Note: Not required when 9b. is checked -transfer of coverage)

I have determined that it is acceptable for the owner or operator of the construction project identified in question 5 to submit the Notice of Termination at this time.

Printed Name:

Title/Position:

Signature:	Date:

NOTICE OF TERMINATION for Storm Water Discharges Authorized under the SPDES General Permit for Construction Activity - continued

VII. Qualified Inspector Certification - Final Stabilization:

I hereby certify that all disturbed areas have achieved final stabilization as defined in the current version of the general permit, and that all temporary, structural erosion and sediment control measures have been removed. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:	Date:

VIII. Qualified Inspector Certification - Post-construction Stormwater Management Practice(s):

I hereby certify that all post-construction stormwater management practices have been constructed in conformance with the SWPPP. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:	Date:

IX. Owner or Operator Certification

I hereby certify that this document was prepared by me or under my direction or supervision. My determination, based upon my inquiry of the person(s) who managed the construction activity, or those persons directly responsible for gathering the information, is that the information provided in this document is true, accurate and complete. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Printed Name:

Title/Position:

Signature:	Date:

Appendix E

Stormwater Management Practice Construction Inspection Checklist

Stormwater/Wetland Pond Construction Inspection Checklist

Project:
Location:
Site Status:

Date:

Time:

Inspector:

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
Pre-Construction/Materials and Equipment		
Pre-construction meeting		
Pipe and appurtenances on-site prior to construction and dimensions checked		
1. Material (including protective coating, if specified)		
2. Diameter		
3. Dimensions of metal riser or pre-cast concrete outlet structure		
4. Required dimensions between water control structures (orifices, weirs, etc.) are in accordance with approved plans		
5. Barrel stub for prefabricated pipe structures at proper angle for design barrel slope		
6. Number and dimensions of prefabricated anti-seep collars		
7. Watertight connectors and gaskets		
8. Outlet drain valve		
Project benchmark near pond site		
Equipment for temporary de-watering		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
2. Subgrade Preparation		
Area beneath embankment stripped of all vegetation, topsoil, and organic matter		
3. Pipe Spillway Installation		
Method of installation detailed on plans		
A. Bed preparation		
Installation trench excavated with specified side slopes		
Stable, uniform, dry subgrade of relatively impervious material (If subgrade is wet, contractor shall have defined steps before proceeding with installation)		
Invert at proper elevation and grade		
B. Pipe placement		
Metal / plastic pipe		
1. Watertight connectors and gaskets properly installed		
2. Anti-seep collars properly spaced and having watertight connections to pipe		
3. Backfill placed and tamped by hand under “haunches” of pipe		
4. Remaining backfill placed in max. 8 inch lifts using small power tamping equipment until 2 feet cover over pipe is reached		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
3. Pipe Spillway Installation		
Concrete pipe		
1. Pipe set on blocks or concrete slab for pouring of low cradle		
2. Pipe installed with rubber gasket joints with no spalling in gasket interface area		
3. Excavation for lower half of anti-seep collar(s) with reinforcing steel set		
4. Entire area where anti-seep collar(s) will come in contact with pipe coated with mastic or other approved waterproof sealant		
5. Low cradle and bottom half of anti-seep collar installed as monolithic pour and of an approved mix		
6. Upper half of anti-seep collar(s) formed with reinforcing steel set		
7. Concrete for collar of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
8. Forms stripped and collar inspected for honeycomb prior to backfilling. Parge if necessary.		
C. Backfilling		
Fill placed in maximum 8 inch lifts		
Backfill taken minimum 2 feet above top of anti-seep collar elevation before traversing with heavy equipment		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
4. Riser / Outlet Structure Installation		
Riser located within embankment		
A. Metal riser		
Riser base excavated or formed on stable subgrade to design dimensions		
Set on blocks to design elevations and plumbed		
Reinforcing bars placed at right angles and projecting into sides of riser		
Concrete poured so as to fill inside of riser to invert of barrel		
B. Pre-cast concrete structure		
Dry and stable subgrade		
Riser base set to design elevation		
If more than one section, no spalling in gasket interface area; gasket or approved caulking material placed securely		
Watertight and structurally sound collar or gasket joint where structure connects to pipe spillway		
C. Poured concrete structure		
Footing excavated or formed on stable subgrade, to design dimensions with reinforcing steel set		
Structure formed to design dimensions, with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing while curing, if necessary)		
Forms stripped & inspected for “honeycomb” prior to backfilling; parge if necessary		

CONSTRUCTION SEQUENCE	SATISFACTORY/ UNSATISFACTORY	COMMENTS
5. Embankment Construction		
Fill material		
Compaction		
Embankment		
1. Fill placed in specified lifts and compacted with appropriate equipment		
2. Constructed to design cross-section, side slopes and top width		
3. Constructed to design elevation plus allowance for settlement		
6. Impounded Area Construction		
Excavated / graded to design contours and side slopes		
Inlet pipes have adequate outfall protection		
Forebay(s)		
Pond benches		
7. Earth Emergency Spillway Construction		
Spillway located in cut or structurally stabilized with riprap, gabions, concrete, etc.		
Excavated to proper cross-section, side slopes and bottom width		
Entrance channel, crest, and exit channel constructed to design grades and elevations		

CONSTRUCTION SEQUENCE	SATISFACTORY / UNSATISFACTORY	COMMENTS
8. Outlet Protection		
A. End section		
Securely in place and properly backfilled		
B. Endwall		
Footing excavated or formed on stable subgrade, to design dimensions and reinforcing steel set, if specified		
Endwall formed to design dimensions with reinforcing steel set as per plan		
Concrete of an approved mix and vibrated into place (protected from freezing, if necessary)		
Forms stripped and structure inspected for "honeycomb" prior to backfilling; parge if necessary		
C. Riprap apron / channel		
Apron / channel excavated to design cross-section with proper transition to existing ground		
Filter fabric in place		
Stone sized as per plan and uniformly place at the thickness specified		
9. Vegetative Stabilization		
Approved seed mixture or sod		
Proper surface preparation and required soil amendments		
Excelsior mat or other stabilization, as per plan		

Construction Sequence	Satisfactory/ Unsatisfactory	Comments
10. Miscellaneous		
Drain for ponds having a permanent pool		
Trash rack / anti-vortex device secured to outlet structure		
Trash protection for low flow pipes, orifices, etc.		
Fencing (when required)		
Access road		
Set aside for clean-out maintenance		
11. Stormwater Wetlands		
Adequate water balance		
Variety of depth zones present		
Approved pondscaping plan in place Reinforcement budget for additional plantings		
Plants and materials ordered 6 months prior to construction		
Construction planned to allow for adequate planting and establishment of plant community (April-June planting window)		
Wetland buffer area preserved to maximum extent possible		

Comments:

Actions to be Taken:

Appendix F
Stormwater Management Practice Maintenance Inspection Checklist

Stormwater Pond/Wetland Operation, Maintenance and Management Inspection Checklist

Project ______________________________
Location: ______________________________
Site Status: ______________________________

Date: ______________________________
Time: ______________________________

Inspector: ______________________________

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
1. Embankment and emergency spillway (Annual, After Major Storms)		
1. Vegetation and ground cover adequate		
2. Embankment erosion		
3. Animal burrows		
4. Unauthorized planting		
5. Cracking, bulging, or sliding of dam		
a. Upstream face		
b. Downstream face		
c. At or beyond toe		
downstream		
upstream		
d. Emergency spillway		
6.Pond, toe & chimney drains clear and functioning		
7.Seeps/leaks on downstream face		
8.Slope protection or riprap failure		
9. Vertical/horizontal alignment of top of dam “As-Built”		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
10. Emergency spillway clear of obstructions and debris		
11. Other (specify)		
2. Riser and principal spillway (Annual)		
Type: Reinforced concrete ______ Corrugated pipe ______ Masonry ______ 1. Low flow orifice obstructed		
2. Low flow trash rack. a. Debris removal necessary		
b. Corrosion control		
3. Weir trash rack maintenance a. Debris removal necessary		
b. corrosion control		
4. Excessive sediment accumulation insider riser		
5. Concrete/masonry condition riser and barrels a. cracks or displacement		
b. Minor spalling (<1")		
c. Major spalling (rebars exposed)		
d. Joint failures		
e. Water tightness		
6. Metal pipe condition		
7. Control valve a. Operational/exercised		
b. Chained and locked		
8. Pond drain valve a. Operational/exercised		
b. Chained and locked		
9. Outfall channels functioning		
10. Other (specify)		

Maintenance Item	Satisfactory/ Unsatisfactory	Comments
3. Permanent Pool (Wet Ponds) (monthly)		
1. Undesirable vegetative growth		
2. Floating or floatable debris removal required		
3. Visible pollution		
4. Shoreline problem		
5. Other (specify)		
4. Sediment Forebays		
1.Sedimentation noted		
2. Sediment cleanout when depth < 50% design depth		
5. Dry Pond Areas		
1. Vegetation adequate		
2. Undesirable vegetative growth		
3. Undesirable woody vegetation		
4. Low flow channels clear of obstructions		
5. Standing water or wet spots		
6. Sediment and / or trash accumulation		
7. Other (specify)		
6. Condition of Outfalls (Annual , After Major Storms)		
1. Riprap failures		
2. Slope erosion		
3. Storm drain pipes		
4.Endwalls / Headwalls		
5. Other (specify)		
7. Other (Monthly)		
1. Encroachment on pond, wetland or easement area		

Maintenance Item	**Satisfactory/ Unsatisfactory**	**Comments**
2. Complaints from residents		
3.Aesthetics a. Grass growing required		
b. Graffiti removal needed		
c. Other (specify)		
4. Conditions of maintenance access routes.		
5. Signs of hydrocarbon build-up		
6. Any public hazards (specify)		
8. Wetland Vegetation (Annual)		
1. Vegetation healthy and growing Wetland maintaining 50% surface area coverage of wetland plants after the second growing season. (If unsatisfactory, reinforcement plantings needed)		
2. Dominant wetland plants: Survival of desired wetland plant species Distribution according to landscaping plan?		
3. Evidence of invasive species		
4. Maintenance of adequate water depths for desired wetland plant species		
5. Harvesting of emergent plantings needed		
6. Have sediment accumulations reduced pool volume significantly or are plants “choked” with sediment		
7. Eutrophication level of the wetland.		
8. Other (specify)		

Comments:

Actions to be Taken:

Appendix G

Construction Site Log Book
Summary of Monthly Inspections
Summary of Quarterly Inspections

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM
FOR CONSTRUCTION ACTIVITIES

CONSTRUCTION SITE LOG BOOK

Table of Contents

Properly completing forms such as those contained in this document meet the inspection requirement of NYSDEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name ____
Permit No. ____________________________________**Date of Authorization**_______________
Name of Operator ____
Prime Contractor ____

a. Preamble to Site Assessment and Inspections -The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional[1] conduct an assessment of the site prior to the commencement of construction[2] and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization[3] using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

1 "Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Erosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

2 "Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

3 "Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law. "

Name (please print):____

Title ______________________________________**Date:**_______________

Address: ____

Phone: ___________ **Email:**_____________________________________

Signature:____

c. Qualified Professional's Credentials & Certification

" I hereby certify that I meet the criteria set forth in the General Permit to conduct site inspections for this project and that the appropriate erosion and sediment controls described in the SWPPP and as described in the following Pre-construction Site Assessment Checklist have been adequately installed or implemented, ensuring the overall preparedness of this site for the commencement of construction."

Name (please print):____

Title ______________________________________**Date:**_______________

Address: ____

Phone: ___________ **Email:**_____________________________________

Signature:____

d. Pre-construction Site Assessment Checklist (NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No NA

[ ] [ ] [ ] Has a Notice of Intent been filed with the NYS Department of Conservation?
[ ] [ ] [ ] Is the SWPPP on-site? Where?______________________________
[ ] [ ] [ ] Is the Plan current? What is the latest revision date?______________
[ ] [ ] [ ] Is a copy of the NOI (with brief description) onsite? Where?______________
[ ] [ ] [ ] Have all contractors involved with stormwater related activities signed a contractor's certification?

Pre-construction Site Assessment Checklist (continued)

2. Resource Protection

Yes No NA

[ ] [ ] [ ] Are construction limits clearly flagged or fenced?

[ ] [ ] [ ] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection.

[ ] [ ] [ ] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection

Yes No NA

[ ] [ ] [ ] Clean stormwater runoff has been diverted from areas to be disturbed.

[ ] [ ] [ ] Bodies of water located either on site or in the vicinity of the site have been identified and protected.

[ ] [ ] [ ] Appropriate practices to protect on-site or downstream surface water are installed.

[ ] [ ] [ ] Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Entrance

Yes No NA

[ ] [ ] [ ] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.

[ ] [ ] [ ] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.

[ ] [ ] [ ] Sediment tracked onto public streets is removed or cleaned on a regular basis.

5. Perimeter Sediment Controls

Yes No NA

[ ] [ ] [ ] Silt fence material and installation comply with the standard drawing and specifications.

[ ] [ ] [ ] Silt fences are installed at appropriate spacing intervals

[ ] [ ] [ ] Sediment/detention basin was installed as first land disturbing activity.

[ ] [ ] [ ] Sediment traps and barriers are installed.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No NA

[ ] [ ] [ ] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.

[ ] [ ] [ ] The plan is contained in the SWPPP on page ______

[ ] [ ] [ ] Appropriate materials to control spills are onsite. Where? ___________________

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:
Inspection Forms will be filled out during the entire construction phase of the project.
Required Elements:

(1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;

(2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

(3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;

Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);

(5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and

(6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

SITE PLAN/SKETCH

Inspector (print name)	**Date of Inspection**
Qualified Professional (print name)	**Qualified Professional Signature**

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Maintaining Water Quality

Yes No NA

[ ] [ ] [ ] Is there an increase in turbidity causing a substantial visible contrast to natural conditions?

[ ] [ ] [ ] Is there residue from oil and floating substances, visible oil film, or globules or grease?

[ ] [ ] [ ] All disturbance is within the limits of the approved plans.

[ ] [ ] [ ] Have receiving lake/bay, stream, and/or wetland been impacted by silt from project?

Housekeeping

1. General Site Conditions

Yes No NA

[ ] [ ] [ ] Is construction site litter and debris appropriately managed?

[ ] [ ] [ ] Are facilities and equipment necessary for implementation of erosion and sediment control in working order and/or properly maintained?

[ ] [ ] [ ] Is construction impacting the adjacent property?

[ ] [ ] [ ] Is dust adequately controlled?

2. Temporary Stream Crossing

Yes No NA

[ ] [ ] [ ] Maximum diameter pipes necessary to span creek without dredging are installed.

[ ] [ ] [ ] Installed non-woven geotextile fabric beneath approaches.

[ ] [ ] [ ] Is fill composed of aggregate (no earth or soil)?

[ ] [ ] [ ] Rock on approaches is clean enough to remove mud from vehicles & prevent sediment from entering stream during high flow.

Runoff Control Practices

1. Excavation Dewatering

Yes No NA

[ ] [ ] [ ] Upstream and downstream berms (sandbags, inflatable dams, etc.) are installed per plan.

[ ] [ ] [ ] Clean water from upstream pool is being pumped to the downstream pool.

[ ] [ ] [ ] Sediment laden water from work area is being discharged to a silt-trapping device.

[ ] [ ] [ ] Constructed upstream berm with one-foot minimum freeboard.

2. Level Spreader

Yes No NA

[ ] [ ] [ ] Installed per plan.

[ ] [ ] [ ] Constructed on undisturbed soil, not on fill, receiving only clear, non-sediment laden flow.

[ ] [ ] [ ] Flow sheets out of level spreader without erosion on downstream edge.

3. Interceptor Dikes and Swales

Yes No NA

[ ] [ ] [ ] Installed per plan with minimum side slopes 2H:1V or flatter.

[ ] [ ] [ ] Stabilized by geotextile fabric, seed, or mulch with no erosion occurring.

[ ] [ ] [ ] Sediment-laden runoff directed to sediment trapping structure

Runoff Control Practices (continued)

4. Stone Check Dam
Yes No NA
[ ] [ ] [ ] Is channel stable? (flow is not eroding soil underneath or around the structure).
[ ] [ ] [ ] Check is in good condition (rocks in place and no permanent pools behind the structure).
[ ] [ ] [ ] Has accumulated sediment been removed?.

5. Rock Outlet Protection
Yes No NA
[ ] [ ] [ ] Installed per plan.
[ ] [ ] [ ] Installed concurrently with pipe installation.

Soil Stabilization
1. Topsoil and Spoil Stockpiles
Yes No NA
[ ] [ ] [ ] Stockpiles are stabilized with vegetation and/or mulch.
[ ] [ ] [ ] Sediment control is installed at the toe of the slope.

2. Revegetation
Yes No NA
[ ] [ ] [ ] Temporary seedings and mulch have been applied to idle areas.
[ ] [ ] [ ] 4 inches minimum of topsoil has been applied under permanent seedings

Sediment Control
1. Stabilized Construction Entrance
Yes No NA
[ ] [ ] [ ] Stone is clean enough to effectively remove mud from vehicles.
[ ] [ ] [ ] Installed per standards and specifications?
[ ] [ ] [ ] Does all traffic use the stabilized entrance to enter and leave site?
[ ] [ ] [ ] Is adequate drainage provided to prevent ponding at entrance?

2. Silt Fence
Yes No NA
[ ] [ ] [ ] Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
[ ] [ ] [ ] Joints constructed by wrapping the two ends together for continuous support.
[ ] [ ] [ ] Fabric buried 6 inches minimum.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation is ___% of design capacity.

Sediment Control (continued)
3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabric; Curb; or, Excavated practices)
Yes No NA
[ ] [ ] [ ] Installed concrete blocks lengthwise so open ends face outward, not upward.
[ ] [ ] [ ] Placed wire screen between No. 3 crushed stone and concrete blocks.
[ ] [ ] [ ] Drainage area is 1acre or less.
[ ] [ ] [ ] Excavated area is 900 cubic feet.
[ ] [ ] [ ] Excavated side slopes should be 2:1.
[ ] [ ] [ ] 2” x 4” frame is constructed and structurally sound.
[ ] [ ] [ ] Posts 3-foot maximum spacing between posts.
[ ] [ ] [ ] Fabric is embedded 1 to 1.5 feet below ground and secured to frame/posts with staples at max 8-inch spacing.
[ ] [ ] [ ] Posts are stable, fabric is tight and without rips or frayed areas.
Sediment accumulation ___% of design capacity.

4. Temporary Sediment Trap
Yes No NA
[ ] [ ] [ ] Outlet structure is constructed per the approved plan or drawing.
[ ] [ ] [ ] Geotextile fabric has been placed beneath rock fill.
Sediment accumulation is ___% of design capacity.

5. Temporary Sediment Basin
Yes No NA
[ ] [ ] [ ] Basin and outlet structure constructed per the approved plan.
[ ] [ ] [ ] Basin side slopes are stabilized with seed/mulch.
[ ] [ ] [ ] Drainage structure flushed and basin surface restored upon removal of sediment basin facility.
Sediment accumulation is ___% of design capacity.

Note: Not all erosion and sediment control practices are included in this listing. Add additional pages to this list as required by site specific design.
Construction inspection checklists for post-development stormwater management practices can be found in Appendix F of the New York Stormwater Management Design Manual.

CONSTRUCTION DURATION INSPECTIONS
b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:
1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in:
a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity
Permit Number GP-02-01

Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	**Permit Identification #:**	
Location:	**Today's Date:**	**Reporting Month:**
Name and Telephone Number of Site Inspector:	**Name and Telephone Number of Site Inspector:**	

Permit Reference; Part III.D.3.b (page 15):

"The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis."

Date of Inspection	Type of Inspection and 24 hr Rainfall	Name of Qualified Professional conducting Site Inspections	Major items of concern related to compliance of the SWPPP with all conditions of the general permit	Date Corrected

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative

Name of Permittee or Duly Authorized Representative

Date

Duly authorized representatives of the Permittee (Owner/Operator) must have written authorization, submitted to DEC, to sign any permit documents.

NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity
Permit Number GP-02-01

Quarterly Summary of SWPPP Status with Permit Compliance

Name of Permitted Facility:	**Permit Identification #:**	**Today's Date:**

Location (Town and County):	**Reporting Period:**	**Acres Disturbed:**	**Acres Stabilized:**

Permit Reference; Part IV.D (page 18):

"The operator shall also prepare a written summary of its status with respect to compliance with this general permit at a minimum frequency of every three months during which coverage under this permit exists. The summary should address the status of achieving each component of the SWPPP. This summary shall be handled in the same manner as prescribed for SWPPPs under Part III, subsection B (see Page 9)."

Component of SWPPP (All SWM and E&SC Practices)	**Compliant** (Yes / No)	**Comments on achieving each component of the SWPPP** (Issues related to installation, maintenance, or use of practices)
Permanent EC Measures		*EXAMPLE*
Exposed Slope Stabilization:	Yes	As construction is completed in area 2, slopes have been stabilized with mulch and seed. Grass germination is at 60%. This work has been detailed in the regular inspection reports as to the extent and schedule of completion.

Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

____________________ ____________________ __________ __ of __

[illegible] [illegible] [illegible]

Duly authorized representatives of the Permittee <u>must</u> have written authorization, submitted to DEC, to sign any permit documents

Appendix H

Proposed Drainage Analysis Mapping
Existing Drainage Analysis Mapping
Stormwater Pollution Prevention Plan Mapping
Stormwater Pollution Prevention Plan Details